IGCS 2021 Abstracts: Digital Posters

Registered Delegates will have access to all posters in the Abstract Poster Hall located within the Meeting Portal from August 30 – December 4, 2021.

Poster presenters were given the option to submit an audio file as well. The audio file will be located with the digital poster within the Meeting Portal.
SCREENING AND IDENTIFICATION OF NOVEL CHEMOTHERAPY AGENTS IN PLATINUM-RESISTANT OVARIAN CANCER

E-POSTER VIEWING

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Objectives: To screen the efficacy of potential chemotherapeutics against platinum-sensitive & resistant ovarian cancer cell lines.

Methods: We performed in-vitro screening on mithramycin, an antineoplastic antibiotic; telaglenastat, a glutaminase inhibitor; savolitinib, a c-met tyrosine kinase inhibitor; and AMG-232, an MDM2 inhibitor. We tested all agents against a platinum-resistant cell line (OVCAR3) and a platinum-sensitive line (CAOV3). Additionally, we tested mithramycin against UWB1.289, a BRCA mutant, and an induced platinum-resistant UWB1.289 line. DMSO and cisplatin were the negative and positive controls, respectively, and we performed all experiments in triplicate. Cell viability was determined by measuring cellular ATP content.

Results: The IC50 values of mithramycin ranged from 42.4 to 65.5 nM. Cisplatin IC50 values ranged from a median of 2067 to 7267nM. The IC50 values of telaglenastat, savolitinib, and AMG-232 did not reach a level of 10µm in any of the tested cell lines. Table 1. IC50 values of agents sorted by cell lines. N/A indicating value not achieved at threshold of 10um

<table>
<thead>
<tr>
<th></th>
<th>CAOV3(n=3)</th>
<th>UWB1.289(n=3)</th>
<th>OVCAR3(n=3)</th>
<th>UWB1.289-Platinum Resistant(n=3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisplatin(nm)</td>
<td>2733 ±208</td>
<td>2067 ±416</td>
<td>4733 ±1250</td>
<td>7267 ±2572</td>
</tr>
<tr>
<td>Mithramycin(nm)</td>
<td>42.4 ±8</td>
<td>57.9 ±46</td>
<td>65.5 ±38</td>
<td>62.2 ±54</td>
</tr>
<tr>
<td>Teleganestat</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Savolitinib</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>AMG-232</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</table>

Conclusions: Platinum-resistant ovarian cancer has a poor prognosis highlighting the need for new therapeutic modalities. Neither telaglenastat, savolitinib, nor AMG-232 exhibit any appreciable cytotoxicity; however, mithramycin demonstrates cytotoxicity in the low nanomolar range in several representative ovarian cancer cell lines, including two platinum-resistant lines. The potential therapeutic benefit of mithramycin warrants further preclinical evaluation.
METABOLIC ADAPTATIONS ASSOCIATED WITH CHEMORESISTANCE IN OVARIAN CANCER CELL LINES

E-POSTER VIEWING

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Objectives: Over 80% of ovarian cancer (OC) patients will experience relapse after an initial response to platinum-based chemotherapy. Acquisition of metabolomic adaptations is thought to be an integral part of chemoresistance, but the relation of these adaptations to chemoresistance is poorly understood. Our aim was to identify the metabolic adaptations that are specifically associated with platinum-resistant (PR) cell lines and its platinum-sensitive (PS) derivatives across multiple OC cell lines.

Figure 1. PCA of a. PEO1 vs PEO4, b. A2780 vs C200, c. MR182 vs R182; PLS-DA of d. PEO1 vs PEO4, e. A2780 vs C200, f. MR182 vs R182
Figure 2. Heat map of a. PEO1 vs PEO4, b. A2780 vs C200, c. MR182 vs R182; Volcano plot with FDR ≤ 5% and absolute fold-change ≥ 1.5 of d. PEO1 vs PEO4, e. A2780 vs C200, f. MR182 vs R182

Figure 3. a. Volcano plot of sensitive cohort vs resistant cohort; b. Heat map of sensitive cohort vs resistant cohort
Methods: Targeted metabolic analysis evaluating 242 metabolites of the PS A2780, PEO1, and mR182 cell lines was performed along with their respective PR derivatives, C200, PEO4, R182. The group comparison was performed using unpaired t-tests followed by FDR correction. The differentially expressed metabolites were identified using two criteria: FDR ≤ 5% and absolute fold-change ≥ 1.5. The pathway analysis was performed using MetaboanalystTM with the metabolites that have unadjusted p-value ≤ 5%.

Results: Many significantly impacted pathways were conserved among the PR cell lines. Compared to the PS counterparts, the PR PEO4, C200, and R182 lines had metabolite concentrations with FC≥1.5 in 29, 44, and 28 measured metabolites, respectively. The top pathways impacted were "nicotinate and nicotinamide metabolism", "purine metabolism", and "phenylalanine, tyrosine, tryptophan biosynthesis". A global analysis of PS vs PR was performed. The top five significantly impacted pathways were: Arginine biosynthesis, Pyrimidine and Purine metabolism, Phenylalanine, tyrosine and tryptophan biosynthesis" and "Starch and sucrose metabolism".

Conclusions: We identified multiple shared metabolomic pathways among established PR OC cell lines that highlight conserved motifs of PR. These may represent targetable pathways to predict or reverse chemoresistance.
AN INTEGRATED GENOMIC, PROTEOMIC AND IMMUNOPEPTIDOMIC APPROACH TO DISCOVER NOVEL TUMOUR NEOANTIGENS IN AN IMMUNOLOGICALLY COLD OVARIAN CANCER FOR PERSONALISED T-CELL RECEPTOR THERAPY

E-POSTER VIEWING


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Objectives: Ovarian carcinosarcoma (OCS) are rare aggressive cancers with poor prognosis and limited effective treatments. The tumour mutation burden in OCS is often low. Therefore, these tumours are immunologically “cold” and relatively irresponsive to single agent immunotherapy. We explored tumour neoantigen discovery in an OCS using various genomic and proteomic platforms for personalised T-cell receptor (TCR) therapy.

Methods: Whole genome sequencing (WGS) was performed on SFRC01177 OCS tumour specimen taken at surgery. Fresh tumour specimens obtained at surgery and biopsy at recurrence were engrafted subcutaneously in NOD-scidIL2Rgammnull (NSG) to generate a paired patient derived xenograft (PDX) model. Whole exome sequencing and RNA sequencing (WES/RNAseq) together with nano-ultra-performance liquid chromatography coupled to high-resolution mass spectrometry were performed on the snap frozen tumours from the baseline and recurrent PDX for tumour neoantigen (TNA) discovery.

Results: A total of 6,500 mutant TNA were predicted in silico from the baseline WGS data which were narrowed down to 65 and 33 respectively based on the baseline and recurrent PDX tumours WES/RNAseq data. The immunopeptidomic analysis revealed over 100 major histocompatibility complex bound antigens including mutant, spliced and cancer testis antigens. The PDX was re-established in NSG MHCnull mouse model and was shown to retain the platinum refractory in vivo response as well as to tolerate 1 million HLA-matched donor CD8+ T-cell injections.

Conclusions: We have discovered multiple tumour specific neoantigens using the comprehensive TNA discovery platforms, which will direct our TCR engineering. In parallel, we have also established an OCS PDX model suitable for cell-based therapy testing.
INHIBITION OF CANCER CELL-DEPENDENT GLYCOLYSIS THROUGH AVB-500, A SELECTIVE INHIBITOR OF GAS6-AXL, IN COMBINATION WITH PACLITAXEL IN HIGH-GRADE ENDOMETRIAL CANCER

E-POSTER VIEWING

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Objectives: AXL is a receptor tyrosine kinase that is activated by GAS6. Overexpression of AXL is correlated with the glycolytic phenotype in metastatic lung cancer. Cancer cells preferentially convert glucose to lactate via glycolysis which promotes growth and survival. It is unknown whether inhibition of AXL can prevent glycolysis in endometrial cancer causing cell death. The aim of this study was to determine whether AVB-500 can increase sensitivity to paclitaxel through inhibition of glycolysis.

Methods: Cell viability was performed with high-grade endometrial, chemo-resistant cell lines, ARK1 and PUC1. Cells were treated with paclitaxel (P) and with AVB-500+paclitaxel (AVB-500+P). Intraperitoneal ARK1 or PUC1 tumors were treated with vehicle, AVB-500, P, or AVB-500+P. Cell lysates were analyzed using the Jess system. A Seahorse Analyzer was used for glycolytic rate assays. Stable isotope tracing was used for in vivo metabolite abundance quantification.

Results: We found that ARK1 and PUC1 cells had decreased viability when treated with AVB-500+P than when treated with P alone. ARK1 and PUC1 in vivo IP models had significantly fewer tumors and decreased tumor weight when treated with AVB-500+P compared to P alone. Treatment with AVB-500+P was found to decrease basal glycolysis in vitro through decreased AKT activation. Multiple glycolytic metabolites were decreased in the tumors of AVB-500 +P compared to treatment with P alone.

Conclusions: We demonstrate that the addition AVB-500 to paclitaxel improves endometrial cancer chemo-sensitivity. We show that this therapeutic combination decreases basal glycolysis through reduced PI3K/AKT signaling. This provides a metabolic mechanism for increasing uterine cancer sensitivity to chemotherapy.
MOLECULAR ANALYSIS OF PRIMARY ENDOMETRIAL CANCER AND MATCHED LUNG METASTASES

E-POSTER VIEWING

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Objectives: The molecular processes underpinning distant metastasis in endometrial cancer (EC) are not well understood. We sought to characterize the genomic alterations of primary ECs and matched lung metastases.

Methods: Primary ECs, matched lung metastases, and normal tissue from two patients were subjected to whole-exome sequencing. Sequencing data were analyzed using validated bioinformatics tools.

Results: In case 1, sequencing analysis of the primary FIGO grade 2 EC and matched lung metastasis, which developed after 3 years, revealed 99 and 95 non-synonymous somatic mutations, respectively, of which 68 were shared. In addition to clonal shared PIK3R1 and PTEN mutations, we observed clonal shifts in the progression to lung metastatic disease, including a CTNNB1 G34V hotspot mutation, which was subclonal in the primary EC and became clonal in the metastasis. The primary dedifferentiated EC of case 2 was MSI-H due to MLH1 hypermethylation. Both the primary and synchronous metastatic lung tumor harbored a large number of somatic mutations (1217 and 1157, respectively), but only 227 were shared, including PIK3CA hotspot, PTEN frameshift, and MSH6 frameshift mutations. In case 2, clonal shifts were also observed in the progression from primary EC to lung metastasis, and multiple CTNNB1 mutations were identified: a subclonal CTNNB1 G34R hotspot mutation in the primary EC, and a subclonal CTNNB1 G33P hotspot and a clonal CTNNB1 G34E hotspot mutation limited to the metastasis.

Conclusions: Clonal shifts, the accumulation of additional mutations and/or hotspot CTNNB1 mutations may play a role in the progression from primary EC to lung metastatic disease.
ROLE OF CHRONIC STRESS ON ANTI-TUMOR T-CELL RESPONSES IN OVARIAN CANCER

E-POSTER VIEWING

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Objectives: A cancer diagnosis increases stress hormones and leads to altered psychological states. Work from our team suggests that chronic stress promotes an increased inflammatory response. Preliminary data show an altered CD4+/CD8+ T-cell ratio and a heterogeneous expression of exhaustion markers in patients with high-grade serous ovarian cancer (HGSOC). Therefore, we hypothesized that chronic stress results in loss of effector T-cell response and increased exhaustion.

Methods: We obtained ascites samples from 66 patients with HGSOC and measured cytokine levels using a comprehensive cytokine/chemokine magnetic bead panel. Metanephrine (an epinephrine metabolite) levels from ascites were measured by ELISA. CD8+ T-cells isolated from OC patient ascites were stimulated with epinephrine and flow cytometry was used to measure co-expression of CD38 activation marker and Granzyme B, an essential mediator of CD8+ T-cell killing capacity.

Results: showed a significant increase in inflammatory cytokines in chemo-resistant and recurrent tumors: Eotaxin (p≤0.002), IL-6 (p≤0.003), and IL-7 (p≤0.009). Metanephrine, was positively correlated with pro-tumoral and inflammatory cytokines: SCD40L (p=0.032), FGF-2 (p=0.033) and MIP1α (p=0.03). Ascites-derived CD8+ T-cells treated with epinephrine, showed a decreased co-expression CD38 and Granzyme B (p=0.004). These results suggest a role for stress hormones in T-cell activity suppression.

Conclusions: Chemo-resistant and recurrent tumors were associated with increased pro-inflammatory cytokines. Similarly, high metanephrine levels correlated with higher pro-tumoral cytokines. Epinephrine stimulation decreased CD8+ T-cell function in ascites of HGSOC patients. These data suggest a role for stress in immunosuppression and may impact efficacy of therapies that aim to restore T-cell function.
DNA DAMAGE REPAIR IS ALTERED BY INHIBITION OF DISCOIDIN DOMAIN RECEPTOR 2 (DDR2) THROUGH METABOLIC REWIRING IN HOMOLOGOUS-RECOMBINATION PROFICIENT OVARIAN CANCER MODELS

E-POSTER VIEWING

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Objectives: Discoidin Domain Receptor 2 (DDR2) is a receptor tyrosine kinase which binds fibrillar collagen. Previous work from our lab demonstrated that DDR2 inhibition increases sensitivity to olaparib in homologous recombination (HR) proficient ovarian cancer. This study aimed to understand the mechanism of DDR2 inhibition increasing sensitivity to olaparib.

Methods: Three DDR2-expressing human ovarian cancer cell lines, ES2, COV362, and PEO4, with short hairpin control and DDR2 knockdowns were used. The HR status after irradiation and DNA damage response after treatment with olaparib was determined using immunofluorescence. In vivo metabolomics analysis of ES2 tumors was performed after injection of U-13C-glucose tracer.

Results: All cell lines had a 2-fold increase in RAD51 foci after irradiation indicating HR proficiency. DDR2 knockdown induced HR deficiency. To confirm that DDR2 regulated HR, DDR2 knockdown cells were rescued with DDR2 wild-type (DDR2-WT rescue) in order to re-express DDR2. DDR2-WT rescue cells were again HR proficient. On western, BRCA1 expression was decreased in cells without DDR2 expression through decreased activation of the PI3K pathway. Knockdown of DDR2 increased DNA damage and repair through non-homologous end-joining both at baseline and after treatment with olaparib. These findings reversed in DDR2-WT rescue cells. In vivo metabolomics analysis of tumors without DDR2 expression found decreased pentose phosphate pathway activation including decreased ribose-5-phosphate, an intermediate essential for DNA repair through nucleotide biosynthesis.

Conclusions: DDR2 inactivation sensitizes HR proficient ovarian cancer cells to olaparib through induced HR deficiency and metabolic rewiring possibly leading to impaired DNA damage repair. Current experiments are underway to confirm metabolomics findings.
EPV008 / #139

ROLE OF KI67 IN PREDICTING SURVIVAL IN RH+/HER2- BREAST CANCER ACCORDING TO AXILLARY NODAL INVOLVEMENT

E-POSTER VIEWING

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Objectives: We aimed to evaluate the cut-off value of Ki67 that predicted survival in luminal breast cancer and investigated its survival impact according to axillary lymph node involvement.

Methods: We retrospectively selected 321 cases of histologically confirmed, early stage, breast cancer treated between 2011-2015. All patients had ER and/or PR positive (>10% expression) and HER2- tumors. We evaluated the prognostic value of several cut-off levels of Ki67 in terms overall survival (5-year OS): 14%, 20%, 30% and 50%. We also considered different subgroups according to axillary lymph node involvement: pN0(38%), 1-3pN+(35%) and ≥4pN+(27%). We used Kaplan Meier method and Cox regression models to evaluate survival.

Results: Median age was 49 years-old, 42% were menopausal. Media Ki67 was 28%. Sixty four percent of patients had mastectomy, 93% received chemotherapy and 88% radiation therapy. On overall population, after median follow-up of 51 months, we observed a significant difference in OS only with the Ki67 cut-off of 30% (67 vs 64 months, p=0.04, HR=0.79 IC à 95% [0.6-0.87]). In node negative pN0 population, Ki67 cut-off=20% was significantly associated with OS (72 vs 65 months, p=0.03, HR=0.83[0.63-0.92]). In node positive tumours different Ki 67 cut-off values did not predict survival except in ≥4pN+ group, where patients with Ki67>50% had significantly worse OS compared to patients≤50% (63 vs 30 months, p=0.01, HR=0.31 IC à 95% [0.22-0.65]).

Conclusions: Ki67 level in RH+/HER2- breast cancer predicted survival with the cut-off value of 30%. Ki67 had an impact on survival with a cut-off=20% in node negative and 50% in ≥4pN+ tumours.
Magnetic resonance accuracy in diagnosing the size of ductal carcinoma in situ – preliminary results of a systematic review and meta-analyses

E-poster viewing

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Objectives: To evaluate the accuracy of Magnetic Resonance Imaging (MRI) in measuring the pure Ductal Carcinoma In Situ (DCIS) size, against pathology, to better understand the MRI role in the management of this non-invasive intraductal breast neoplasm.

Methods: Potential eligible studies in MEDLINE, Embase and Google Scholar, until January-2021 were considered, and systematic review and meta-analysis according to the published protocol (Prospero - CRD42021232228) was performed. Outcomes of mean differences and accuracy rates using IBM® SPSS® v26 and random-effect model in platform R v3.3.2 were analysed.

Results: Twenty-two cross-sectional studies were selected and 15 proceeded to meta-analyses. MRI accurately predicted 55% of tumours size and according to Bland-Altman plots, concordance between MRI and pathology was greater for smaller tumours. In meta-analyses, the difference of the means between MRI and pathology is 3.85 mm (CI95% [-0.92; 8.60]) with considerable heterogeneity (I²=96.7%). Subgroup analyses showed similar effect sizes between different MRI fields, acquisition times and contrasts, but lower heterogeneity in studies using Gadolinium (I²=48.7%) and 3-Tesla MRI (I²=57.2%). Results were concordant in low risk of bias studies (2.46, CI95% [0.57-4.36]), without detected heterogeneity (I²=0%).

Conclusions: MRI is an accurate method in pure DCIS size assessment. Once the best MRI protocol is established, evaluation of the impact of pure DCIS size in predicting treatment outcomes will contribute to clarify intraductal breast carcinoma current issues.
INFLAMMATORY BREAST CANCER PARTICULARITIES IN TUNISIAN PATIENTS

E-POSTER VIEWING

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Objectives: Inflammatory breast cancer (IBC) accounts for 5 to 7% of breast cancers in Tunisia. The objective of our study was to report the therapeutic results as well as the prognostic factors of this entity.

Methods: We conducted a retrospective study including patients with IBC treated in the oncology department of the military hospital of Tunis between January 2015 and December 2020

Results: IBC represented 2.7% of all BC in our population. The median age was 49 years. Invasive ductal carcinoma was reported in 98% of cases and SBR III grade in 62% of cases. Tumor was triple-negative (TN) in 22% and Her2 neu overexpressed in 42% of cases. The disease was metastatic at diagnosis in 25% of patients. Metastasis were more frequently localized in brain (25%), liver (11%) and lungs (33%). Neoadjuvant sequential chemotherapy (CT) and mastectomy with axillary lymph nodes dissection and locoregional radiotherapy was delivered in all localized cases. Pathological complete response was noted in 29% of these cases. Patients received adjuvant Capecitabin CT in 55% of cases. Disease recurrence was observed in 66% of cases after a median time to progression of 15 months. In metastatic disease, FEC or Taxanes were used as first line therapy in 90% of cases. Median overall survival was 35 months for localized and 19 months for metastatic disease. 5 years disease free survival of our study was 29%. In patients with metastatic disease at diagnosis, TN and HER2 overexpressed status and the presence of visceral crisis significantly impaired overall survival.

Conclusions: Treatment and therapeutic results remain limited in our country because of the lack of other therapeutic resources such as immunotherapy.
ADJUVANT CHEMOTHERAPY-INDUCED AMENORRHEA IN LUMINAL BREAST CANCER PATIENTS: A STRONG PROGNOSTIC FACTOR IN TUNISIAN PREMENOPAUSAL WOMEN

E-POSTER VIEWING

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Objectives: There has been conflicting data on the prognostic value of adjuvant chemotherapy-induced amenorrhea (ACIA) in breast cancer (BC) patients. The aim of our study was to assess prognosis value of ACIA in Tunisian premenopausal patients with luminal BC

Methods: We conducted a retrospective study including premenopausal patients with localized luminal BC treated in the oncology department of the military hospital of Tunis between January 2013 and December 2019. ACIA was defined as absence of menses for at least 6 months occurring during CT or within 3 months from the end of CT

Results: 83 patients were included. Median age was 40 years. ACIA occurred in 60% of patients: 70% had luminal A and 30% had luminal B BC. Patients with higher BMI were more likely to develop ACIA (p=0.10). Median follow up was 67 months. Hazard Ratio for Disease-Free Survival (DFS) suggested that ACIA was associated with significant reduction in the risk of recurrence (HR=0.1, p<0.001). ACIA was also associated to prolonged Overall Survival (OS) (HR=0.32, p=0.032). OS and DFS benefit because of ACIA was associated with positive lymph nodes (LN) (HR=0.1, p=0.003 for OS) and (HR = 0.22, p<0.001 for DFS). LN involvement (p=0.043), tumor size ≥ 4cm (p=0.03) and ki67 ≥30% (p=0.08) were associated with lower DFS. ki67 ≥30% (p=0.023) and tumor size ≥ 5cm (p=0.052) were associated with lower OS

Conclusions: ACIA in luminal BC was significantly correlated to better OS and DFS supporting the theory of indirect endocrine effect of CT in addition to its cytotoxic effect.
ENOCRINE THERAPY-INDUCED ALOPECIA IN PATIENTS WITH BREAST CANCER IN TUNISIA

E-POSTER VIEWING

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Objectives: Despite their benefit, Endocrine therapies (ET) are known to have substantial adverse events (AEs) such as hot flashes, mood disorders and osteoarticular pain. ET induced alopecia (EIA) is less frequently noted by patients and is less reported in the literature. The aim of our study was to report ET alopecia characteristics and their influence on patient and treatment observance.

Methods: We conducted a retrospective study including luminal BC patients treated in the oncology department of the military hospital of Tunis between January 2015 and December 2020. Patients treated with previous chemotherapy inducing alopecia were excluded.

Results: 145 female patients were included. Median age was 59 years. EIA was reported in 44% of cases. Alopecia was attributed to aromatase inhibitors in 53% and tamoxifen in 21%. Severity was grade 1 in 80% and grade 2 in the remain cases. ET discontinuation because of alopecia was noted in 6.5% of patients. Moderate improvement of alopecia was observed with topical minoxidil and Thallium metallicum 9CH homeopathy during ET in 60% of patients.

Conclusions: EIA is frequent in BC patients and should be considered to improve treatment observance and patients’ quality of life.
HISTOLOGICAL AND MOLECULAR PARTICULARITIES OF BREAST CANCERS IN TUNISIAN POPULATION

E-POSTER VIEWING

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Objectives: The aim of our study was to determine the distribution of histological subtypes of breast cancer (BC) in Tunisian population and to study their prognostic and therapeutic features

Methods: A retrospective study was conducted between January 2011 and December 2018 in our department. A total of 93 cases of BC, using immunohistochemistry, were classified into 4 major molecular subtypes: luminal A, luminal B, HER2-positive, and triple negative

Results: Luminal A (50%) subtype was the most prevalent, followed by triple negative (20%), HER2-positive (16%), and luminal B (14%). Median age was 45 years. 90% of cases were ductal. Axillary lymph nodes were involved in 43% of all cases and in 73% of triple negative BC. SBR 2-3 was found in 64% of all cases and in 100% of luminal B BC. Ki67>20 was observed in 92%, 71%, 63% and 5% of luminal B, HER2-positive, triple negative and luminal A respectively. The DFS at 5 years was 88%. Metastatic relapse was observed in 72% of all population and in 10% of triple negative subtype. Visceral metastases were observed in 100% of triple negative BC while bone metastases were diagnosed in 60% of luminal A subtype. In Luminal A subtype, median DFS and OS were respectively 54.4 and 58.4 months, followed by triple-negative (50.9 and 56.8 months), then HER2-positive (41.7 and 47.4 months) and finally the worst survivals were attributed to luminal B subtype (31.3 and 37.3 months)

Conclusions: Our study demonstrated that luminal B BC were characterized by a poor prognosis probably because of the underestimation of their aggressiveness and consequently of the less intensive therapeutic management than necessary.
OBJECTIVES: Patients with breast cancer often receive invasive treatments, with impact on appearance which can affect body image. We aimed to evaluate the impact of breast cancer and its treatments on the body image of Tunisian patients.

METHODS: Between February and April 2021, thirty-nine patients with breast cancer answered the 10-item body image scale (BIS) questionnaire. Patients responded to questions about relationships with the partner and entourage and to express opinion about breast reconstruction and appearance care.

RESULTS: The median age was 47 years. Fifty-four percent underwent Patey's modified radical mastectomy and 46 % lumpectomy with axillary node dissection. All patients received chemotherapy, 54% radiotherapy, 61% endocrine therapy and 46 % Trastuzumab. Lymphedema was reported in 20% of cases. Twenty-three percent were dissatisfied with the scar’s appearance. A change for the worse in partner behavior was reported with 8% of patients. Forty-one percent described society’s pitying looks. Only 8% wanted to undergo a breast reconstruction surgery. Taking care of body appearance was reported to be “little” by 38 %, “quite a bit” by 54 % and “very much” by 8%. Twenty-three percent expressed low Self confidence. The median BIS score was 9.69 [1-26]. Score under 10 was reported in 54% of cases, between 10 and 20 in 38% and over 20 in 8%. The median BIS score was higher in the radical surgery group (p=0.048).

CONCLUSIONS: Body Image perception seemed to be affected by the disease and its treatments especially the radical surgery. A psychological care is needed to reduce this impact.
OBJECTIVES: The efficacy and utility of neoadjuvant chemotherapy (NAC) for inflammatory breast cancer (IBC) are demonstrated. In node-negative patients after NAC, sentinel lymph node biopsy (SLNB) can be considered but not in IBC because of a low identification rate (IR) and a high false-negative rate (FNR). We aim to evaluate the SLNB identification fluorescence technique in this IBC population.

METHODS: Between 2015 and 2019, data of all patients with NAC for carcinoma of the breast clinically classified as inflammatory (T4d) and without palpably suspicious nodes who underwent an SLNB during the definitive modified radical mastectomy with axillary clearance were retrospectively reviewed. Under general anesthesia, 5 ml/12.5 mg of Infracyanine® (Indocyanine green) were injected circumferentially around the areola; followed by a 15 min massage of the breast. The axillary incision was then performed and lymphatic vessels were visualized by a near-infrared camera. The sentinel node(s) were identified as being fluorescent and removed separately. After SLNB biopsy, mastectomy and axillary dissection were fully performed.

RESULTS: A total of 22 patients with IBC underwent SLNB after NAC using the above-mentioned technique. The median age at the time of diagnosis was 44 years (range 25–62 years). The identification rate is 86% (19/22 patients). The false-negative rate was 16% (2 patients among the 12 who had negative SLNB had a positive axilla lymph node examination).

CONCLUSIONS: The data of this study are encouraging but a larger sample is required. We do not have a clear explanation of why fluorescence provides better IR and lower FNR.
RESILIENCE IN BREAST CANCER PATIENTS AND ITS ASSOCIATION WITH ANXIETY AND DEPRESSION

E-POSTER VIEWING

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Objectives: Breast Cancer is a stressful event. Several breast cancer patients may suffer from clinically relevant symptoms of depression and/or anxiety. Indeed, resilience represents an important psychosocial factor. We aim to report the resilience of breast cancer women and its association with depression and anxiety.

Methods: It is a cross-sectional descriptive study conducted over a third-month period, from January 2nd, 2020 to March 30th, 2020 at Salah Azaiez Institute including 61 breast cancer patients.

Results: The median age was 55.7 years. Forty-six percent were housewives. The illiteracy rate was 34.4%. The average duration of marriage was 27.8 years. Co-morbidities were found in 36.1% of patients. The average time after treatment was 60.8 months. 57.4% of patients were classified as stage II. Radical surgery was conducted in 70.5% of patients. Chemotherapy and Hormone therapy were administered in 90.2% and 83.6% of cases, respectively. The average score of resilience (RS-14) was de 76.6. The average scores of anxiety and depression were 10.5 and 8.6, respectively. Clinically relevant symptoms of anxiety and depression were reported with 52.5% and 29.5% of patients, respectively. Correlation analysis showed that the RS-14 and anxiety and depression of the HAD scale were in negative correlation ($r= -0.419$, $p<0.001$) and ($r= -0.606$, $p<0.001$), respectively. Predictor factors of resilience were co-morbidities and not receiving hormone therapy.

Conclusions: Resilience represents a protective psychosocial factor against anxiety and depression among breast cancer patients. A multidisciplinary healthcare team is crucial for patient psychosocial care throughout the cancer continuum allowing to promote resilience and leading to enhance the quality of life.
PHYLLODES TUMORS OF THE BREAST: A RETROSPECTIVE ANALYSIS OF CLINICOPATHOLOGICAL FEATURES OF LOCAL RECURRENTNESS.

E-POSTER VIEWING

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Objectives: Phyllodes tumors are biphasic tumors consisting of epithelial and stromal components that account for less than 1% of all breast tumors.

Methods: Forty-one cases of phyllodes tumor (borderline and phyllode sarcoma) diagnosed between (2010-2018) were retrospectively studied. Cox proportional hazards regression models were used to analyze associations between clinicopathological features and disease recurrence P < 0.05 was considered significant.

Results: From 41 tumors diagnosed 19 cases were classed as borderline (46.3%) and malignant phyllodes tumors in 22 cases (53.7%). Twenty-three (56.1%) were treated with mastectomy and 18 (43.9%) with conservative surgery. Seventeen (41.4%) of patient underwent adjuvant radiotherapy and three patients received chemotherapy. During a median follow-up of 80 months, LR rate was 12.2%, and 9.8% (p = 0.4) respectively in the borderline, and malignant groups. Young age (<35 years), presence of necrosis and positive surgical margin, severe stromal atypia, severe versus mild stromal cellularity, higher index mitosis was associated with increasing risk factor for LR. However only severe stromal cellularity was associated with significant prognostic factor (p: 0.005) in our study.

Conclusions: Multiple histopathological features influence phyllodes recurrence.
EPV018 / #301

MALIGNANT PHYLLODES TUMORS OF THE BREAST: PATTERNS OF CARE AND PREDICTORS OF ADJUVANT RADIATION THERAPY

E-POSTER VIEWING

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Objectives: The role of adjuvant radiation therapy RT in Malignant Phyllodes Tumors of the Breast MPTB is still controversial. Our objective was to investigate the role of adjuvant (RT) in MPTB.

Methods: Patients diagnosed with MPTB and treated at our institution from January 2010 to December 2019 were reviewed.

Results: A total of 23 patients with non metastatic MPTB were included in our study. The median age was 41 years old (18-70 years). All patients underwent primary surgical treatment. Four patients had conserving surgery with clear surgical margins. Definitive mastectomy was carried out in 19 patients (82%). The median pathological tumor size was 12 cm (3-25cm). Sixteen patients had adjuvant RT. Only one patient with breast conserving surgery had adjuvant RT. Fifteen patients who were treated with mastectomy had adjuvant RT with delivering a dose of 50Gy in 25 fractions over 5 weeks. Adjuvant RT was more indicated for patients with heterologous component (4/7), tumors ≥ 5 cm (14/20); presence of high atypia (15/19), tumoral necrosis (4/5), high mitoses (10/13). Unfortunately, five patients had local recurrence LR, from them two patients had adjuvant radiotherapy (p=0.1). In addition, four patient had distant metastases, from them two had radiotherapy (p=0.3). The median overall survival was 180 months. Adjuvant RT was not independently associated with improvement in overall survival (P=0.6).

Conclusions: The benefit of Adjuvant radiotherapy for MPTB was not yet clear. Further study was needed to establish the real place of adjuvant RT.
E-POSTER VIEWING

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Objectives: Development of ovarian metastasis (OM) during the course of primary breast cancer (PBC)
is uncommon and associated with poor prognosis. The objective of this study is to review the
characteristic clinical and imaging features of OM from PBC.

Methods: A retrospective study of nine patients treated in our institution, who had documented OM from
Results:

At the time of PBC diagnosis, the mean age was 44 (range 31-64). In five cases, the PBC was unilateral. Histological subtypes were invasive ductal carcinoma in five patients and invasive lobular carcinoma in four patients. ER and PR were positive in eight cases. HER2 was positive in two cases. Five patients had locally advanced breast carcinoma. Four patients had synchronous ovarian metastases. Only three patients underwent breast surgery. Main symptoms of OM were pelvic pain and abdominal distension. An elevated CA 125 level was found in seven cases while CA 15-3 level was increased in eight cases. In four cases, pulmonary and bone metastases were simultaneously diagnosed with OM occurrence. All patients underwent ovarian surgery. Seven patients had bilateral OM. Ascites and peritoneal carcinomatosis were seen respectively in six and three patients. Time to occurrence of OM after PBC was a median of 25 months. The median follow-up period after OM assessment was 18 months.
Conclusions: The evaluation of ovarian lesion years after breast cancer is challenging and rise the possibility of a metastatic lesion. Imaging, serum tumor markers and histology may provide valuable tools in the assessment of ambiguous cases.
Objectives: Solitary colorectal metastasis as the first and sole manifestation of spread is a rare occurrence and can be confused with primary intestinal malignancy. We reported our experience in management of sigmoid colon metastasis from medullary breast carcinoma.

Methods: We presented here a case rarely reported in literature, showing sigmoid colonic metastasis from breast cancer.

Results: A 64-year-old woman with a history of modified radical mastectomy (MRM), followed by adjuvant treatment, performed 19 years ago (2002) for medullar carcinoma in the right breast. She admitted to our hospital for abdominal pain and bowel obstruction syndrome. CT scan showed stenotic eccentric wall thickening of the distal sigmoid colon without metastatic lesion. A colostomy was realized in first time. Followed, secondarily by sigmoidectomy. The subsequent anatomopathological study and immunohistochemistry of the tumor showed metastasis of the carcinoma that was compatible with the primary breast carcinoma. PET-CT was requested and systemic chemotherapy was proposed.

Conclusions: There is no consensus on the management of these uncommon lesions. Surgical treatment is reserved for cases of perforation, hemorrhage or intestinal obstruction.
ACCURACY OF PREDICT UK 2.1 IN PREDICTING SURVIVAL IN “GRAY ZONE” RH+/HER2- BREAST CANCER: A POPULATION-BASED STUDY

E-POSTER VIEWING

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Objectives: The aim of this study was to assess the validity of the online PREDICT tool in a population-based cohort of intermediate risk luminal breast cancer.

Methods: Among the cohort of breast cancer patients (n=962) treated between 2011-2017, 127 patients considered with intermediate risk RH+/HER2- tumors treated with adjuvant therapy were selected. Patients had at least one factor: 1-3pN+, >2cm, SBR II-III. Observed 5-year overall survival were estimated using the Kaplan–Meier method, and compared with predicted outcomes using PREDICT UK 2.1, in the overall population and in several subgroups.

Results: Median age at diagnosis was 51 years old, median tumor size was 28 cm. Node positive disease was observed in 68.5% of cases, grade III in 26.8%, median ki67 was 27. Overall, the PREDICT tool underpredicted 5-year OS by -6.6% (80.8%, 95%CI[70.8%-90.84%] vs 87.4%, 95%CI[86.4%-92.4%]). This underestimated difference was observed among several subgroups: in pN1-3 group it was -6.4% (78.6% [68.1%-89.1%] vs 85%[81.1%-89.8%]), in menopausal women it was -7.9 (77.4% [67.3%-87.4%] vs 85.3% [75.3-95.3]) and in patients who received chemotherapy it was -8.6% (80.9% [71.3%-90.5%] vs 89.5 [86.4%-92.6%]). On the other hand, the PREDICT overestimated survival in younger patients ≤40 years old by +6.1% (78.5%, 95%CI [68.5%-88.5%] vs 84.6% 95%CI [75.9%-93.2%]). The ROC analysis of PREDICT showed a medium discrimination value with an AUC of 0.61 (95% CI: 0.51–0.73).

Conclusions: PREDICT UK 2.1 showed an under estimation of the 5-year survival of -6.6%, conversely it overestimated it in younger patients by +6.1%. These results highlight the challenge of survival evaluation in RH+/HER2- intermediate risk breast cancer.
BREAST CANCER SCREENING AND THE DYNAMICS OF AGE-RELATED INCIDENCE AND EARLY BREAST CANCER IN KAZAKHSTAN

E-POSTER VIEWING

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Objectives: Purpose of the research is to assess some screening indicators and its impact to the epidemiological picture of BC in Kazakhstan.

Methods: This study is retrospective. Traditional methods of statistical processing of the material were used. 60,480 BC cases were registered in 2004-2019. In BC screening 4,149,166 women aged 50-60 years were examined in 2008-2017 and 1,624,667 women 40-70 years in 2018-2019. 9,340 BC cases were identified. To assess the impact of screening, the epidemiological indicators were studied before screening (2004-2008, period A) and after implementation (2009-2019, period B).

Results: The BC incidence since period A increased from 37.6 per 100000 in 2004-2008 to 51.6 in 2019. In period A the largest number of BC cases was recorded at the age of 45-54 years, the second peak was noted at the age of 65-69 years. In period B the peak of cases was noted in group of 50-59 years. The increase of new cases in the 50-54 age was 30%, in the 55-59 age 62.5%, in the 60-64 age - 118%! After screening introduction a significant increase of BC was noted in age groups over 50. Thus, the increase in the group of 50-54 year was 11%, in the group of 55-59 - 20.3%, in the group of 60-64 year - 28.2%, in the 65-69 - 35.9%. There is an increase of localized forms (stages I-II) from 69.8% to 86.9%, a decrease of advanced BC in period B.

Conclusions: The results of the study showed the effectiveness of BC screening in Kazakhstan.
PATHOLOGIC FINDINGS IN PREMENOPAUSAL PATIENTS WITH RECEPTOR-POSITIVE METASTATIC BREAST CANCER UNDERGOING BILATERAL SALPINGO-OOPHORECTOMY

E-POSTER VIEWING

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Objectives: To evaluate pathologic findings and access risk factors in premenopausal patients with hormone receptor-positive metastatic breast cancer undergoing bilateral salpingo-oophorectomy (BSO) for hormone supression.

Methods: We retrospectively analyzed data of 170 premenopausal patients with hormone receptor-positive metastatic breast cancer who had been submitted to BSO for ovarian supression between 2009 and 2021 at a tertiary hospital in São Paulo, Brazil. All patients were metastatic at the time of surgery, but none had known ovarian metastasis. Patients with preoperative suspicion for malignancy in ovaries were not included. The following characteristics were analyzed: age, BMI, histological type, molecular subtype, HER2 status, initial TNM staging, sites of distant metastases at surgery, number of sites of distant metastases at surgery and the family history of cancer.

Results: A total of 170 patients were included. The characteristics of the studied patients are described in Table 1. Unknown ovarian metastases of breast cancer were found in 40 patients (23,5%). Multivariate analyses revealed that younger ages (OR, 0.94; 95% CI, 0.88 to 0.99; p=0.04) and the number of sites of metastasis at surgery (≥ 3 sites; OR, 3.99; 95% CI, 1.37 to 11.59; p=0.01) were significantly related with breast cancer ovarian metastases. The remaining studied characteristics were not statistically significant.
Conclusions: Younger ages and having 3 or more sites of metastases at surgery appears to be risk factors for ovarian implants in previously metastatic breast cancer patients.
ADENOID CYSTIC CARCINOMA OF THE BREAST IN MEXICAN POPULATION: EXPERIENCE OF 12 YEARS A CENTER OF CONCENTRATION.

E-POSTER VIEWING

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Objectives: Describe the presentation characteristics of ACC in the Mexican population at the Breast Disease Institute from 2007 to 2019.

Methods: Observational, descriptive, case series, of Breast Disease Institute FUCAM ® patients

Results: A case series was recorded with 9 patients with ACC (Table I), representing 0.5% of our breast cancer cases. With an average age of presentation of 63 years. Grade III was presented in 66.6%. The mean tumor size was 4.8 cm, while the mean tumor size in the surgical specimen was 2.5 cm, in 88.8% in early stages.

Table I: Characteristics of patients

<table>
<thead>
<tr>
<th>Case</th>
<th>Age at Diagnosis (years)</th>
<th>Histology</th>
<th>Grade</th>
<th>Pattern</th>
<th>cT (cm)</th>
<th>pT (cm)</th>
<th>Clinical stage AJCC</th>
<th>Pathological stage AJCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>43</td>
<td>ACC</td>
<td>III</td>
<td>Basaloid</td>
<td>9</td>
<td>5.1</td>
<td>IIB(T3)</td>
<td>IIB</td>
</tr>
<tr>
<td>2</td>
<td>49</td>
<td>ACC</td>
<td>III</td>
<td>Cribriform</td>
<td>11</td>
<td>1.1</td>
<td>IA</td>
<td>IA</td>
</tr>
<tr>
<td>3</td>
<td>72</td>
<td>ACC</td>
<td>I</td>
<td>Cribriform</td>
<td>2.8</td>
<td>2.3</td>
<td>IIA</td>
<td>IIA</td>
</tr>
<tr>
<td>4</td>
<td>51</td>
<td>ACC</td>
<td>I</td>
<td>0</td>
<td>2</td>
<td>3.5</td>
<td>IIA</td>
<td>IIA</td>
</tr>
<tr>
<td>5</td>
<td>72</td>
<td>ACC + DCIS</td>
<td>III</td>
<td>Multifocal</td>
<td>2</td>
<td>1.7</td>
<td>IIB</td>
<td>IIA</td>
</tr>
<tr>
<td>6</td>
<td>77</td>
<td>ACC</td>
<td>I</td>
<td>Invasive</td>
<td>2</td>
<td>3</td>
<td>IIA</td>
<td>II A</td>
</tr>
<tr>
<td>7</td>
<td>60</td>
<td>ACC</td>
<td>III</td>
<td>Invasive</td>
<td>1.5</td>
<td>1</td>
<td>IB</td>
<td>IB</td>
</tr>
<tr>
<td>8</td>
<td>56</td>
<td>ACC</td>
<td>III</td>
<td>Cribriform</td>
<td>3.5</td>
<td>3</td>
<td>IIA</td>
<td>IIA</td>
</tr>
<tr>
<td>9</td>
<td>60</td>
<td>ACC</td>
<td>III</td>
<td>Invasive</td>
<td>3</td>
<td>3</td>
<td>IIA</td>
<td>IIA</td>
</tr>
<tr>
<td>Mean</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td>4.8</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


All with triple negative breast cancer (TNBC) (Table II), one case (5%) with lymph node involvement with Axillary lymph node dissection (ALND). In a case of Breast conserving surgery (BCS) with Intraoperative radiation therapy (IORT) with Intrabem, two cases with modified radical mastectomy (MRM), 66% with total mastectomy (MT) and sentinel node biopsy (SLNB). In 55% of the cases, adjuvant chemotherapy taxane-based. While 44.4% were indicated radiotherapy, with an average disease-free period of 63
months.

### Table II: Treatment in the ACC.

<table>
<thead>
<tr>
<th>TNBC</th>
<th>Ki 67</th>
<th>Surgery</th>
<th>Lymph nodes</th>
<th>Nodes with metastases</th>
<th>Adjuvant chemotherapy</th>
<th>Adjuvant radiotherapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>YES</td>
<td>20%</td>
<td>MRM</td>
<td>15</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>2</td>
<td>YES</td>
<td>10%</td>
<td>BCS + SLNB +</td>
<td>2</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>3</td>
<td>YES</td>
<td>25%</td>
<td>MT + SLNB</td>
<td>2</td>
<td>0</td>
<td>NO</td>
</tr>
<tr>
<td>4</td>
<td>YES</td>
<td>20%</td>
<td>MT + SLNB</td>
<td>1</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>5</td>
<td>YES</td>
<td>70%</td>
<td>MRM</td>
<td>22</td>
<td>3</td>
<td>YES</td>
</tr>
<tr>
<td>6</td>
<td>YES</td>
<td>3%</td>
<td>MT + SLNB +</td>
<td>15</td>
<td>0</td>
<td>NO</td>
</tr>
<tr>
<td>7</td>
<td>YES</td>
<td>0%</td>
<td>MT + SLNB</td>
<td>3</td>
<td>0</td>
<td>NO</td>
</tr>
<tr>
<td>8</td>
<td>YES</td>
<td>40%</td>
<td>MT + SLNB</td>
<td>4</td>
<td>0</td>
<td>NO</td>
</tr>
<tr>
<td>9</td>
<td>YES</td>
<td>0%</td>
<td>MT + SLNB</td>
<td>8</td>
<td>0</td>
<td>YES</td>
</tr>
</tbody>
</table>


**Conclusions:** So we consider that our contribution can answer some questions of ACC in the population Mexican. We present our 12-year institutional experience with 9 cases. Our results are similar to the published series, however there is controversy for treatment with adjuvant.
Objectives: Ductal carcinoma in situ with microinvasion (DCISM) is rare, < 1% of all breast cancer cases. The histological definition of this entity remains controversial. Due to the inconsistent definition and limited data regarding this breast cancer subtype, there are no clear treatment recommendations.

Methods: We retrospectively reviewed the clinical-pathological aspects, the treatments, and followed by a cohort of 17 patients diagnosed with DCISM and microinvasive carcinoma from 2000 to 2017 in our institution.

Results: The median age was 52 years old, 58.8% of patients were menopausal, all patients were operated on, 42.2% had conservative treatment, sentinel lymph node dissection was performed in 64.7% of cases with no micro or macro-metastases. Pathological examination found DCISM in 47% of cases (53% of cases were pure microinvasive ductal carcinoma). Comedonecrosis was found in only two cases. Hormonal receptors were positives in 87.9% of DCISM cases. We performed radiotherapy in 47% of patients. Adjuvant chemotherapy was prescribed to 17.6% of patients, and 70.6% of patients underwent adjuvant endocrine therapy. Only one case underwent targeted adjuvant therapy. The Median follow-up was 42 months. We did not notice any relapse or metastasis.

Conclusions: The development of screening programs increases the diagnosis of small tumors, especially DCISM. This entity remains with a good prognosis. Better knowledge and evaluation of risk factors of relapse are needed to define adjuvant treatment.
EPV026 / #548

SEXUALITY AFTER BREAST CANCER SURGERY IN POSTMENOPAUSAL WOMEN

E-POSTER VIEWING

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Objectives: The main objective of this study was to evaluate the sexual function in married menopausal women after surgery for non metastatic breast cancer

Methods: This is a prospective cohort-type study of 200 menopausal women diagnosed then operated on for breast carcinoma between January 2018 and March 2020. Patients were randomized after a multidisciplinary consultation in 2 groups: G1 with patients who had conservative breast surgery and G2 with those who had a mastectomy. Patients with immediate or delayed postoperative breast reconstruction were excluded. The data collection was done in an individual interview, in which 4 validated standardized psychometric assessment scales were used: The Arab Female Sexual Function Index (ArFSFI) for evaluation of sexual function The Locke and Wallace Marital Adjustment Test (MAT) for Assessment of Spousal Agreement The Hospital Anxiety and Depression Scale (HAD-S) for Assessment of Anxiety & Depression The Body-Esteem Scale for Adolescents and Adults (BESAA) for the evaluation of the body image

Results: The two groups were comparable in terms of age and socio-economical characteristics of the patients and their spouses. The mean total FSFI scores were comparable (22 in G1 vs 24.5 in G2, p = 0.084. There was a positive correlation between the husbands’ education level and the feminine sexual function (p = 0.042) and between marital agreement and sexual function (p = 0.004).

Conclusions: The technique of breast surgery for breast cancer does not influence the sexual function in menopausal women.
CONCORDANCE IN MOLECULAR PROFILES OF INVASIVE BREAST CANCER BETWEEN CORE NEEDLE BIOPSY AND DEFINITIVE OPERATIVE SPECIMEN ANALYSIS

E-POSTER VIEWING

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Objectives: The core needle biopsy (CNB) is an attractive alternative to surgical biopsy for the purpose of characterizing completely a malignant breast lesion for a tailored management. The purpose of this work is to study the concordance of the molecular profile of invasive breast cancer between the CNB and definitive pathology examination

Methods: We conducted a case-control study where each subject was her own control, including all patients with primary malignant tumors of the breast, collected prospectively, in our Department of Pathology and Cytology and treated at the Department of Gynecology and Obstetrics of the same hospital from January 1, 2015, to July 31, 2017. The studied molecular profile parameters were estrogen receptors (ER), progesterone receptors (PR), HER2 receptors (HER2), and Ki67.

Results: We included 521 patients. The concordance between CNB and definitive postoperative specimen analysis with regard to the molecular profile parameters in invasive breast cancer was respectively of 100% and 96.3% for ER and PR, with an excellent agreement (respectively, k=1 and k= 0.905). The agreement in the diagnosis of tumors HER 2 overexpression was strong (k= 0.679). There was a difference between Ki 67 tumoral status (cut off at 20%) in CNB versus definitive postoperative specimen analysis in 53.1% of the cases with a weak agreement (k= 0.193). Consistency between CNB and postoperative specimen analysis in the distinction of luminal A tumors was 72.8%, 66.7% for luminal B, 90.1% for Her2 type and 86.4% for the basal type.

Conclusions: CNB was reliable in determining the hormonal receptors’ status and the HER2 negative invasive breast cancer.
EVALUATION OF THE EXTEMPORANEOUS PATHOLOGICAL EXAMINATION OF AXILLARY SENTINEL LYMPH NODE DETECTED WITH BLUE DYE

E-POSTER VIEWING

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Objectives: The evolution of the practice and recommendations regarding the axillary lymph node exploration in breast cancer patients tends toward promoting the sentinel lymph node as a gold standard in clinically N0 patients. This study aims to evaluate the accuracy and conformity of the extemporaneous pathological examination (EPE) with the definitive pathology examination (DPE) of the sentinel lymph node biopsy (SLNB) detected only with blue dye.

Methods: We did a retrospective study including all the early-stage breast cancer patients (cT1/2N0) who underwent an axillary SLNB procedure with blue dye in our department of gynecology and obstetrics from 2008 to 2017. We did evaluate the performances of the EPE of the axillary sentinel lymph node by calculating the sensitivity, specificity, false positive, false negative, positive predictive value, negative predictive value, diagnostic efficacy, and the Youden index.

Results: We have registered 441 procedures of EPE of axillary SLNB. When confronting the EPE response to the final response, we found that the sensitivity was 90.72%, the specificity 100%. There were no false-positive and 3.30 % of false negatives. The positive predictive value was 100% and the negative predictive value 95.10 %. The diagnostic efficacy of the EPE was 96.46 % and the Youden index 0.91.

Conclusions: The EPE is a good tool to evaluate blue dye-detected axillary sentinel lymph nodes during the surgery for early breast cancer.
PREDICTIVE FACTORS OF TOTAL RESPONSE TO NEOADJUVANT CHEMOTHERAPY (NAT) IN BREAST CANCER PATIENTS: A RESTROSPECTIVE OBSERVATIONAL STUDY

E-POSTER VIEWING

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Objectives: This is a observational study with the aim to evaluate predictive factors of response to NAT in patients with breast cancer.

Methods: It is a retrospective study included 21 patients t who received neoadjuvant chemotherapy between 2015 and 2019 at salah azaiez institute Tunisia., we collected ,sociodemographics (age, gender, and marital status); tumor: localization, staging.

Results: Our study included 21 patients who achieved breast pCR, between 2015 and 2019, 21 patients were included. The median age was 48 years (ranging 30-68). All patients had breast cancer and received neoadjuvant chemotherapy. Two patients were diabetic, 3 patients had high blood pressure and 2 had dyslipidemia. The majority of the tumor had a hign grad nuclear (14). The majority of molecular profile was tripe negative (6cases). The evaluation of the response based on imaging firstly and histological examination. Clinically all patient had a complete response . 17 patients underwent radical surgery and 4 conservative surgery. The evaluation of these patients showed that 16 of them developed recurrence. We concluded that age , nuclear grad , histological type did not effected the response of chemotherapy but this results is insufficient because of the shortage of the serie.

Conclusions: To date, no tumour biological factor is available for clinical use in the prediction of chemotherapy response in advanced breast cancer other than oestrogen receptor status, which predicts response to hormonal therapy.
NUTRITIONAL STATUS AND QUALITY OF LIFE OF BREAST CANCER PATIENTS NEEDING FOR RESPONSE TO NEOADJUVANT CHEMOTHERAPY: ABOUT 19 PATIENTS

E-POSTER VIEWING

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Objectives: The aims of this study were to report nutritional status in 19 patients with cancer requiring neoadjuvant chemotherapy and to study the influence of nutritional status on their quality of life.

Methods: It is a retrospective study included 19 patients who received neoadjuvant chemotherapy between 2015 and 2019 at salah azaiez institute Tunisia, we collected the nutritional status (weight, anorexia grading, type of diet), sociodemographics (age, gender, and marital status); tumor localization, staging; health status (performance status according to WHO classification, usual weight and body mass index (BMI)).

Results: Between 2015 and 2019, 19 patients were included. The median age was 52 years (ranging 30–72). All patients had breast cancer and received neoadjuvant chemotherapy. 13 patients were menopausal, two patients were diabetic, 14 patients had high blood pressure and 4 had dyslipidemia. BMI was normal in 6 cases, overweight in 4 cases and obesity in 9 cases. The majority of the tumor were classified T4B. 17 patients had invasive ductal carcinoma. During chemotherapy, 3 patients follow vegetables and fruit diets, 7 follow mixed diets and 9 follow western diet. Three patients had a sport activity, sedentary lifestyle was noted in 9 patients and 7 patients had a normal daily activity. The evaluation of the response based on imaging firstly and histological examination.

Conclusions: The nutritional status of patients with cancer requiring neoadjuvant chemotherapy was relatively preserved. Functional impairment, the presence of anorexia, appear to be independent predictive factors of quality of life in patients who will received neoadjuvant chemotherapy.
Paget's disease is an uncommon breast malignancy and often misdiagnosed, it is associated with underlying in situ or invasive breast cancer. The objective of this study is to identify the type of underlying cancer and specify these characteristics.

Methods: Nine patients with Paget's disease who were admitted to our hospital were analyzed retrospectively.

Results: Our study included nine patients. Six patients were menopausal. Only seven patients presented with clinical findings suggestive of Paget's disease of the breast. The mean size of the tumor was 36mm and axillary lymph node were found in seven cases and Mammography and ultrasonography were performed in all 16 patients and ultrasonography of the nine mammographic studies, three were negative, in the others cases it showed suspected opacity in three cases, pleomorphic microcalcifications in four cases and both opacity and microcalcifications in three cases. Four patients had multifocality or multicentricity. Modified radical mastectomy was performed in seven patients, mastectomy and sentinel lymph node dissection in two cases in two, and wide local excision with lymph node dissection in one patient. Pathological findings were ductal carcinoma in situ (DCIS) (n = 4), invasive ductal carcinoma (IDC) (n = 1), invasive lobular carcinoma (n = 1), DCIS with IDC (n=4). All tumors had a high nuclear grad.

Conclusions: Patients with Paget's disease of the breast have a high incidence of an underlying breast carcinoma. Most of the patients in this study presented late and were more likely to have positive mammograms.
4 BI-RADS MICROCALCIFICATIONS OF THE BREAST: HOW DOES RADIOLOGIC CLASSIFICATION CORRELATE WITH HISTOLOGY?

E-POSTER VIEWING

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Objectives: To evaluate the correlation between with mammographically detected 4 BI-RAD microcalcifications and histopathological findings in patients to allow a better surgical planning.

Methods: Eighteen patients who had a 4 BI-RADS micocalcifications on mammography were admitted to our hospital were analyzed retrospectively.

Results: Our study included nine patients; all patients were women. Breastfeeding was noted in eleven patients. Physical examination was negative in all patients. The mammography showed microcalcification in 17 cases, mass and microcalcifications in one case, it was localized on the upper outer quadrant of the breast in the majority of cases (12 cases). It had regional distribution in 10 cases, multiple in 4 cases, linear in the lumen (2 cases) and polymorphous microcalcifications in 13 cases. It was classified on BI-RADS 4 A (5 cases), BI-RADS 4B (9 cases) and BI-RADS 4C in 4 cases. One patient underwent a core needle biopsy, two patients had a macrobiopsy (VAB System) and 17 patients underwent a surgical excision in all cases. The histological examination revealed a ductal carcinoma in situ (2 cases), invasive ductal carcinoma with ductal carcinoma in situ (1 case) and benign lesions in 15 cases. Our study did not found a correlation between BI-RADs classification and histological finding because of the shortage of the study.

Conclusions: Microcalcifications are actually indirect signs of pathological processes, some of which may only be correctly identified according to their morphology. This is true for the microcalcifications classified as typically benign in the 4th edition of the BI-RADS system.
THE IMPACT OF THE COVID-19 PANDEMIC ON BREAST CANCER PATIENTS AWAITING SURGERY: THE EXPERIENCE OF SALAH AZAIEZ INSTITUTE TUNISIA

E-POSTER VIEWING

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Objectives: The aim of our study is to study the impact of covid19 on patients waiting surgery.

Methods: We retrospectively reported 33 patients diagnosed breast carcinoma and underwent surgery at salah azaiez institute Tunisia between 18/3/2020 and 29/3/2020 (72 days).

Results: During the first pandemic of COVID-19, 33 patients underwent breast surgery, the mean age was 51 years (ranging 34-82). 28 patients had Social insurance. 28 patients patient belongs to urban environment. 11 patients had neoadjuvant chemotherapy. Invasive ductal carcinoma is more frequent (30 cases), tumors had a high brad nuclear in 18 cases. In 16 cases the tumor had stade IIB, axillary lymph node metastasis were found in 20 patients. 11 patients underwent radical surgery and only one patient had plastic reconstruction.

Conclusions: The COVID-19 pandemic has affected just about every aspect of life, including screening, diagnosis, treatment, and follow-up care for breast cancer. People who’ve been diagnosed with breast cancer and people who are at high risk for breast cancer have found themselves in a uniquely difficult and sometimes frightening position since the coronavirus crisis began.
SIGNIFICANCE OF HISTOLOGY AND NODAL STATUS ON THE SURVIVAL OF WOMEN WITH EARLY-STAGE CERVICAL CANCER: VALIDATION OF THE 2018 FIGO CERVICAL CANCER STAGING SYSTEM

E-POSTER VIEWING

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Objectives: To examine the prognostic impact of a node-specific staging system for stage IB cervical cancer based on the 2018 FIGO classifications and to assess the efficacy of postoperative adjuvant therapy for nodal metastasis in stage IIIC cervical cancer.

Methods: This is a society-based retrospective observational study in Japan, examining 16,539 women with stage IB1 cervical cancer who underwent primary surgical treatment from 2004–2015. Associations between nodal metastasis and cause-specific survival (CSS) and postoperative adjuvant therapy and CSS were examined according to histology type (Squamous cell carcinoma [SCC] n=10,315 and non-SCC n=6,224).

Results: The nodal metastasis rate for SCC was higher than that for non-SCC (10.7% versus 8.3%, P<0.001). In a multivariable analysis, the impact of pelvic nodal metastasis on CSS for non-SCC tumors (adjusted-hazard ratio [HR] 2.89, 95% confidence interval [CI] 1.93-4.31) was larger than for SCC tumors (adjusted-HR, 1.84, 95%CI 1.38-2.44). A propensity score matching analysis showed that women with pelvic nodal metastases had significantly lower CSS rates with non-SCC tumors than with SCC tumors (5-year CSS, 75.4% versus 90.3%, P<0.001). Postoperative chemotherapy improved CSS for women with pelvic nodal metastases (HR 0.65, 95%CI 0.44-0.95, P=0.024); however, the efficacy of postoperative chemotherapy on CSS for these was differ according to histology type.

Conclusions: For stage IB1 cervical cancer, the node-specific staging system in the 2018 FIGO cervical cancer classification is more applicable to non-SCC tumors than to SCC tumors. The survival benefits of postoperative adjuvant therapy for IIIC1 patients likely differ between SCC and non-SCC tumors.
EPV034 / #116

PREDICTING THE RATE OF ADJUVANT POSTOPERATIVE CHEMO/RADIATION OF PATIENTS WITH THE RECENTLY UPDATED STAGE IB2 CERVICAL CANCER: AN ISRAELI GYNECOLOGIC ONCOLOGY GROUP STUDY

E-POSTER VIEWING

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Objectives: Women with cervical cancer who undergo radical hysterectomy are often treated postoperatively with chemoradiation. The patient selection that minimizes adjuvant treatment is valuable. We compared two methods for predicting postoperative adjuvant treatment of patients with stage IB2 cervical cancer.

Methods: This multicenter retrospective study included 272 women with IB2 tumors. A receiver operating characteristic curve (ROC) analysis was used to determine the optimal tumor cutoff size to predict adjuvant treatment. A second analysis compared the rate of adjuvant treatment between women with and without lymph vascular space involvement (LVSI).

Results: According to the ROC, the optimal cutoff value of tumor size for predicting adjuvant treatment was 2.95 cm (sensitivity 0.70, specificity 0.67). Tumors were ≥3.0 cm in 166 (61.0%) women. The rate of adjuvant treatment was higher in women with larger tumor diameter (73.8% vs. 47.9%, p<0.0001). Of the 241 women with a LVSI record, LVSI was present in 81 (34%) women. Among women with LVSI, rates were higher of positive lymph nodes (41.0% vs 14.5%, p<0.0001) and postoperative adjuvant treatment (83.3% vs. 53.7%, p<0.001). Among women with tumor size ≥3.0 cm and LVSI, the rate of adjuvant treatment was 90.0%. In the multivariate analysis, both tumor size ≥3.0 cm and the presence of LVSI were independently associated with adjuvant treatment (OR 3.9, 95% CI 2.1–7.1; p<0.0001 and OR 4.9, 95% CI 2.4–10.0; p<0.0001, respectively)

Conclusions: These data should be weighed in multidisciplinary consultation with radiation oncologists when deciding treatment strategy.
RADICAL TRACHELECTOMY. EXPERIENCE IN KAZIOR.

E-POSTER VIEWING

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Objectives: To investigate pregnancy outcomes in women after radical trachelectomy (RT) in Kazior for early-stage cervical cancer

Methods: Systematic analysis of the data of the cancer register of the Republic of Kazakhstan

Results: Since 2013, radical trachelectomy has been performed at Kazior. From 2013 to 2021, 8 operations were performed, 7 of them by abdominal access, 3 by laparoscopic approach. 6 (75%) of the patients had stage 1a1 from 2 to 4 cm; 2 (25%) had a 1a1 stage. The average age of patients was 28 years (from 26 to 37 years). 5 (62.5%) patients were nulliparous, 2 patients had 2 children, 1 patient had 1 child. LVSI was negative in preoperative histological examination, and resection margins were also negative. The histological form of the tumor in all cases was squamous cell carcinoma. On average, 11 lymph nodes were removed. In 1 patient (12.5%) after histological examination LVSI was positive, in 7 it was negative. None of the patients had metastases to the pelvic lymph nodes. During express histology, the resection margins were negative in all patients. Patients in the postoperative period were not prescribed chemoradiation therapy. Of the 8 patients who retained fertility, there were 5 pregnancies, 2 miscarriages at 9-10 weeks, and 3 deliveries at 36-37 weeks of gestation.

Conclusions: Thus, in 2013-2021, 8 radical trachelectomy operations were successfully performed. The data presented in this publication demonstrate that patients with stage IB1 tumors ranging in size from 2 to 4 cm and with favorable histology are acceptable candidates for attempted radical tracheectomy.
EUROPEAN NETWORK FOR GYNAECOLOGICAL ONCOLOGICAL TRIAL (ENGOT)-CX11/GYNECOLOGIC ONCOLOGY GROUP (GOG) 3047/KEYNOTE-A18: PHASE 3 TRIAL OF PEMBROLIZUMAB PLUS CHEMORADIOTHERAPY IN HIGH-RISK LOCALLY ADVANCED CERVICAL CANCER

E-POSTER VIEWING


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Objectives: High-risk locally advanced cervical cancer has a poor prognosis. External beam radiotherapy (EBRT) with concurrent chemotherapy followed by brachytherapy is the standard of care. The immunostimulatory activity of pembrolizumab may be enhanced by concurrent chemoradiotherapy (CCRT). Pembrolizumab monotherapy is approved for patients with PD-L1–positive recurrent or metastatic cervical cancer that progressed during or after chemotherapy. The phase 3 ENGOT-cx11/GOG 3047/KEYNOTE-A18 (NCT04221945) study is evaluating pembrolizumab with CCRT in patients with locally advanced cervical cancer.

Methods: ~980 patients with high-risk (FIGO 2014 stage IB2-IIIB with node-positive disease or stage III-IVA), locally advanced, previously untreated cervical cancer will be randomized 1:1 to receive either 5 cycles of pembrolizumab 200 mg Q3W plus CCRT followed by 15 cycles of pembrolizumab 400 mg Q6W or 5 cycles of placebo Q3W plus CCRT followed by 15 cycles of placebo Q6W. CCRT includes 5 cycles (optional 6th dose) of cisplatin 40 mg/m² Q1W plus EBRT followed by brachytherapy. Randomization is stratified by planned EBRT type (intensity-modulated radiotherapy [IMRT] or volumetric-modulated arc therapy [VMAT] vs non-IMRT or non-VMAT), screening cancer stage (IB2-IIIB vs III-IVA), and planned total radiotherapy dose. Treatment will continue for 20 cycles or disease progression, unacceptable toxicity, or withdrawal. Primary endpoints are PFS per RECIST v1.1 by investigator and OS. Secondary
Endpoints include PFS by BICR, PFS at 2 years, OS at 3 years, CR at 12 weeks, ORR, OS and PFS by PD-L1 status, QoL, and safety. Enrollment began May 2020 and is planned for 193 sites in 30 countries.

**Results:** Not applicable

**Conclusions:** Not applicable
INCIDENCE OF CERVICAL CANCER AND THE HPV VACCINE IN THE UNITED STATES: ARE WE SEEING RESULTS OF VACCINATION EFFORTS?

E-POSTER VIEWING

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Objectives: To determine the incidence and trends of cervical cancer in the United States in relation to the HPV vaccine.

Methods: Data were obtained from the U.S. Cancer Statistics program from 2001-2017. SEER*Stat 8.3.8 and Joinpoint regression program 4.8.0.1 were used to calculate incidence trends.

Results: Over the last 17 years, cervical cancer incidence is decreasing at an average annual percent change (AAPC) of -1.03% (p<0.001). We performed a subset analysis of women who were 9-13 years old in 2006 when the HPV vaccine was approved, now 20-24 years old in 2017. In the pre-vaccine era (2001-2011), the incidence of cancer decreased 2.3% annually (p=0.038). Of note, after the introduction of the vaccine (2011-2017), it decreased at 9.6% per year (p=0.002). In the pre-vaccine era (2001-2012), the incidence of new diagnoses of squamous cell carcinoma observed a decrease of 3.1% annually (p=0.004). However, in the post-vaccine era (2012-2017), there was an 11.8% decline in new cases per year (p=0.007). Although there is a decrease in older age groups, there is no difference in the trends pre and post vaccine era, particularly in the age groups who were not eligible for vaccination at that time.

Conclusions: In our population analysis, our data suggest that the HPV vaccination may have decreased in incidence of cervical cancer in the younger cohort after its approval.
NEUROTROPHIC TYROSINE KINASE RECEPTOR-1 (NTRK-1) REARRANGED CERVICAL SARCOMA WITH FIBROSARCOMA LIKE MORPHOLOGY PRESENTING IN A 13-YEAR-OLD MANAGED WITH A NEO-ADJUVANT TRK-INHIBITOR AND SURGICAL EXCISION.

E-POSTER VIEWING

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Objectives: Fibrosarcoma like tumours of the uterine cervix affecting premenopausal women with neurotrophic tyrosine kinase receptor (NTRK) gene rearrangements have recently been described in the literature. They are rare tumours and to our knowledge there are only 18 cases reported, none of which has occurred in the paediatric population. We describe the first case of a paediatric patient with a NTRK fusion positive fibrosarcoma-like tumour of the uterine cervix who was successfully managed with neo-adjuvant entrectinib and subsequently went on to have conservative, fertility sparing surgery.

Methods: This case report reviews the case of a 13-year-old patient who presented with a 9cm NTRK-1 rearranged cervical sarcoma with fibrosarcoma like morphology. At presentation the lesion filled her vagina and pelvis and any attempt at surgical removal would have been morbid and led to loss of fertility.

Results: Based upon evidence that has shown good tolerability and responses of paediatric solid tumours with NTRK gene fusions to NTRK inhibitors, both in the neoadjuvant and upfront setting, this patient was managed with neo-adjuvant entrectinib. Following a dramatic reduction in tumour size confirmed by imaging, she underwent conservative fertility sparing surgery with final histopathology showing no residual disease.

Conclusions: This case highlights the importance of the investigation of NTRK fusions in fibrosarcoma like tumours of the uterine cervix, as this may open up treatment options for patients and avoids potentially morbid extensive surgery, which may impair fertility.
RELATIVE IMPORTANCE OF INDIVIDUAL INSURANCE STATUS AND HOSPITAL PAYER MIX ON SURVIVAL FOR WOMEN WITH CERVICAL CANCER

E-POSTER VIEWING

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Objectives: Safety-net hospitals (SNH) are important sites of care especially for vulnerable groups (e.g., uninsured/Medicaid). We examined the relative contributions of individual insurance status and hospital payer mix on quality of care and survival for women with cervical cancer.

Methods: We used the National Cancer Database to identify cervical cancer patients diagnosed 2004-2017. Patients were classified by insurance status (Medicaid/uninsured vs. private) and hospitals were grouped into quartiles based on the proportion of uninsured/Medicaid patients (payer mix) (top quartile defined as SNHs). Quality-of-care was assessed by adherence to evidence-based metrics and survival by proportional hazards models. Individual contributions of insurance status and hospital payer mix on quality-of-care and survival were assessed.

Results: A total of 124,339 patients including 11,338 uninsured (9.1%) and 27,281 Medicaid (21.9%) recipients treated at 1156 hospitals were identified. Quality-of-care was not significantly different across hospital quartiles. Adjusting for clinical/demographic characteristics and hospital payer mix, treatment at a SNH was associated with a 14% higher mortality (HR=1.14; 95%CL, 1.08-1.20) than Q1 hospitals. Adjusting for individual insurance, uninsured women had 32% increased mortality (HR=1.32; 95%CI, 1.26-1.38) and Medicaid recipients 40% increased (HR=1.40; 95%CI, 1.35-1.44) compared to privately insured subjects. Adjusting for both payer mix and insurance status, only individual insurance retained a significant impact on mortality (Table 1).

Conclusions: Individual insurance status (having Medicaid or no insurance) may be a more important predictor of survival than site of care and hospital payer mix for women with cervical cancer.

Table 1. Individual Insurance Status, Hospital Payer Mix and Associated Mortality among Cervical Cancer Patients

<table>
<thead>
<tr>
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<th>Overall Cohort</th>
<th>Stage 1-2A</th>
<th>Stage 2B-4A</th>
<th>Stage 4B</th>
<th>Overall Cohort</th>
<th>Stage 1-2A</th>
<th>Stage 2B-4A</th>
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<td>(1.35, 1.44)**</td>
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*P<0.05, **P<0.001

Marginal Cox proportional hazards models adjusted for hospital clustering, patient's age, race, year of diagnosis, zip code median household income quartile, Charlson comorbidity score, cancer stage, histology, grade, and tumor site. Values reported as hazard ratios with 95% confidence intervals.

Change of AIC (Akaike information criterion) in multivariable model omitting individual insurance = 73; change of AIC in multivariable model omitting individual insurance = 10.

Conclusions: Individual insurance status (having Medicaid or no insurance) may be a more important predictor of survival than site of care and hospital payer mix for women with cervical cancer.
THE PROGNOSTIC VALUE OF THE NUMBER OF POSITIVE LYMPH NODES AND THE LYMPH NODE RATIO IN EARLY STAGE CERVICAL CANCER.

E-POSTER VIEWING

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Objectives: Lymph node metastases are now incorporated into the 2018 International Federation of Gynecology and Obstetrics (FIGO) staging system for cervical cancer. However, the number of positive lymph nodes (nLNM) or the lymph node ratio (LNR) might provide a better prediction of survival. The aim of this study is to establish the impact of nLNM and LNR on survival in early-stage cervical cancer patients after surgery.

Methods: In this population-based study, we selected all women diagnosed between 1995–2020 with FIGO 2009 stage IA2-IIA1 cervical cancer and nodal metastases after radical hysterectomy and pelvic lymphadenectomy from the Netherlands Cancer Registry. Optimal cut-offs for prognostic stratification by nLNM and LNR were calculated to categorize patients in low- or high-risk groups. Kaplan-Meier overall survival analysis and flexible parametric relative survival analysis were used to determine the impact of nLNM and LNR on survival. Missing data were imputed.

Results: Of 593 patients, 500 and 501 (84%) were categorized in the low-risk and 93 and 92 (16%) in the high-risk groups for nLNM (≥4) and LNR (≥0.177), respectively. Both high-risk groups had a worse 5-year overall survival (p<0.001) and were, together with non-squamous histology, independent risk factors for relative survival, with excess hazard ratios of 2.4 (95% CI 1.6-3.5) for nLNM and 2.5 (95% CI 1.7-3.8) for LNR.

Conclusions: Presenting a patient’s nodal status postoperatively by the number of positive nodes, or by its ratio, can support further risk stratification regarding survival in case of node-positive early-stage cervical cancer.
HYSTERECTOMY AFTER CHEMORADIOThERAPy FOR LOCALLY ADVANCED CERVICAL CANCER – EVALUATION OF PROGNOSTIC FACTORS AND SURVIVAL.

E-POSTER VIEWING

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Objectives: Evaluate survival and prognostic factors of surgery after chemoradiotherapy (CRT) for locally advanced cervical cancer (LACC).

Methods: A retrospective study was performed comparing patients who had undergone surgery following primary CRT for LACC to a control group treated only with CRT.

Results: 176 patients fulfilled the inclusion criteria. Residual disease (RD) was found in 48 (55.2%) patients submitted to surgery, 32 (66.7%) had adenocarcinoma (p=0.054). The main prognostic factor related to RD in a multivariate analysis was adenocarcinoma histologic type (p = 0.005, HR = 5.54 (1.69-18.12)). Patients with RD presented higher recurrence rates n = 25 (73.5%) than those with complete pathologic response n = 9 (26.5%) (p = 0.006). Surgery performed until 6 months after CRT reduced recurrences in the first 5 years of follow up (p=0.01). Among patients submitted to surgery with RD, 89.5% (n = 17/19) presented distant metastasis during follow up (p=0.03). Multivariated analysis showed RD as a predictive factor for recurrence (p=0.02, HR = 1.85 CI (1.07-3.19)). DFS and OS was not significantly different between surgery and control group (log rank test, p = 0.25 and p = 0.13, respectively). In multivariate analysis, overall survival was found to be associated with RD (p=0.001) and recurrence (p<0.001).

Conclusions: Completion surgery after CRT highlights the pathologic response as a prognostic factor. It cannot be accessed with accuracy by physical exam, imaging or biopsy and is associated with recurrence and death bringing information that can be used to tailor further treatment.
Objectives: Prior studies have found an increase in advanced stage cervical cancers in the US. We propose to determine the high risk group based on demographic and clinical characteristics.

Methods: Microscopic confirmed cervical cancer was obtained from United States Cancer Statistics (USCS) from 2001 to 2017. Age-adjusted incidence (AAI, per 100,000 women, corrected by US 2000 standard population), age-specific incidence (ASI, per 100,000 women), and trends were calculated by SEER*Stat 8.3.8 and Joinpoint Regression Program 4.8.0.1.

Results: Of 27,102 patients with advanced stage cervical cancer from 2001-2017, 17,097 (63%) were White, 4,939 (5%) were Black, 3,636 were Hispanic (2%) , and 1,117 were Asian (0.5%). Squamous and adenocarcinoma consists of 17,867 and 4,992 patients, respectively. The age group with the highest incidence of advanced cancer was 50-54 years, 2.29/100,000. Based on race, Black and Hispanic patients have higher incidence at 1.35 /100,000 and 1.18/100,000 compared to White patients, 0.86/100,000. With respect to region, the South has the greatest incidence at 1.04/100,000. The intersectionality of age, race and region finds that Black women, aged 65-69, residing in the South have the highest incidence at 4.19/100,000, an incidence nearly three times higher than White women of the same age in the South at only 1.63/100,000.

Conclusions: Advanced stage cervical cancer continues to disproportionately affect minorities in Southern regions in the US. Resources toward screening and vaccination are needed in these at risk groups.
THE INCREASING INCIDENCE OF METASTATIC CERVICAL CANCER IN THE UNITED STATES - WHAT FACTORS ARE RESPONSIBLE?

E-POSTER VIEWING

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**Objectives:** To determine the incidence and trends of advanced stage cervical cancer in the United States.

**Methods:** Data were obtained from the U.S. Cancer Statistics program from 2001-2017. SEER*Stat 8.3.8 and Joinpoint regression program 4.8.0.1 were used to calculate incidence trends.

**Results:** Of 27,102 patients with advanced stage cervical cancer from 2001-2017, 17,097 (63%) were White, 4,939 (5%) were Black, 3,636 were Hispanic (2%), and 1,117 were Asian (0.5%). Over time, there has been an annual increase in advanced stage cervical cancer at a rate of nearly 2% per year (p<0.001); however, those with early stage cancers have a decrease of 1.54% annually (p<0.001). Women aged 30 to 65 years showed an overall increase in incidence, however those 30-34 years olds have a particularly high increase at 3.39% annually (p<0.001). Although the overall incidence of advanced cancers is higher in Hispanic and Black populations, there is an increasing number of new cases in White women at 2.39% annually (p<0.001). Compared to other groups, the intersection of White women aged 40-44 in the South have the highest average annual increase at 5.07% (p<0.001).

**Conclusions:** Although the overall incidence of advanced cervical cancers is highest in Hispanic and Black women, there is an increase in incidence in White women particularly in the Southern region of the U.S. More research is needed to understand this trend particularly in relation to screening and treatment of precancerous disease.
UNDERSTANDING THE NEVER-SCREENED POPULATION FOR CERVICAL CANCER IN THE UNITED STATES - A DESCRIPTIVE AND TRENDS ANALYSIS

E-POSTER VIEWING

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¹University of California Los Angeles, Obstetrics And Gynecology, Los Angeles, United States of America, ²Kaohsiung Veterans General Hospital, Obstetrics And Gynecology, Kaohsiung City, Taiwan, ³University of Massachusetts Medical School, Obstetrics And Gynecology, Worcester, United States of America, ⁴George Washington University School of Medicine and Health Sciences, Obstetrics And Gynecology, Washington DC, United States of America, ⁵Stanford University School of Medicine, Obstetrics And Gynecology, Division Of Gynecologic Oncology, Stanford, United States of America, ⁶Palo Alto Medical Foundation, Research Institute, Palo Alto, United States of America, ⁷California Pacific Medical Center, Research Institute, San Francisco, United States of America, ⁸Palo Alto Medical Foundation Research Institute, Obstetrics And Gynecology, Palo Alto, United States of America, ⁹Stanford University School of Medicine, Department Of Radiation Oncology, Stanford, United States of America, ¹⁰Arizona Oncology, Gynecologic Oncology, Obstetrics And Gynecology, Phoenix, United States of America, ¹¹California Pacific Medical Center, Obstetrics And Gynecology, San Francisco, United States of America

Objectives: It is estimated that 50% of patients diagnosed with cervical cancer never had any screening. We aimed to determine the changes in cervical cancer screening in the United States.

Methods: Pap smear rates were evaluated using the Behavioral Risk Factor Surveillance System (BRFSS). SEER*Stat 8.3.8 and Joinpoint regression program 4.8.0.1 were used to calculate incidence trends.

Results: In 2016, 6.28% women in the U.S were never screened for cervical cancer. Based on race, 21.3% of Asian, 11.63% Hispanic, 8.09% Black and 5.1% of White women have never undergone screening. The age groups with higher never screened rates were the 80 and older age cohort at 11.14% followed by the 25-29 group at 8.87%. Over the last 6 years of our study, there has been an increase of 7.4% annually of never screened rates (p=0.008). In regards to age, there has been an increase in never pap was the 25-29 age group (AAPC +7.31%, p<0.001). White and Black women have increasing never pap smear rates at 1.49% (p=0.008) and 4.05% (p<0.001), respectively, while Hispanic women have no change. The intersectionality of age and race shows that Black women ages 25-29 have the highest increased rate of no screening, 9.84% annually (p<0.001).

Conclusions: Based on this large survey, nearly one fourth of Asian women were never screened for cervical cancer in the U.S. There is also an increasing proportion of never-screened particularly in younger Black women. Further research is warranted to understand the change in screening practices in relation to vaccination and access to care.
DEVELOPMENT OF A CIRCULATING TUMOR HPV ASSAY FOR THE DETECTION OF RECURRENT CERVICAL CANCER

E-POSTER VIEWING

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University of Wisconsin Hospitals and Clinics, Obstetrics And Gynecology, Madison, United States of America

Objectives: Circulating tumor DNA assays have the potential to facilitate early detection of cancer recurrence as has been demonstrated in breast, bladder, colorectal, and most recently HPV-associated oropharyngeal cancer. We sought to develop a droplet digital PCR (ddPCR) assay for the quantification of circulating tumor HPV DNA in cervical cancer patients.

Methods: Primers were designed to specifically detect an amplicon within the E7 gene encoded by high-risk HPV 16 and 18. Each reaction assay contained 2x ddPCR EvaGreen Supermix (10 µL), respective primers (4 µL), target DNA (1 µL), and DNAase free water (5 µL). Optimal annealing temperature and primer concentration were determined by running temperature and concentration titrations of PBS spiked with target gene fragments of HPV 16. Primers targeting the E7 gene of HPV 16 and 18 were combined into a single assay and HPV DNA quantification performed in control plasma samples.

Results: Titration analysis demonstrated good correlation between expected HPV DNA copies and detected copies by ddPCR ($R^2 = 0.9763$). The HPV 16 and 18 assays tested individually and in combination were specific for the HPV strain of interest with no cross-reactivity to the other HPV strain.
Conclusions: We developed a highly sensitive and specific ddPCR assay to detect the two dominant high-risk HPV subtypes responsible for cervical cancer. We plan to perform a prospective pilot study to validate our assay and its clinical utility in detecting minimal residual disease and treatment response.
A REVIEW OF CERVICAL CANCER DIAGNOSED IN WOMEN OVER THE AGE OF 65

E-POSTER VIEWING

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¹University Hospitals Sussex, Obstetrics And Gynaecology, Brighton, United Kingdom, ²University Hospitals Sussex, Gynaecological Oncology, Brighton, United Kingdom

Objectives: To explore the incidence of cervix cancer following cessation of the UK cervical screening programme.

Methods: 179 cases of cervical cancer diagnosed between 2016 and 2020 at University Hospitals Sussex were retrospectively reviewed. The screening history, grade, histology and stage of cancer were recorded.

Results: Over a five-year period, 80 cases of cervical cancer were identified in the screened population. Of these 59 (74%) were under 65 years and 21 (26%) were over 65 years of age. An initial peak incidence was seen at 30-35 year age range, declining with further screening. Following cessation of screening, a secondary peak at 80-85 years was noted. Of those diagnosed during screening (59.3%) were FIGO IA1 to IB2, however, only 9.5% of the over 65s were early stage. Similarly, 32.2% of those within screening age presented with a grade 1 cancer, with only 4.8% over 65 years being low grade. Histology in the under 65s revealed 44.1% were squamous cell carcinoma and 45.8% were HPV-related adenocarcinoma. In the over 65s this was 76.2% and 14.3% respectively.

Conclusions: Despite adherence to the screening programme, 25% of cervix cancer was diagnosed beyond screening age, approximately 16 years later. These patients were of more advanced stage and higher grade. This preliminary exploration informs the need for a wider review of cervix cancer after the age of 65 and consideration of extension of the age of screening.
OUTCOMES OF CERVICAL CANCER IN HUMAN IMMUNODEFICIENCY VIRUS (HIV) POSITIVE WOMEN TREATED WITH RADIOTHERAPY

E-POSTER VIEWING

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Objectives: There has been limited data on management of cervical cancer in women living with HIV (WLWH) in modern antiretroviral therapy (ART) era in India. The study aimed to evaluate outcomes and toxicities of these patients treated with radiotherapy.

Methods: A retrospective analysis of HIV-positive cervical cancer patients treated with radiotherapy between 2011 to 2018 was conducted.

Results: Eighty-one HIV positive cervical cancer patients treated with radiotherapy were identified. Median age was 45 years of which seventy-three (90%) received radiotherapy with curative intent and eight patients received palliative radiotherapy. Median CD4 count at the start of treatment was 342 cells/mm³ (IQR 241- 531). Of 73 patients planned for definitive radiotherapy, concurrent cisplatin was planned in 52 (71%) patients with median of four chemotherapy cycles and 81% (n=59) patients received brachytherapy. Among the patients who received brachytherapy, the median dose prescribed was 80Gy. 77% patients completed their prescribed treatment. At a median follow-up of 37 months, 3-year DFS of patients planned with curative intent was 54%. On multivariate analysis, treatment completion was associated with favorable DFS. Grade III/IV acute gastrointestinal toxicity was seen in five (6.8%) patients while 30% patients had grade III/IV acute hematological toxicity. However, all these patients completed their planned radiotherapy with good supportive care.

Conclusions: Standard treatment of chemoradiation should be planned in WLWH with well managed HIV presenting with locally advanced cervical cancer. Our study highlights need for optimal management of these patients by multidisciplinary team with intensive supportive care to ensure completion of planned treatment to achieve better outcomes.
TRANSITION FROM FIGO-2009 TO FIGO-2018 IN WOMEN WITH EARLY-STAGE CERVICAL CANCER; DOES THE REVISED STAGING CORRECTLY REFLECT RISK GROUPS?

E-POSTER VIEWING

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Objectives: We aimed to evaluate risk factors associated with lymph node macro- and micrometastases in women with early-stage cervical cancer, focusing on the revised FIGO-2018 staging system.

Methods: Using data from a national prospective cohort study on sentinel lymph node (SLN) mapping in 245 women with early-stage cervical cancer, we reallocated women from FIGO-2009 to FIGO-2018 stages. We used binary and multiple regression models to investigate the risk ratio of FIGO-2018 stages and tumor characteristics associated with nodal metastases.

Results: Stage migration occurred in 80.4% (197/245), due to tumor size or depth of invasion in 75.1% (148/197), nodal metastases in 19.3% (38/197), and imaging in 4.5% (11/245). Downstaging to FIGO-2018 IA stages occurred in 36.7% (90/245). Six (5.7%) women with stage IA tumor characteristics were upstaged to IIIC1 due to the findings of nodal metastases. The depth of invasion ranged from 4-5 mm and the tumor size from 9-22 mm; all six metastases were SLNs. For the whole population, risk factors significantly associated with nodal metastases were FIGO-2018 ≥ IB2 (p < 0.001), parametrial invasion (p < 0.001), and lymphovascular space invasion (LVSI) (p < 0.001). All three remained significantly associated with nodal metastases in a multivariate analysis.

Conclusions: The FIGO-2018 revised staging system causes stage migration for a large proportion of women with early-stage cervical cancer. The attention on depth of invasion rather than horizontal dimension seems to reflect the risk of nodal metastases correctly. The use of sentinel node mapping in stage IA FIGO-2018 appears to be justified.
PATIENT-REPORTED LOWER LIMB LYMPHEDEMA AND QUALITY OF LIFE AFTER RADICAL SURGERY WITH SENTINEL NODE MAPPING FOR EARLY-STAGE CERVICAL CANCER

E-POSTER VIEWING

S. Sponholtz, O. Mogensen, M. Hildebrandt, D. Schledermann, E. Parner, N. Ezendam, A. Markauskas, L. Frøding, K. Fuglsang, S. Bjørnholt, P. Jensen

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Objectives: We prospectively evaluated patient-reported lower limb lymphedema and quality of life (QoL) in women with early-stage cervical cancer undergoing radical surgery with sentinel lymph node (SLN) mapping.

Methods: In a national multi-institutional study, we included women with early-stage cervical cancer from March 2017-January 2021 to undergo radical surgery including SLN mapping. Women with tumors >20 mm underwent completion pelvic lymphadenectomy (PL). The incidence and severity of lymphedema and QoL were evaluated using validated patient-reported outcome measures before surgery and three months postoperative. Changes over time were investigated using linear regression.

Results: Two hundred of 245 (81.6%) included women completed the baseline and three-month questionnaires. The incidence of lymphedema was 7.2% versus 31.5% in women who underwent SLN mapping alone and completion PL, respectively (p < 0.001). Lymphedema scores in the leg, genital, and groin were affected in both groups, but significantly more after PL. The differences between groups remained significant in a multivariate analysis adjusting for, e.g., adjuvant therapy and age. PL significantly affected the severity of lymphedema regarding physical performance (p = 0.001), appearance (p = 0.008), besides heaviness, weakness, and pain in the legs (p < 0.001). Lymphedema was negatively associated with impaired body image, physical, role, and social functioning and a higher level of fatigue.

Conclusions: SLN mapping combined with PL is associated with a significantly higher incidence and more severe lymphedema three months postoperatively than SLN mapping alone. Lymphedema was associated with lower QoL in several domains.
OVERUSE OF CERVICAL CANCER SCREENING TESTS AMONG AVERAGE-RISK MEDICAID BENEFICIARIES

E-POSTER VIEWING

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Objectives: In 2012, the American Cancer Society updated cervical cancer screening guidelines to recommend cytologic screening every 3 years or HPV testing with cytology (co-testing) every 5 years in women age 30-65. We aim to examine the use of cervical cancer screening among average-risk Medicaid beneficiaries.

Methods: The MarketScan database was used to identify average-risk women age 30-64 with Medicaid coverage who underwent index cervical cancer screening in 2013-2016. Subsequent screening rates within 3 years of the index test were examined. Demographic factors associated with early re-screening and rates of annual gynecologic examinations were also examined. Patients with cervical dysplasia, HPV, or unsatisfactory results were excluded.

Results: Overall, 265,083 patients were included. 43.1% (N=114,312) had index co-testing, 55.2% (N=146,309) had cytology, and 1.7% (N=4,462) had primary HPV testing. The cumulative incidence of early, repeat cervical cancer screening was 3.9% at 12mo, 22.7% at 24mo, and 33.3% at 36mo. During the period from 12-24 months after follow-up, 20.9% of women underwent repeat screening, while 19.4% underwent screening 24-36 months after the index test. Early re-testing was more common in younger patients and non-White patients (p<0.001). Of patients who did not undergo repeat cervical cancer screening, a yearly gynecologic examination was performed in only 16,627 (10.7%) during year 2 and in 11,116 (8.8%) patients during year
Conclusions: Among average-risk Medicaid beneficiaries, cervical cancer screening is frequently overutilized. Women who do not undergo cervical cancer screening are unlikely to receive routine gynecologic care.
SMALL CELL NEUROENDOCRINE CARCINOMA OF THE CERVIX IN A YOUNG PATIENT WITH UTERINE PROCIDENTIA: A CASE REPORT

E-POSTER VIEWING

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Objectives: Small cell neuroendocrine carcinoma of the cervix (SCNC) is an aggressive and rare histologic subtype, accounting for less than 2% of all cervical tumors. Moreover, cervical cancer complicated with uterine prolapse is even rarer with an estimated incidence of 0.14-1.0%.

Methods: A 32-year-old multipara presented with a 13-month history of intermittent vaginal spotting and postcoital bleeding, associated with gradually increasing introital mass. Pelvic examination revealed procidentia uteri. A foul-smelling fungating, necrotic mass at the anterior lip of the cervix measuring 9 x 9 x 4.5 cm was also noted. Biopsy of the mass and immunohistochemistry were consistent with SCNC. Imaging studies were done to determine the extent of the tumor. A diagnosis of small cell neuroendocrine carcinoma of the cervix, stage IIIC1r with pelvic organ prolapse, stage IVC was made. Uterine procidentia was reduced using a gellhorn pessary. The patient received external beam radiation therapy followed by brachytherapy, and chemotherapy with Cisplatin and
Results: There was marked reduction of the cervical mass, and complete resolution of the pelvic organ prolapse, as
Conclusions: This is the first report of small cell neuroendocrine carcinoma of the cervix complicated with uterine procidentia, locally and internationally. It required a multidisciplinary approach involving a urogynecologist, a gynecologic oncologist, and a radiation oncologist. Standard treatment guidelines for this rare tumor and case are yet to be established.
A NOVEL IMAGE-GUIDED POINT-OF-CARE ETHYL CELLULOSE ETHANOL ABLATION STRATEGY FOR RECURRENT LOCALIZED CERVICAL CANCER

E-POSTER VIEWING

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Objectives: Local ablation is a promising option for recurrent localized cervical cancer in non-surgical candidates who fail platinum-based chemotherapy and radiation. We developed a low-cost polymer-assisted ethanol ablative therapy, Point-of-care Ethanol Ethyl Cellulose (PEEC), that overcomes the main shortcoming of ethanol ablation: off-target ethanol leakage. Since increased tumor coverage of ablative therapies results in reduced tumor progression and improved clinical outcomes, we hypothesized that PEEC with image-guidance would optimize cervicovaginal tumor coverage resulting in decreased tumor progression and off-target effects.

Methods: A syngeneic cervicovaginal tumor model was established in C57BL/6 mice using TC1-Luc, HPV16 E6/E7+ cells expressing luciferase. Mice were randomized into image-guided PEEC (IG-PEEC), PEEC without image guidance (PEEC only), and saline ablation groups (n=5). Tumors were monitored with bioluminescence imaging via a Perkin-Elmer in vivo imaging system (IVIS) and calipers. Ablations consisted of two intratumoral injections (50mL each) of either PEEC or saline. Image-guided ablations were performed using IVIS to both target PEEC injections at regions of highest radiance intensity (correlated to tumor mass) and to assess tumor coverage.

Results: Tumors treated with IG-PEEC performed best with lower total radiance, volumes and weights, and longer survival compared to PEEC only and saline groups (p < 0.05); both PEEC groups demonstrated reduced tumor growth compared to saline (p <0.05). Off-target damage (ulceration) rates were lower for the IG-PEEC (n=0, 0%) versus the PEEC only (n=2, 40%) group.

Conclusions: PEEC ablation enhanced by image-guidance significantly controls HPV16 E6/E7+ cervicovaginal tumor progression. This supports image-guidance as a critical component in optimizing PEEC ablation and eventual clinical translation.
Obstetrical and oncologic outcomes after abdominal radical trachelectomy

E-poster viewing

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Objective: To describe retrospectively our experience following abdominal radical trachelectomy (ART), including 5 performed during pregnancy, in terms of complications, obstetrical and oncologic outcomes.

Methods: Between 2010 and 2020, all patients with early stage cervical cancer deserving to preserve their fertility were considered for ART. Out of the 19 patients who have met the inclusion criteria for ART, in 18 the trachelectomy was performed and only 1 case needed conversion to radical hysterectomy.

Results: Patients' mean age was 31 years old (range 24-38); two thirds of them were nulliparous. Six women (33.33%) were staged as IA2, 4 (22.22%) IB1, 5 (27.78%) IB2, and 4 (22.22%) stage IB3 disease. Only one intraoperative complication has occurred - both bladder and right ureteral injuries. Early postoperative complications were urinary bladder dysfunction (33.33%), symptomatic pelvic lymphocele which was drained (11.1%), peritonitis (5.5%), and wound infection (5.5%). Late postoperative complications included cervical stenosis (5.5%), amenorrhea (11.1%), and pelvic abscess (5.5%). Four out of the 18 patients were operated during pregnancy between 14 and 20 weeks; 2 of them have delivered at term, and 2 of them have aborted shortly after the surgery. One patients was operated immediately after caesarean section. Two vaginal recurrences were recorded; and both have been managed by hysterectomy, partial colpectomy and adjuvant chemoradiotherapy. At this moment, all patients are alive with no evidence of disease and 3 of them managed to conceive.

Conclusions: ART is a reliable option as fertility sparing procedure. In selected cases, ART could be performed during pregnancy or after caesarean section with encouraging results.
DOES SURGICAL APPROACH INFLUENCE RECURRENCE IN EARLY STAGE CERVICAL CANCER WITH NO GROSS VISIBLE DISEASE AT PRESENTATION?

E-POSTER VIEWING

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Objectives: Published results from the LACC trial reported inferior survivals after minimal invasive surgical (MIS) approach in the treatment of early cervical cancer. Spillage of gross tumours and peritoneal contamination had been proposed as possible explanations. We studied oncologic outcomes specifically in patients presenting with no clinical gross cervical cancer treated with minimal invasive versus open radical hysterectomy as this has not been reported.

Methods: Retrospective chart reviews of all patients treated with radical surgery for cervical cancer from 2005 to 2018 were performed. Only patients with no gross visible tumour who were diagnosed after a LEEP/cone biopsies were included. Relevant demographics, pathologies and survival outcomes were abstracted. Descriptive and Chi Square statistics were used to summarize clinical variables. Kaplan Meier and Cox regression were used to study survival outcomes. All p<0.05 were considered to be statistically significant.

Results: 98 patients were included. Median age was 42. Median tumour size was 10 mm. Most was diagnosed after a cone biopsy (66%). Stage 1B1 was documented in 66% preoperatively. MIS used in 20 patients. Uterine manipulator used in 14 cases. Median follow up was 42 months. One recurrence in MIS group (5%) vs six recurrence in laparotomy group (7.7%) , p=0.67. Three death in laparotomy and no death in MIS cohort. MIS is not significant in Cox model for PFS, adjusted for use of adjuvant radiation, and tumour size, p=0.43.

Conclusions: MIS radical hysterectomy might be safe in patients with no gross visible tumour at presentation.
THE HIGHER INCIDENCE OF CERVICAL CANCER AMONG HISPANICS IN THE US: WHAT FACTORS ARE RESPONSIBLE?

E-POSTER VIEWING

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Objectives: To evaluate differences in cervical cancer incidence, screening, and HPV vaccination between Hispanics and Whites in the United States.

Methods: Data were obtained from the United States Cancer Statistics (USCS) from 2001 to 2017 and the Behavioral Risk Factor Surveillance System (BRFSS). SEER*Stat and Joinpoint regression program were used for statistical analyses.

Results: Based on USCS data, in 2017 the overall incidence of cervical cancer was 7.5/100,000 in Hispanic women compared to 6.2/100,000 in White women. Hispanics aged 35 to 39 years had the highest incidence at 15.9/100,000. We then used BRFSS data to identify potential deficiencies in screening and prevention, and found that 11.6% of all Hispanics were never screened compared to only 5.1% of Whites. When stratified by age, Hispanics 25 to 29 years old had the highest rate of absent screening at 11.2%, compared to 6.4% of Whites of the same age. In examining adherence to screening guidelines, we found that 11.4% of Hispanics and 26.6% of Whites were non-adherent (no screening in the last five or more years). Furthermore, of those eligible for HPV vaccination in 2006, only 37.3% of Hispanics had received the vaccine by 2017, compared to 50.0% of Whites.

Conclusions: Cervical cancer incidence is 20% higher in Hispanics compared to Whites in the United States. Poor compliance with cervical cancer screening and lower vaccination rates may explain this disparity.
HIGH INCIDENCES OF CERVICAL CANCER IN US BLACK WOMEN OVER AGE 65 - SHOULD INDIVIDUALIZED SCREENING GUIDELINES BE CONSIDERED?

E-POSTER VIEWING

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Objectives: In 2003 the USPSTF recommended discontinuing cervical cancer screening at age 65 in low risk adequately screened women. We aim to evaluate trends in cervical cancer incidence and screening in United States Black and White women over age 65.

Methods: Data were obtained from United States Cancer Statistics (USCS) from 2001 to 2017 and from the Behavioral Risk Factor Surveillance System (BRFSS). SEER*Stat and Joinpoint regression program were used for statistical analyses.

Results: Using USCS data, we evaluated differences in cervical cancer incidence by race and age. We found the highest incidence in Blacks aged 65 to 69 years at 17.6/100,000, compared to 15.0/100,000 in Whites aged 40-44 years. Of note, the incidence among Blacks over age 69 remained high at 13.9-17.5/100,000 whereas the incidence in Whites decreased steadily after peaking in 40-44 year-olds. Using BRFSS data, we evaluated patterns in screening, and demonstrated that 34.7% of Blacks aged 65 and older had never been screened compared to 21.5% of Whites. Of those screened, 19.8% of Blacks aged 65-69 years were non-adherent to guidelines (no Pap in five or more years) and the rate of non-compliance increased 5.2% per year over our study period (p<0.001).

Conclusions: Over one third of Blacks aged 65 and older never underwent cervical cancer screening, and the rate of non-compliant screening is increasing. With the highest incidence of cervical cancer in Blacks seen in this age group, the role of individualized cervical cancer screening guidelines should be considered.
DEVELOPMENT OF A LARGE SWINE MODEL FOR ANATOMICAL AND FUNCTIONAL ASSESSMENT OF THE FEMALE PELVIC AUTONOMIC NERVES IN WOMEN

E-POSTER VIEWING

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Objectives: The anatomy and function of the pelvic autonomic nerves are not yet fully understood despite the development of nerve-sparing radical surgery for cervical cancer. Thus, we developed a female animal model for anatomical and functional assessment of the pelvic autonomic nerves in women.

Methods: We used eight female swine models weighing about 30 kg each and assessed the anatomy of their pelvic autonomic nerves. We also evaluated the nerves' function by measuring the pressure of the bladder, vagina, and rectum after electrically stimulating the parasympathetic nerves with or without resection of the sympathetic nerves.

Results: Three swine models were dissected for anatomical assessment and showed similar patterns. Although there were some anatomic variations, most showed identical pathways of the sympathetic and parasympathetic nerves that eventually led to the formation of superior and inferior hypogastric nerves respectively, as well as the individual branches of the pelvic plexus. The remaining eight models were used for functional assessment. Before resection of the sympathetic nerves, stimulation of parasympathetic nerves showed increased interval to contraction and duration of contraction but decreased maximal contractile pressure and frequency in the pelvic organs, while results revealed the contrary after resection of the sympathetic nerves.

Conclusions: We were able to identify the anatomy and function of pelvic autonomic nerves in swine models and found them to be similar to those of women. Further studies should be done to compare the two in order to master the knowledge of female pelvic autonomic nerves.
ASSOCIATION OF HLA-G POLYMORPHISMS WITH HIGH-RISK HPV+ CERVICAL PATHOLOGIES SUSCEPTIBILITY

E-POSTER VIEWING

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Objectives: HLA-G gene polymorphisms have been linked to many cancers particularly to cervical squamous cell carcinoma (CSCC). In this meta-analysis, we studied the association of HLA-G +3142 C/G and 14bp Insertion/deletion (Ins/Del) polymorphisms with cervical pathologies susceptibility.

Methods: A comprehensive systematic literature search in Medline, Pubmed, Cochrane, Embase, and Web of Science databases was performed to look up relevant studies. We identified four studies for HLA-G +3142 C/G (299 patients with HPV+ high-risk cervical pathologies and 870 healthy controls (HC)); and six studies for HLA-G14bp Ins/Del (693 patients with HPV+ high-risk cervical pathologies and 2536 HC). The association was studied through the calculation of the odds ratio (OR) and the corresponding 95% confidence interval (CI).

Results: HLA-G +3142 C/G polymorphism and HLA-G 14 bp Ins/Del significantly enhanced the risk for HPV+ cervical pathologies only in Asians conversely to overall population and Caucasians. HLA-G +3142 C/G enhanced the HPV+ high-risk cervical pathologies risk under allelic C vs. G model (OR=1.321, 95CI%=1.035-1.686, p=0.025) and under the genotypic model CC vs. GG+GC (OR=2.028, 95CI%=1.337-3.075, p=0.001). HLA-G 14bp Ins/Del increased also the HPV+ cervical pathologies risk only under the genetic model (InsIns vs. DelDel+InsDel) (OR=1.910, 95%CI=1.151-3.171, p=0.012) in Asians.

Conclusions: Our preliminary meta-analysis showed a significant association of HLA-G +3142 C/G polymorphism and HLA-G 14bp Ins/Del with HPV+ high-risk cervical pathologies susceptibility in Asians. Further studies still needed in other ethnicities to clearly establish our findings.
INTERACTIVE FLASHCARDS IMPROVE HUMAN PAPILLOMAVIRUS VACCINE KNOWLEDGE AND WILLINGNESS TO RECOMMEND AMONG NURSES

E-POSTER VIEWING

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Objectives: The Human Papillomavirus (HPV) vaccine prevents cervical and other HPV-associated cancers by preventing infection with oncogenic HPV subtypes. In the United States, only 57% of women and 53% of men in the recommended age groups have received all recommended doses. Our objective was to create a 7-minute interactive learning platform to improve knowledge of HPV and to assess willingness to recommend the vaccine among nurses.

Methods: Pre- and post-intervention questions on HPV-associated cancers, vaccine eligible groups, dosing schedules, adverse events, and willingness to recommend the vaccine were posed. The intervention consisted of 10 flashcards in a question-answer format with up-to-date information and responses to frequently asked questions (e.g., Who should receive the vaccine and how is it given? Some parents may worry that their child will think that getting this vaccine makes it OK to have sex, how do I answer?).

Results: All 113 participants (40.9±11.6 years-old, 58% with >10 years in practice) identified cervical cancer as an HPV-associated cancer. Post-intervention, there was improvement in recognition of other HPV-associated cancers (70% to 94%) and knowledge of dosing schedule (46% to 93%). 7% versus 1.7% of participants agreed with unproven adverse events pre- and post-intervention. 94% of participants strongly agreed that they would recommend the HPV vaccine to patients and 87% strongly agreed that the intervention improved their knowledge.

Conclusions: While nurses are willing to recommend the vaccine, there are knowledge gaps in HPV-associated cancers, dosing schedules, and adverse events. An interactive flashcard educational intervention is effective in improving HPV vaccine knowledge among nurses.
UTERINE TRANSPOSITION IN TREATMENT PATIENTS WITH INVASIVE CERVICAL CANCER

E-POSTER VIEWING

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Objectives: Radical trachelectomy is the main surgical procedure in the treatment of invasive cervical cancer for patients who want to preserve fertility. Radical trachelectomy is not possible for some patients due to a large size of tumor which spreads onto the vagina or parametric, regional lymph nodes metastasis. These patients require radiation therapy, which excludes the possibility of independent pregnancy.

Methods: We report 5 patients having stage Ib2-IIb cervical cancer. The average age is 29 years. At the first step of treatment, 2-3 courses of chemotherapy were carried out. The second step included a radical trachelectomy (Piver type III) with uterus transposition. The uterus blood supply was ensured by IP-ligaments, which are protruded approximately 15cm on each side. Due to this method, the uterus and ovary mobility was achieved. It made possible to paraumbilically transposition the uterus so that the conditions for performing radiotherapy were created. The third step marked a combined radiotherapy which was carried out according to the prescribed standards. In three months a uterine reposition with utero-vaginal anastomosis was conducted.

Results: The patients have been under the median observation for 16,2 months so far. No one has any signs of recurrence. All our patients’ menses circles saved.

Conclusions: The uterine transposition in treatment patients with stage Ib2-IIb cervical cancer ensures preservation of the uterus and ovarian function. This operation makes it feasible to provide a combined radiotherapy according to the prescribed standards and, thus, ensures, fertility preservation. Undoubtedly, that is very seminal to continue carrying out research in this field.
THE USE OF ROUTINE CYTOLOGY FOLLOWING CERVICAL CANCER TREATMENT: A CALL TO DISCONTINUE THE SURVEILLANCE PAP SMEAR

E-POSTER VIEWING

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Objectives: Despite limited evidence of benefit in using pap smears for surveillance of asymptomatic cervical cancer recurrence, gynecologic oncologists continue to perform this test annually. The objective of the study was to examine the utility of routine cervical cytology following cervical cancer treatment.

Methods: An IRB-approved retrospective study was performed at a tertiary care center between 2004-2020. A total of 581 cervical cancer patients were identified, of which 211 were excluded due to loss of follow up or treatment at an outside facility. Manual data abstraction was performed.

Results: Of 370 patients in the cohort, 237/370 were identified in the surveillance period. 82/237 (34.5%) had at least one abnormal pap smear. 25/82(30.5%) underwent biopsy with 88% of biopsies negative for malignancy. 177/237(74.7%) women underwent radiation therapy: 67/177 (39.8%) had abnormal surveillance pap smears, with 8/177 (4.5%) subsequently diagnosed with local recurrence. Local recurrence was identified in 18/237 (7.6%) patients: 16/18 (88.9%) were symptomatic. Of the symptomatic patients, 6/18 (33.3%) had normal surveillance cytology. Only one case of local, asymptomatic cervical cancer recurrence was detected on pap smear alone.

Conclusions: Routine pap smears in surveillance of cervical cancer recurrence has limited clinical value. Consideration should be given to removing routine cytology from the surveillance recommendations.
COMPARISON OF OUTCOMES BETWEEN ABDOMINAL, MINIMALLY INVASIVE AND COMBINED VAGINAL- LAPAROSCOPIC HYSTERECTOMY IN PATIENTS WITH STAGE IA1/IA2 CERVICAL CANCER: 4C (CANADIAN CERVICAL CANCER COLLABORATIVE) STUDY

E-PAPER VIEWING

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Objectives: Although minimally invasive(MIS) radical hysterectomy has been associated with worse survival compared to abdominal hysterectomy(AH), only 8% of patients in the LACC trial had microinvasive disease(Stage IA1/IA2). We sought to determine differences in outcome among patients undergoing MIS, AH or combined vaginal-laparoscopic hysterectomy(CVLH) for microinvasive cervical cancer.

Methods: A retrospective cohort study of all patients undergoing hysterectomy for FIGO 2018, microinvasive cervical cancer across 10 Canadian centers between 2007 and 2019 was performed. Recurrence free survival(RFS) was estimated using Kaplan Meier Survival analysis. Chi-square and log-rank tests were used to compare outcomes.

Results: 430 patients with microinvasive cervical cancer were included; 61.9% Stage IA1 and 38.1% IA2. The median age was 44 years(range 24-81). The most frequent histology was squamous(59.5%). Surgical approach was: 49.5% MIS(robotic or laparoscopic), 34.4% AH and 14.7% CVLH. 70.9% underwent radical hysterectomy and 76.5% had pelvic lymph node assessment. There were 5 recurrences (MIS:1, AH:4, CVLH:0). No significant difference in 5-year RFS (96.2% MIS, 93.7% AH, 89.4% CVLH, p=0.36) was found. When limiting to patients with IA1 LVI+ or IA2 (n=194), survival results were similar. Further, there was no significant difference in peri-operative complications(p>0.15). Patients undergoing MIS had a shorter median length of stay(1 day vs 3(AH) vs. 1.5(CVLH), p<0.01), but had more readmissions (13.8% vs 6.5%(AH), 5.2%(CVLH),p=0.036) and ER visits(15.9%, 3.6%(AH), 3.5%(CVLH),p<0.01).

Conclusions: In patients with microinvasive cervical cancer, there was no difference in survival by surgical approach, possibly due to low event rate. These patients may benefit from MIS without compromising oncologic outcomes.
THE IMPACT OF SURGICAL APPROACH IN CASES WITH NO RESIDUAL DISEASE ON HYSTERECTOMY SPECIMEN: A 4C (CANADIAN CERVICAL CANCER COLLABORATIVE) WORKING GROUP STUDY

E-POSTER VIEWING


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Objectives: The adverse effect of laparoscopic/robotic surgery in cervical cancer has been established, however the exact patient population that this applies to has not been fully elucidated. Our objective was to characterize the impact of surgical approach on outcomes in cases of no residual cervical cancer on hysterectomy specimen.

Methods: Retrospective cohort study of cases of surgically treated cervical cancer at 10 Canadian institutions from 2007-2019. Cases with no residual disease on hysterectomy specimen were included and subdivided according to: minimally invasive (MIS), abdominal (AH) or combined vaginal-laparoscopic hysterectomy (CVLH). Recurrence free survival (RFS) and overall survival (OS) were estimated using Kaplan-Meier analysis. Chi-square and log-rank tests were used to compare between cohorts.

Results: Within the total cohort, 187/1070 (17.5%) had no residual disease on hysterectomy specimen. The distribution according to surgical approach was: 94 MIS, 78 AH, and 15 CVLH. The majority of cases undergoing MIS and AH were stage IB (51% and 60%), and underwent a radical hysterectomy (91% and 67%), whereas of CVLH patients, the majority were stage IA (93%) and underwent a simple hysterectomy (73%). There were no significant differences in RFS (5-year: MIS 96.0%, AH 90.7%, CVLH 100%, p=0.15) or OS (5-year: MIS 98.4%, AH 93.0%, CVLH 100%, p=0.067), although event-rates were low, and regression analysis was not performed.

Conclusions: In this study of impact of surgical approach in cases with no residual cervical cancer on hysterectomy specimen, significant differences in RFS and OS among the surgical subgroups was not found. Further studies are warranted.
RADICAL ROBOTIC HYSTERECTOMY - EXPERIENCE OF 103 CASES AT THE NATIONAL CANCER INSTITUTE, RIO DE JANEIRO, BRAZIL

E-POSTER VIEWING

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Objectives: To evaluate the morbidity, mortality, recurrence and survival of patients diagnosed with cervical cancer undergoing treatment by robotic surgery at the Brazilian National Cancer Institute

Methods: Patients diagnosed with adenocarcinoma and squamous cell carcinoma staging IA1 through Ib1 treated surgically via DA vinci Si were included. Hazard Ratios (HR) through Cox’s semiparametric model and the analyzes carried out in the environment R ver 4.0.3; considered significant p <0.05.

Results: 103 medical records of patients diagnosed with cervical cancer treated by robotic route in the period from 2012 to 2018 were analyzed; 03 patients were excluded due to histopathology being neuroendocrine and in-situ. The most commonly performed radical hysterectomy: Type C1 (n = 46). 76 patients with the histological type of squamous carcinoma. 64 patients had a tumor less than or equal to 2 cm. 13 patients had recurrence of the disease. 9 patients died. Patients with tumors smaller than 2 cm had a 96% disease-free survival. In the multivariate analysis, tumor size greater than 2 cm was a factor of worse prognosis with HR 16.79 (3.35-84.26, p = 0.001)

Conclusions: In the retrospective analysis of patients diagnosed with adenocarcinoma or squamous cell carcinoma of the uterine cervix undergoing robotic surgical treatment, it was observed through multivariate analysis that the tumor size> 2 cm behaved with an isolated factor with a worse prognosis.
ROLE FOR NEOADJUVANT CHEMOTHERAPY AND LESS INVASIVE SURGERY IN MANAGEMENT OF EARLY STAGE CERVICAL CANCER IN BOTSWANA

E-POSTER VIEWING

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Objectives: Most patients with early stage cervical cancer are treated with a radical hysterectomy and lymph node dissection (LND). However, several low- and middle-income countries lack gynecological oncology expertise. We present our outcomes from treating patients with stage IA2-IB1 cervical cancer with neoadjuvant chemotherapy (NACT) followed by a simple hysterectomy and LND in absence of a gynecological oncologist.

Methods: Between 2017 and 2019, 8 women with early stage cervical cancer (IA2-IB1) with tumor size less than 2cm and absence of lymphovascular invasion in Botswana were treated with 3 cycles of NACT (carboplatin and paclitaxel) followed by a simple hysterectomy and pelvic LND performed by a general gynecologist.

Results: The median age at surgery was 50 years (42-63). Six women (75%) had stage IB1 disease. Six women (75%) were HIV-positive. Three patients (38%) had a pathological complete response with no detectable tumor on final pathology, and the other 5 patients (62%) had a partial response to chemotherapy and were able to undergo surgery. All patients completed chemotherapy as prescribed. None of the women had any high risk features consistent with Peters or Sedlis criteria. Median follow-up time was 3.5 years. One patient died 6 months after treatment due to a non-cancer related cause (accident). Overall survival for all patients was 87.5% and cause-specific survival was 100%.

Conclusions: These pilot data suggest favorable outcomes with NACT followed by a simple hysterectomy and LND for women with early stage cervical cancer in Botswana.
PRELIMINARY RESULTS OF NIRAPARIB AND BRIVANIB DUAL THERAPY EVALUATION IN RECURRENT, METASTATIC AND PERSISTENT CERVICAL CANCER (CQGOG0101): AN OPEN-LABEL, SINGLE ARM, PHASE II CLINICAL TRIAL

E-POSTER VIEWING

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Objectives: The aim of this study (CQGOG 0101) is to evaluate the safety and activity of Niraparib (an oral PARP1/2 inhibitor) combined with brivanib in patients with recurrent, metastatic, or persistent cervical cancer.

Methods: The CQGOG0101 study is an open-label, single-arm, single-center, phase 2 trial. Figure 1. Study Design

Table 1. Brief Inclusion and Exclusion

<table>
<thead>
<tr>
<th>Eligible patients</th>
<th>Primary Endpoint</th>
<th>Secondary Endpoints</th>
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<tbody>
<tr>
<td>• 18-70 years old</td>
<td>ORR</td>
<td>PFS</td>
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<tr>
<td>• Histologically confirmed squamous cell carcinoma, adenosquamous carcinoma, or adenocarcinoma of the cervix;</td>
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<td>DCR</td>
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<tr>
<td>• ECOG 0-2;</td>
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<td>DOR</td>
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<tr>
<td>• Life expectancy ≥3 months</td>
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Niraparib 200mg once daily
Brivanib 400mg once daily

N=35
<table>
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<tr>
<th>Criteria</th>
<th>Results: Between May 8th, 2020 and Jan 22nd, 2021, 9 patients (median age, 50 years old [28-73]) were enrolled. Patients had received a median of two (1-3) previous lines of platinum-based therapy. All of nine patients had distant metastatic lesions and had underwent at least one post-baseline tumor assessment (To deadline for submission), including 1 confirmed partial response, 4 with stable disease, 4 with</th>
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<tr>
<td><strong>Inclusion Criteria:</strong></td>
<td><strong>Exclusion Criteria:</strong></td>
</tr>
<tr>
<td>1. Subjects join the study voluntarily and sign the informed consent;</td>
<td>1. Patients who are known to be allergic to niraparib or the active or inactive ingredients of drugs with similar chemical structure to niraparib</td>
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<tr>
<td>2. The damage caused by other treatments has recovered (NCI CTCAE 5.0 version grade ≤ 1), ECOG physical status score is 0-2;</td>
<td>2. Patients who are known to be allergic to toripalimab or the active or inactive ingredients of drugs with similar chemical structure to toripalimab</td>
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<tr>
<td>3. Life expectancy ≥3 months;</td>
<td>3. Factors that significantly affect the absorption of oral drugs, such as inability to swallow, chronic diarrhea, and intestinal obstruction with clinical significance;</td>
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<tr>
<td>4. Female subjects are 18 to 70 years old;</td>
<td>4. Patients with symptomatic, uncontrol-able brain metastases or pial metastases.</td>
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<tr>
<td>5. Histologically confirmed squamous cell carcinoma, adenosquamous carcinoma, or adenocarcinoma of the cervix;</td>
<td>5. Major surgery was performed within 3 weeks before enrollment;</td>
</tr>
<tr>
<td>6. Subjects with recurrent, persistent or metastatic cervical cancer not amenable to curative treatment with surgery and/or radiation therapy;</td>
<td>6. Palliative radiotherapy was performed on ≥20% bone marrow within 1 week before enrollment;</td>
</tr>
<tr>
<td>7. Measurable lesions must be required: a tumor lesion has a long diameter ≥5mm and a lymph node must be 10 mm in short axis when assessed by CT scan, CT scan slice thickness recommended to be no greater than 5 mm (defined by RECIST 1.1)</td>
<td>7. Aggressive cancer other than cervical cancer has been diagnosed within 2 years before enrollment (except for fully treated basal or squamous cell skin cancer);</td>
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<tr>
<td>8. Subjects agree to take a blood sample;</td>
<td>8. Patients who have previously or currently diagnosed myelodysplastic syndrome (MDS) or acute myeloid leukemia (AML);</td>
</tr>
<tr>
<td>9. Subjects have enough organ function;</td>
<td>9. Serious or uncontrolled diseases, including but not limited to:</td>
</tr>
<tr>
<td>10. Women of child-bearing age should have negative results of serum or urine pregnancy test within 14 days before recruited and must not be in lactation. Women are willing to adopt the appropriate methods of contraception during the trial and 3 months after last administration.</td>
<td>i. Uncontrollable nausea and vomiting, inability to swallow the study drug, any gastrointestinal disease that may interfere with the absorption and metabolism of the drug;</td>
</tr>
<tr>
<td></td>
<td>ii. Active viral infections such as human immunodeficiency virus, hepatitis B, hepatitis C, etc.</td>
</tr>
<tr>
<td></td>
<td>iii. Uncontrolled grand mal seizures, unstable spinal cord compression,</td>
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</tbody>
</table>
progressive disease. Median duration of treatment was 3.8 months (3-8.2), three patients were still on treatment. No drug-related grade 3 or worse treatment-emergent adverse events were detected, the most common grade 1-2 adverse events (AEs) included: neutropenia (4 of 9 patients), anemia (2 of 9 patients), thrombocytopenia (1 of 9 patients), hypertension (2 of 9 patients), proteinuria (1 of 9 patients), fatigue (1 of 9 patients), and increased ALT/AST (1 of 9 patients).

**Conclusions:** This combo seems to show a similar efficacy compared to other recurrent cervical cancer late-line therapies. We are also seeking to amend the protocol and explore niraparib combined with immunotherapy in recurrent CC in our trial later. Clinical trial information: NCT04395612.
QUALITY CONTROL IN EARLY STAGE CERVICAL CANCER MANAGEMENT: A SINGLE-INSTITUTION’S EXPERIENCE

E-POSTER VIEWING

Ewha Womans University Mokdong Hospital, Gynaecology And Obstetrics, Seoul, Korea, Republic of

Objectives: Institutional quality control measures, such as monthly quality assessment meetings and stricter patient selection criteria for operation method, have been implemented since 2014 to better monitor cancer patient management. In this study, we evaluated effects of such monitoring on the clinical outcomes of cervical cancer patients.

Methods: Medical records of cervical cancer patients who received operation in our institution from January 2007 to December 2018 were retrospectively reviewed. Cases were divided into 2 period groups (group 1, 2007-2013, and group 2, 2014-2018), based on the date of operation. Between the two groups, clinical outcomes, including clinicopathologic variables, surgical methods, operative details, adjuvant treatments, 3-year recurrence rates and disease-free survivals (DFS) were compared.

Results: A total of 331 cervical cancer patients were included in the study analysis, 224 patients in group 1 and 107 in group 2. Overall, minimally invasive surgery (MIS) was more frequently performed in group 2 (56.3% vs. 69.2%, p=0.025), especially in earlier stages (stage IA, 69.0% vs. 100.0%; stage IB1, 52.9% vs. 67.3%). However, the mean tumor size of stage IB cervical cancer cases treated by MIS was significantly smaller in group 2 (23.6 vs. 17.7 mm, p=0.019). In addition, adjuvant treatment was less frequently performed in group 2, especially in stage IB1 (52.9% vs 32.7%, p=0.015). There was a trend of decreased 3-year recurrence rates (8.5% in group 1 vs. 4.7% in group 2, p=0.211).

Conclusions: Institutional quality control monitoring positively affected clinical outcomes of cervical cancer patients.
RANDOMIZED CONTROLLED TRIAL OF THE EFFICACY OF ADJUVANT CHEMOTHERAPY IN PATIENTS WITH RESIDUAL LESIONS AFTER CONCURRENT CHEMORADIATION THERAPY FOR LOCALLY ADVANCED CERVICAL CANCER (CQGOG0102)

E-POSTER VIEWING

M. He, Z. Lin, H. Wang, Q. Zhou, D. Zou
Chongqing University Cancer Hospital, The Gynecologic Oncology Center, Chongqing, China

Objectives: The aim of this trial is to compare response rate and survivals of locally advanced stage cervical cancer patients with residual lesions who had Concurrent Chemoradiation therapy (CCRT) alone to those who had adjuvant chemotherapy after CCRT.

Methods: The CQGOG0102 study is a single-center, randomized controlled trial. The patients who have residual lesions after CCRT are randomized to arm A by observation or arm B by adjuvant chemotherapy with paclitaxel plus cisplatin every 3 weeks for 3 cycles. Figure 1. Study Design

Table 1. Brief Inclusion and Exclusion

PS: All the patients with residual lesions of cervix will undergo the cervical biopsy by ultrasound localization.
Criteria

Inclusion Criteria:

1. Cervical cancer stage IIIB to IVA with a histopathology of squamous cell carcinoma, adenosquamous cell carcinoma, adenocarcinoma
2. Complete CCRT (Radiation Does: A point 85 Gy (+/-10%), B point 50 Gy (+/-10%), concurrent platinum-containing chemotherapy)
3. MRI is performed within 4 weeks after CCRT and shows residual lesions (non-lymph node ≥10mm, lymph node shortest diameter ≥15mm).
4. ECOG < 2
5. Expected survival is longer than six months
6. Hb ≥70g/L, WBC ≥3.5 × 10^9/L, ANC ≥1.5 × 10^9/L, PLT ≥80 × 10^9/L
7. ALT and AST ≤ 2×ULN, Serum creatinine ≤ 1.5×ULN
8. The serum or urine pregnancy test must be negative within 7 days before enrollment for the women of childbearing age who should agree that contraception must be used during the trial

Exclusion Criteria:

1. Activity or uncontrol severe infection
2. Liver cirrhosis, Decompensated liver disease
3. History of immune deficiency, including HIV positive or suffering from congenital immunodeficiency disease
4. Patients who cannot tolerate chemotherapy because of chronic renal insufficiency or renal failure
5. Have suffered or combined with other malignant tumor
6. Myocardial infarction, severe arrhythmia and NYHA (New York heart association) ≥ 2 for congestive heart failure
7. A history targeted therapy or pelvic artery embolization
8. Artery-enous thrombosis within 6 months
9. Patients with autoimmune diseases
10. Complications, need to be treatment with drugs which may lead to liver or kidney injury
11. Patients with disease progression after chemoradiation

Results: In our center, a retrospective study found that residual lesion after CCRT was one of the most important prognostic factors in patients with LACC. PFS and OS was decreased when the size of the residual lesion was over 10 mm. A further study showed that patients with residual lesion after CCRT treated with ACT had a significantly longer PFS compared to patients without ACT (22.4m vs. 12m, p < 0.05). So, we designed the randomized controlled trial, CQGOG0102, to evaluate the efficacy of ACT in LACC with residual lesions after CCRT. At present, 30 patients have been enrolled. Pathological evidence of cervical residual lesion was identified in 23.3% (7/30). This trial is currently open and enrolling patients.
Conclusions: ACT may improve the prognosis of LACC who has the residual lesion after CCRT. We will report the primary, midterm and final results about this study in the future. Clinical trial information: NCT04409860
SYSTEMATIC COMPARISON OF INTERNATIONAL TREATMENT GUIDELINES FOR LOCALLY ADVANCED CERVICAL CANCER

E-POSTER VIEWING

E. Pujade-Lauraine, A. Leary, J. Takyar, A. Nunes, J.D. Hernandez Chagui, K. Rabon-Stith, B. Monk

1ARCAGY-GINECO, Medical Oncology, Paris, France, 2Gustave Roussy Cancer Center, INSERM U981, and Groupe d'Investigateurs Nationaux pour l'Etude des Cancers Ovariens (GINECO), Gynecological Unit, Villejuif, France, 3PAREXEL International, Evidence And Heor, Chandigarh, India, 4AstraZeneca, Global Medical Affairs, Gaithersburg, United States of America, 5Arizona Oncology (US Oncology Network), Gynecologic Oncology, Obstetrics And Gynecology, Phoenix, United States of America

Objectives: Globally, cervical cancer is a leading cause of death. Lack of international consensus on standard-of-care (SoC) treatment for locally advanced cervical cancer (LACC) (Stages IB2-IVA) may contribute to inconsistent treatment. We compared LACC treatment recommendations from international guidelines.

Methods: Literature databases (1999-2020), national authority websites, and bibliographies were searched for English-language cervical cancer guidelines, with no restriction on geography. Included guidelines were treatment-focused and represented the latest update.

Results: Thirty-four guidelines were identified (Figure), with the majority updated 2016-2021. Seven provided only high-level overviews of treatment modalities, and were excluded. Treatment recommendations were based on FIGO 2009 (n=20 guidelines), FIGO 2018 (n=6), and TNM (n=1) staging.

For Stage IB2-IIA2, treatment options were diverse within/between guidelines and included radical hysterectomy (RH), cCRT, radiotherapy. The most common recommendation was a choice of RH/cCRT (IB2 n=12; IIA n=18), with variable treatment selection criteria between guidelines. Adjuvant cCRT/radiotherapy after RH was advisable with high/intermediate recurrence risk (n=23). For Stage IIB-IVA, cCRT was SoC, with ≥67% guideline consensus. However, for Stage IIB, surgery was SoC in Japan/Germany. Ten guidelines offered Stage IVA treatment alternatives. Kenya/Gambia recommendations were distinct, offering chemotherapy alone and/or excluding cCRT. Consensus cCRT regimen was weekly cisplatin (40mg/m²) concurrent with external beam radiotherapy followed by brachytherapy; for 6 guidelines it was unclear if cCRT included brachytherapy.

Conclusions: With few exceptions, there is international consensus for cCRT as SoC for Stage IIB-IVA LACC, whereas recommendations for Stage IB2-IIA disease varied. Funding: AstraZeneca
EPV070 / #401

RANDOMIZED CONTROLLED TRIAL OF THE EFFICACY OF LYMPH NODE DISSECTION ON STAGE IIICr OF CERVICAL CANCER (CQGOG0103)

E-POSTER VIEWING

M. He, L. Zhong, H. Wang, Y. Tang, Q. Zhou, D. Zou
Chongqing University Cancer Hospital, The Gynecologic Oncology Center, Chongqing, China

Objectives: Our goal is to assess the impact of lymph node dissection on stage IIICr of cervical cancer and to examine the specific complications of this therapy.

Methods: This is an national, prospective, multicenter and randomized clinical study designed to determine if patients with stage IIICr of cervical cancer have longer PFS and/or OS with lymph node dissection before Concurrent Chemoradiation therapy (CCRT) when compared to CCRT. Figure 1. Study Design

Table 1. Brief Inclusion and Exclusion Criteria

<table>
<thead>
<tr>
<th>Inclusion Criteria:</th>
<th>Exclusion Criteria:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Histopathology: squamous cell carcinoma, adenocarcinoma, adenosquamous cell carcinoma</td>
<td>1. Activity or uncontrol severe infection</td>
</tr>
<tr>
<td>2. Cervical cancer stage IIICr (confirmed by CT/MRI/PET/CT) and the short diameter of image-positive lymph node ≥15mm</td>
<td>2. Liver cirrhosis, Decompensated liver disease</td>
</tr>
<tr>
<td>3. ECOG score 0~1</td>
<td>3. History of immune deficiency, including HIV positive or suffering from congenital immunodeficiency disease</td>
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<tr>
<td>4. Expected survival over 6 months</td>
<td>4. Chronic renal insufficiency or renal failure</td>
</tr>
<tr>
<td>5. The serum or urine pregnancy test must be negative within 7 days before enrolment for the women of childbearing age who should agree that contraception must be used during the trial</td>
<td>5. Has combined with other malignant tumor which diagnosed within 5 years and/or needed to be treated</td>
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<tr>
<td></td>
<td>7. A history of pelvic artery embolization</td>
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<tr>
<td></td>
<td>8. A history of pelvic radiotherapy</td>
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<tr>
<td></td>
<td>9. A history of partial hysterectomy or radical hysterectomy</td>
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<td></td>
<td>10. A history of severe allergic reaction to platinum drugs</td>
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<td></td>
<td>11. During the treatment for complications, the drugs which lead to serious liver and/or kidney function impairment need to be used, such as tuberculosis</td>
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</table>

Results: In our center, a study showed that surgical staging of women with locally advanced cervical cancer can provide more accurate information than CT/MRI scans and resulted in a longer PFS when the short diameter of image-positive lymph node ≥15mm (33m vs. 24m, p <0.05). Therefore, we designed the randomized controlled trial, CQGOG0103, to determine if patients with stage IIICr of cervical cancer have...
longer PFS and/or OS with lymph node dissection before CCRT when compared to CCRT. Up to today, 9 patients have been enrolled. This trial is currently open and enrolling patients.

Conclusions: Lymph node dissection may improve the prognosis of stage III Cr of cervical cancer. We will report the primary, midterm and final results about this study in the future.
DOSIMETRIC STUDY ON OCCULT UTERINE PERFORATION DURING IMAGE-GUIDANCE BRACHYTHERAPY OF CERVICAL CANCER

E-POSTER VIEWING

X. Zhao¹, H. Wu², D. Zou¹, Q. Zhou¹
¹Chongqing University Cancer Hospital, Gynecological Oncology Center, Chongqing, China, ²Chongqing University Cancer Hospital, Radiation Oncology Center, Chongqing, China

Objectives: Based on occult perforation CT images during brachytherapy in cervical cancer, to evaluate the dosimetric parameters between 3D plan and 2D plan for providing clinical reference.

Methods: The patients with cervical cancer who received intracavitary (intrauterine tandem + vaginal colpostats) were retrospectively reviewed between January 2019 to December 2020 at Chongqing University Cancer Hospital. Based on Oncentra Brachytherapy planning system, same prescription 6Gy, design 3D and 2D plan on perforated CT images respectively. Target volume, conformity index (CI), conformal index (COIN) and organs-at-risk (OARs) D2cc were assessed in two plans.

Results: A total of 817 patients were included in this study. Perforations were observed in 16 patients (1.96%). The volume of prescription dose curve in the 3D plan was significantly reduced 50.72±4.73 cm³ than 2D plan (P<0.05), but there was a similar volume of HR-CTV; the CI and COIN of 3D plan were promoted 0.41±0.01 and 0.35±0.78 than 2D plan (P<0.05), respectively; the dose received by OARs (bladder, rectum, sigmoid, small intestine) D2cc in 3D plan were significantly decreased [(241.97±86.64) cGy, (158.89±46.14) cGy, (100.20±31.64) cGy, (232.16±63.06) cGy] than 2D plan (P<0.05).

Conclusions: Image-guidance brachytherapy of cervical cancer is helpful to detect hidden uterine perforation. When uterine perforation occurs, 3D plan can basically meet the clinical needs and is significantly better than 2D plan.
SUTURE GRANULOMA MIMICKING STAGE IB1 CERVICAL CANCER RECURRENCE ON VESICAL-UTERINE SPACE AFTER RADICAL TRACHELECTOMY

E-POSTER VIEWING

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¹Universidade Federal de São Paulo, Gynecologic Oncology, São Paulo - SP, Brazil, ²Universidade Federal de São Paulo, Gynecologic Oncology, São Paulo, Brazil

Objectives: Introduction: Suture granuloma is a rare benign tumor caused by suture material, which usually appears several months or years after surgery. It may look identical to tumor relapse or metastatic disease on CT, PET scans and MRI, requiring histopathologic confirmation. An electronic literature search was undertaken using Medline, PubMed and Cochrane library databases for cerclage suture granuloma cases, using terms “cerclage”, “suture granuloma”, “cervical cancer” “metastasis” and boolean operators AND or OR, without any findings.

Methods: Presentation of case: 31 years-old with cervical cancer IB1 in 2014. She underwent radical trachelectomy, laparoscopic limphadenectomy and cerclage as fertility-sparing treatment. The patient attended for regular follow-up during 4 years, without signs of recurrence. 6 years after treatment, presented vaginal bleeding and fetid discharge. Physical examination: 1cm exophytic bleeding lesion on anterior cervical-vaginal recess. Two biopsies were realized without any concluding findings. Pelvic MRI evidenced a cystic lobulated formation with thick walls, vascularized septs presenting wide contact with vesical trigon measuring 2.2x1.5x2.4cm, and an enlarged lymphnode in internal iliac chain of 1.3cm. Considering the risk of malignancy, the patient was submitted to laparoscopic resection of the lesion and lymphnode dissection.

Results: The final analysis resulted in granulation tissue with no signs of malignancy in lesion or in lymphnode, thus excluding the hypothesis of malignant recurrence or metastasis.

Conclusions: Discussion: Foreign body granuloma may look identical to tumor relapse or metastatic disease on image exams, thus requiring histopathological confirmation. However, the hypothesis of granulomatous reactions involving cerclage non-absorbable suture must be a differential diagnosis in clinical practice.
AN OVERVIEW OF CERVICAL CANCER EPIDEMIOLOGY AT THE ONCOLOGY GYNECOLOGY CENTER OF SANTA MARCELINA HOSPITAL - BRAZIL.

E-POSTER VIEWING

S. Sanches, M. Mesquita, J. Barbosa, T. Almeida, M. Brandão, M. Silva, C. Sousa, C. Gomez, I. Manchini
Casa de Saúde Santa Marcelina, Gynecologic Oncology, Sao Paulo, Brazil

Objectives: Evaluate clinical results of patients with cervical cancer, based on statistics from the Oncology Gynecology Center of Santa Marcelina Hospital in Sao Paulo, Brazil, between 2012 to 2018.

Methods: Retrospective analysis of 370 patients’ medical records, who were followed up. The data table included the following variables: age at diagnosis, symptoms, tobacco use, staging, treatments, fatal outcome, and histological type.

Results: The median age of patients at diagnosis was 51 years. The major symptom was vaginal bleeding (53.65%). Presence of smoking was reported by 33% of the patients. The histological distribution showed predominance of epidermoid carcinoma (83.6%) over adenocarcinoma (13.8%). About the diagnosis, 4.2% of the patients were in stage IA1, followed by IA2 2.2%; IB1 8.4%; IB2 6.5%; IB3 1%; IIA1 1.16%; IIA2 2.7%; IIB 15.4%; IIA 1.4%; IIIB 41.9%; IIIC1 1%; IIIC2 0.84; IVA 5.4% and IVB 8.9%. Only 20% of the patients underwent surgical treatment and the most frequent therapeutic option were radiotherapy and concomitant chemotherapy (80%). The relapse rate was 23.24%, mostly in the vagina, and about 40% of the patients had a fatal outcome in our review.

Conclusions: Based on these data table, vaginal bleeding as the major symptom, the high rate of IIIB stage diagnosis, and of the fatal outcome, may be an indicative of late diagnosis of this population confirming reports from developing countries. As cervical cancer has a chance of cure if diagnosed at early stages, the results demonstrate the need for investments in educational initiatives to raise awareness among the public about the importance of cervical cancer screening.
CERVICAL CANCER: MULTICENTRIC EPIDEMIOLOGICAL STUDY

E-POSTER VIEWING

R. Arfaoui1, M.A. Ferjaoui2, Y. Berrazega3, S. Khedhri4, K. Abdessamia2, M. Malek4, K. Neji4, H. Gmara2
1Tunis military hospital, Department Of Gynecology And Obstetrics, Tunis, Tunisia, 2Tunis maternity center, Department B Of Gynecologic Surgery, Tunis, Tunisia, 3Abderrahmen mami university hospital, Department Medical Oncology, Tunis, Tunisia, 4Tunis Maternity Center, Department B Of Gynecologic Surgery, Tunis, Tunisia

Objectives: To determine the epidemiological profile of cervical cancer in Tunisia and to specify the cost of treating the disease in order to develop an effective prevention strategy.

Methods: It is a retrospective descriptive, multicenter study conducted in 6 obstetrical gynecology departments over a four-year period from January 1, 2016 to December 31, 2019.

Results: The number of all-stage cervical cancer in the different centers was 655 cases over a four-year period; which is equivalent to 166 cases/year. The average age of our patients was 53.5 years. More than half of our population did not have health insurance, and 38% were illiterate. The average age of sexual activity was 22.2 years. Cervical smear screening was performed in only 35 patients (17.9% of cases). The average consultation time in the study population was 5.6 months. The most frequent reason for consultation was metrorrhagia in 63%. A clear predominance of squamous cell carcinoma (82%) was noted. Tumors were classified according to the FIGO 2009 classification: 23.5% were diagnosed at an early stage (<IB1) and 76.3% at advanced stages (IB2 up to IV). Several therapeutic sequences were applied in our study series, the most frequent was surgery associated with radiotherapy and chemotherapy (60.1%). The direct annual cost of treatment was estimated at 1268502 DT (~ 465000 $). Radiotherapy represented the largest item of expenditure (37.4% of the cost of treatment).

Conclusions: The control infectious origin’s pathology necessarily involves the implementation of national screening program, but also public awareness campaigns and mass vaccination against HPV of young virgin girls.
INTRAOPERATIVE LYMPH NODE FROZEN SECTION EXAMINATION (FSE) IN EARLY STAGE CERVICAL CANCER – A RISK STRATIFICATION ALGORITHM

E-POSTER VIEWING

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1Oxford University Hospitals NHS Foundation Trust, Gynaecological Oncology, Oxford, United Kingdom, 2Oxford University Hospitals NHS Foundation Trust, Obstetrics & Gynaecology, Oxford, United Kingdom, 3Del Ponte Hospital, University of Insubria, Obstetrics And Gynaecology, Varese, Italy, 4Oxford University Hospitals NHS Foundation Trust, Radiology, Oxford, United Kingdom, 5Oxford University Hospitals NHS Foundation Trust, Histopathology, Oxford, United Kingdom

Objectives: To evaluate pre-operative radiology and histopathology findings in cervical cancer lymphadenopathy detection, allowing targeted FSE.

Methods: A retrospective analysis was conducted of 203 early stage cervical cancer patients between 2010 and 2019 in a tertiary centre. All patients had histologically confirmed cervical cancer and underwent MRI prior to intraoperative FSE.

Results: 19 patients were found to have lymph node metastases (LNM) (9.36%) at FSE. Patients were at increased risk of LNM by 6-fold with positive LVSI, 3-fold with MRI lymphadenopathy and 3.5-fold with MRI visible disease. The presence of lymphadenopathy on MRI and positive LVSI in combination increased the risk of LNM by 19-fold.

Pre-operative risk stratification algorithm

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>P value</th>
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<tbody>
<tr>
<td>LVSI positive</td>
<td>6.25</td>
<td>1.25-31.12</td>
<td>0.02</td>
</tr>
<tr>
<td>MRI lymphadenopathy</td>
<td>2.94</td>
<td>1.02-8.43</td>
<td>0.04</td>
</tr>
<tr>
<td>MRI visible disease</td>
<td>3.51</td>
<td>1.12-10.99</td>
<td>0.03</td>
</tr>
<tr>
<td>MRI lymphadenopathy and LVSI positive</td>
<td>19.00</td>
<td>3.45-104.51</td>
<td>0.0007</td>
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</table>

Conclusions: We believe that intraoperative FSE has a role in the surgical management of early cervical cancer. However, we acknowledge that it is expensive and unpredictably time intensive, exposing patients to increased surgery duration and associated risk. We also recognise that it may not be feasible for all patients. By application of the preoperative risk stratification algorithm we demonstrate that FSE can be a useful tool to reduce surgical morbidity and avoid ineffective radical surgery or multimodal treatment in a cost effective manner in high-risk patients.
BEAU BIDEN CANCER MOONSHOT PROGRESS REPORT ON ADVANCED CERVICAL CANCER: PILOT PROJECT ON DNA/RNA EXTRACTION FROM RECURRENT AND METASTATIC CARCINOMA SPECIMENS

E-POSTER VIEWING

A. Hari¹, M. Sill², B. Monk³, M. Birrer⁴, H. Lankes², V. Filiaci², N. Ramirez⁵, L. Wei⁶, K. Tewari¹
¹UC Irvine, Gynecologic Oncology, Orange, United States of America, ²NRG, Oncology, Bethesda, United States of America, ³Arizona Oncology (US Oncology Network), Gynecologic Oncology, Obstetrics And Gynecology, Phoenix, United States of America, ⁴Rockefeller Cancer Institute, Gynecologic Oncology, Little Rock, Arkansas, United States of America, ⁵Nationwide Children's Hospital, Pathology, Columbus, Ohio, United States of America, ⁶Roswell Park Cancer Institute, Computational Biology, Buffalo, New York, United States of America

Objectives: Genomic and downstream signaling data informing tumor angiogenesis, DNA repair, and immunologic tolerance are required to develop targeted therapy against cervical cancer. The Cervical Cancer Genome Atlas (TCGA) is derived primarily from pre-invasive and early-stage disease, with under-representation of recurrent/metastatic specimens. NRG/GOG-0240 is the phase 3 randomized trial that demonstrated a survival benefit with anti-angiogenesis therapy. Patients enrolled on this study provided tumor samples for whole genome sequencing and whole exome sequencing (to be performed at the New York Genomic Center (NYGC)), as well as RNA-seq and microRNA-seq (University of North Carolina (UNC)), and bioinformatics modeling (Roswell Park Cancer Institute). To determine the feasibility of DNA/RNA extraction from these relatively small, formalin-fixed paraffin-embedded (FFPE) specimens, we conducted a pilot study.

Methods: Following pathology review at the NRG Biospecimen Bank at Nationwide Children’s Hospital, DNA/RNA were co-extracted using established protocols. All samples were required to contain at least 50% tumor content for somatic mutation detection.

Results: Forty-four out of 107 FFPE samples (41%) underwent successful extraction. 36 were sent in the pilot study including 27 (75%) squamous-cell and 9 (25%) adenocarcinomas. Prior to transfer to NYGC, most samples were noted to have high genomic quality number with few having lower than 10,000 base pairs. Two were flagged for low quality secondary to degradation. One out of 36 samples sent to UNC did not provide sufficient RNA. Five samples were high risk for low DV200 (RNA fragment sizes < 200 base pairs).

Conclusions: DNA/RNA extraction can be performed using recurrent/metastatic cervical cancer FFPE specimens.
CLINICAL IMPLICATIONS OF COMPUTED TOMOGRAPHY-BASED, ARTIFICIAL INTELLIGENCE-DRIVEN SARCOPENIA AND BODY COMPOSITION CHANGE DURING PRIMARY TREATMENT IN EARLY CERVICAL CANCER

E-POSTER VIEWING

S.I. Kim, Q. Han, M. Lee, J.-W. Kim
Seoul National University College of Medicine, Department Of Obstetrics And Gynecology, Seoul, Korea, Republic of

Objectives: To investigate the impact of sarcopenia and body composition on survival outcomes in patients with early-stage cervical cancer.

Methods: We retrospectively analyzed patients diagnosed with 2009 FIGO stage IB1-IIA2 cervical cancer who underwent primary radical hysterectomy between 2007 and 2019. Using an artificial intelligence-based tool, the skeletal muscle area (cm²) at the third lumbar vertebra (L3) and the skeletal muscle volume (cm³) at the waist level were measured from pre-treatment CT scans. These were converted to the L3 and volumetric skeletal muscle indices (SMIs) by normalization. We defined L3 and volumetric sarcopenia using 39.0 cm²/m² and the first quartile value, respectively. Patients’ survival outcomes were compared according to the presence of sarcopenia.

Results: A total of 306 patients were included. Between the L3 sarcopenia and non-sarcopenia groups, no differences in progression-free survival (PFS) and overall survival (OS) were observed. In contrast, the volumetric sarcopenia (n=76) showed significantly worse PFS (P=0.039) and OS (P=0.031) than did the volumetric non-sarcopenia group (n=230). In multivariate analyses, volumetric sarcopenia was identified as a poor prognostic factor for PFS (aHR, 1.872; 95% CI, 1.026-3.415; P=0.041) and OS (aHR, 3.172; 95% CI, 1.058-9.512; P=0.039). Regarding changes in body composition, initial volumetric sarcopenia with total fat gain during primary treatment was associated with worse PFS (aHR, 3.015; 95% CI, 1.314-6.919; P=0.009), but not OS (P=0.070).

Conclusions: Volumetric sarcopenia increased the recurrence and mortality rates in patients with early cervical cancer. Patients with initial volumetric sarcopenia and total fat gain during primary treatment were at a high risk of disease recurrence.
EFFECTS OF PREOPERATIVE CERVICAL CONIZATION ON SURVIVAL OUTCOMES IN PATIENTS WITH EARLY-STAGE CERVICAL CANCER WHO UNDERGO PRIMARY RADICAL HYSTERECTOMY: A PROPENSITY SCORE MATCHING STUDY

E-POSTER VIEWING

Seoul National University College of Medicine, Department Of Obstetrics And Gynecology, Seoul, Korea, Republic of


Methods: We retrospectively identified 2014 FIGO stage IB cervical cancer who received primary RH by either minimally invasive surgery (MIS) or open surgery between 2005 and 2020. To adjust for confounders, we conducted a 1:2 propensity score matching for stage, histology, cervical mass size, and surgical approach. Then, survival outcomes were compared between the matched conization and non-conization groups.

Results: A total of 429 patients were included: 96 (22.4%) received preoperative conization. Overall, the conization group had significantly less cervical mass size (median, 24.0 vs. 30.0 mm; P=0.020) and lower incidence rates of parametrial invasion (4.2% vs. 15.0%; P=0.005), compared to the non-conization group. The conization group had a trend towards MIS RH (54.2% vs. 43.2%; P=0.058). After matching, the conization group showed significantly better progression-free survival (PFS) than the non-conization group (n=192) (3-year: 96.8% vs. 86.5%; P=0.011), but no difference in overall survival (OS). Excluding 15 patients who had parametrial invasion, lymph node metastasis, and both, we conducted another matching process and also found that the conization group had significantly better PFS (3-year: 86.1% vs. 98.8%; P=0.008), but the similar OS. Consistent results were also observed in the subgroup of MIS RH (n=150).

Conclusions: Despite the retrospective design, our matched cohort study suggests that preoperative conization might be preferable for the surgical treatment of FIGO stage IB cervical cancer, especially for those who are planning to undergo MIS RH.
ACCURACY OF MAGNETIC RESONANCE IMAGING FOR PREOPERATIVE PREDICTION OF PATHOLOGIC TUMOR SIZE AND THE NEED OF ADJUVANT RADIOTHERAPY IN EARLY-STAGE CERVICAL CANCER

E-POSTER VIEWING

Seoul National University Hospital, Gynecology, Seoul, Korea, Republic of

Objectives: To evaluate the accuracy of magnetic resonance imaging (MRI) for preoperative prediction of pathologic tumor size and the need of adjuvant radiotherapy in early-stage cervical cancer.

Methods: We included patients with the following criteria: stage IB1-IIA2 cervical cancer; no diagnostic conization; visible tumors on MRI; no risk factors such as lympho-vascular space invasion, parametrial invasion, positive resection margin and lymph node metastasis. Adjuvant radiotherapy was applied in those with tumor size ≥4 cm and stromal invasion >1/2.

Results: We collected data of 102 patients with the criteria mentioned above between 2000 and 2019. In TNM staging system, stage IB1, IB2, IB3, IIA1 and IIA2 disease were found in 32 (31.4%), 50 (49%), 12 (11.8%), 6 (5.9%) and 2 patients (2%), whereas 48 (47.1%) showed different stage by tumor size measured by MRI. In terms of pathologic tumor size ≥4 cm, MRI had sensitivity of 30.8% (4/9), specificity of 95.5% (85/89), positive predictive value (PPV) of 50% (4/4) and negative predictive value of 90.4% (85/94), showing accuracy of 91.1%. In regard to the need of adjuvant radiotherapy, MRI showed sensitivity of 40% (2/5), specificity of 96.9% (94/97), positive predictive value (PPV) of 40% (2/5) and negative predictive value (NPV) of 96.9% (94/97), showing accuracy of 93.1%.

Conclusions: The accuracy of MRI for predicting TNM stage may not be effective. However, MRI may have high specificity and NPV for preoperative prediction of pathologic tumor size ≥4 cm and the need of adjuvant radiotherapy in early-stage cervical cancer.
EVALUATION OF THE PELVIC AUTONOMIC NERVE FUNCTION AND QUALITY OF LIFE AFTER TYPE C1 HYSTERECTOMY USING INTRAOPERATIVE NERVE MONITORING FOR EARLY-STAGE CERVICAL CANCER

E-POSTER VIEWING

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Objectives: We evaluated the pelvic autonomic nerve function and quality of life after type C1 hysterectomy using intraoperative nerve monitoring (INM) for early-stage cervical cancer.

Methods: From 2015 to 2016, 11 patients with stage IB cervical cancer were enrolled prospectively to receive type C1 hysterectomy using INM (NCT02952183). After confirming that the hypogastric, pelvic splanchnic, and vesical branches of the pelvic plexus, we evaluated their function by measuring the bladder, vagina, and rectum pressure electrical stimulation of the pelvic autonomic nerves. Moreover, we investigated the quality of life related to the pelvic organ function before and three months after surgery.

Results: Bilateral pelvic autonomic nerves were preserved in all patients. When we stimulated parasympathetic nerves, we found that periodic and regular contraction of the bladder and rectum. In contrast, the stimulation of sympathetic nerves decreased the interval to contraction and the duration of contraction and increased the maximal pressure and frequency of contraction despite no consistent change of the vaginal pressure. Moreover, despite the normal residual urine volume, the sustained voiding difficulty, abdominal distension, discomfort, and fecal incontinence increased after surgery, whereas there was no consistent change in the sexual function.

Conclusions: The pelvic sympathetic and parasympathetic nerves may show the opposite effect on each other for the bladder and rectal function. Furthermore, the quality of life related to the bladder and rectum may decrease despite the pelvic autonomic nerve preservation using INM during type C1 hysterectomy for stage IB cervical cancer.
Objectives: Recently, open radical hysterectomy in early-stage cervical cancer has been preferred after the LACC trial was published. And the role of sentinel lymph node (SLN) is increasing in the surgical treatment of cervical cancer. We evaluated the feasibility of SLN mapping by intra-abdominal Indocyanine green (ICG) injection during open surgery for cervical cancer.

Methods: We performed retrospective study at a single center. The novel technique is done by using ICG which was injected in bilateral side between the isthmus and cervix before or after bladder peritoneum dissection. SLN in open surgery was detected with SPY Portable Handheld Imager (SPY-PHI) camber (Stryker, Kalamazoo, Michigan, US). All patients underwent open SLN mapping followed by radical surgery (hysterectomy or trachelectomy) and systemic pelvic lymphadenectomy.

Results: From June 2020 to April 2021, thirty-three patients, newly diagnosed FIGO 2018 stage IA1 to IIIC1p cervical cancer who underwent open surgeries, were included in this study. Of these patients, 29 (87.9%) radical hysterectomy and 4 (12.1%) underwent radical trachelectomy. Twenty three (69.7%) patients showed bilateral SLN detection, and the proportion of patient with at least unilateral SLN detection was 97% (32/33). Compared to the final pathology results were all consistent with the frozen biopsy results of SLN mapping. Per-patient sensitivity (5/5) and negative predictive value (28/28) of SLN biopsy were both 100%.

Conclusions: SLN mapping with ICG in open method can be considered as a feasible, reliable technique to be used in open surgery for cervical cancer with high detection rate.
Routine Pelvic Lymph Node Frozen Section Examination in Preventing Ineffective Dual Modality Management in Early-Stage Cervical Cancer.

E-Poster Viewing


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2Oxford University Hospitals NHS Foundation Trust, Gynaecological Oncology, Oxford, United Kingdom
3Oxford University Hospitals NHS Foundation Trust, Radiology, Oxford, United Kingdom
4Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom, Cellular Pathology, Oxford, United Kingdom

Objectives: Cervical cancer is one of the most common malignancies mainly affecting young women. Surgical management including pelvic lymphadenectomy comprise the cornerstone in the treatment of early-stage cervical carcinomas. Our aim is to evaluate the role of intraoperative pelvic lymph nodes FSE in the surgical management of early-stage cervical cancer to prevent ineffectual radical surgery and its potential complications.

Methods: A retrospective study of 30 consecutive women aged between 23 and 82 years (mean age 37±7 years) was conducted in our department. All women had a diagnosis of stage Ib1 or less cervical malignancy with a tumor size less than 20mm. Trachelectomy was performed when lymph nodes FSE in both pelvic sides were negative. In case of positive nodes in FSE any further surgical procedure was abandoned.

Results: The mean number of pelvic PSE LNs excised bilaterally was 19±6. Four out of 30 women (13.3%) were found to have positive LNs at frozen section examination. No false positive cases were proved after the final paraffin histopathology examination. The mean time from LNs excision to FSE report was 82.3±20.4 minutes.

Conclusions: According to our study, FSE constitutes a reliable method in detecting unsuspected invasive cervical cancer. Despite the increased surgical duration and the potential to augment intraoperative complications, FSE can be used in the interest of optimal management by preventing bimodal treatment and long-term morbidity.
E-PAPER VIEWING

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Objectives: The frequency of adenocarcinoma (AC) of the uterine cervix, although considered a rare entity, increased over the last 4 decades and, notwithstading previous studies reported a worse outcome compared to squamous cell carcinoma (SCC), standard treatment remains identical. Insight in the impact of histological types on biological behavior and pathological complete response rates might result in a treatment paradigm shift.

Methods: Beginning with 548 locally advanced cervical cancer (LACC) patients submitted to chemoradiation (CTRT) plus radical surgery (RS), propensity score matching resulted in 320 cases (240 in the SCC and 80 in the AC group), balanced for age, grade, stage and lymph node status.

Results: AC and SCC groups did not differ in terms of baseline characteristics as well as rates of surgical complications. Pathological response rates to CTRT were significantly lower in the ADC vs SCC arm with complete response rates of 20% vs 36.2% (p=0.001). AC showed worse survival outcomes with median disease-free survival (DFS) of 119.5 vs 151.6 months (p=0.019) and median overall survival (OS) of 134.5 vs 162.9 months (p=0.048) in AC vs SCC, respectively. In the multivariate analysis, AC histotype (RR=1.939;p=0.005), nodal status at imaging (RR=1.769; p<0.001), and stage III or greater (RR=2.172;p=0.003) were associated with worse DFS, whereas only stage and nodal status at imaging were independent risk factor for poorer OS.

Conclusions: The lower response rate to chemoradiation and the higher independent risk of recurrence showed by AC with respect to SCC patients could be useful to tailor different therapeutic strategies for LACC according to histotype.
ROLE OF DOSE-DENSE NEOADJUVANT CHEMOTHERAPY WITH PACLITAXEL AND CARBOPLATIN IN LOCALLY ADVANCED CERVICAL CANCER.

E-POSTER VIEWING

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1IEO, European Institute of Oncology IRCCS, Division Of Gynecologic Surgery, Milan, Italy, 2IEO, European Institute of Oncology IRCCS, Gynecologic Oncology, Milan, Italy, 3IEO, European Institute of Oncology IRCCS, Department Of Experimental Oncology, Milan, Italy, 4IEO, European Institute of Oncology IRCCS, Fertility And Procreation Unit, Division Of Gynecologic Oncology, Milan, Italy, 5University of Milan-Bicocca, European Institute of Oncology, IRCCS, Gynecologic Oncology Program, Milan, Italy

Objectives: To evaluate the role of dose-dense neoadjuvant chemotherapy (NACT) with paclitaxel and carboplatin before surgery in locally advanced cervical cancer (LACC).

Methods: Patients with LAAC (Stage Ib2-IVa) undergoing dose-dense NACT at the European Institute of Oncology, Milan from July 2014 to February 2019 were identified. Patients received weekly dose-dense carboplatin (AUC2 or AUC2.7) and paclitaxel (80 or 60 mg) for 6-9 cycles followed by surgery. Radiological response was evaluated by RECIST. Pathologic response was evaluated based on the final pathology report.

Results: A total of 68 patients meeting inclusion criteria were included. Baseline characteristics are displayed in Table 1. According to FIGO stage (2018), the stage distribution of disease was the following: 18 (26.5%) stage IB2, 28 (41.2%) stage IB3, 6 (8.8%) stage IIA, 6 (8.8%) stage IIB, 10 (14.8%) stage IIIC1. According to RECIST criteria, 6 (8.8%) had complete response, 49 (72.0%) partial response, 12 (17.6) stable disease, 1 (1.5%) progressive disease. After NACT, 13 (19.1%) patients were deemed inoperable and received chemoradiation (CRT). Among the 55 (80.9%) undergoing surgery, 7 (12.7%) had pathologic complete response. Due to the presence of positive lymph nodes and/or close resection margins, 17 (31%) received postoperative radiotherapy. Among the remaining 37 (67.3%) avoiding additional
radiotherapy, during a median follow-up of 36 months (range 6-63), the recurrence rate was 13.5%.

**Table 1 – Baseline characteristics of the overall population (n=68).**

<table>
<thead>
<tr>
<th></th>
<th>Median (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age, years</strong></td>
<td>43 (26-67)</td>
</tr>
<tr>
<td><strong>Tumor diameter, mm</strong></td>
<td>15 (0-70)</td>
</tr>
<tr>
<td><strong>Time to chemotherapy, days</strong></td>
<td>41 (6-405)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Histotype</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Squamous</td>
<td>51</td>
<td>75.00</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>14</td>
<td>20.59</td>
</tr>
<tr>
<td>Adeno-Squamous</td>
<td>2</td>
<td>2.94</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.47</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th><strong>Tumor Grade</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>6</td>
<td>11.32</td>
</tr>
<tr>
<td>G2</td>
<td>23</td>
<td>43.40</td>
</tr>
<tr>
<td>G3</td>
<td>24</td>
<td>45.28</td>
</tr>
<tr>
<td>Unknown</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LVSI on biopsy</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>4</td>
<td>7.02</td>
</tr>
<tr>
<td>No</td>
<td>53</td>
<td>92.98</td>
</tr>
<tr>
<td>Unknown</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th><strong>Performance Status</strong></th>
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<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>66</td>
<td>98.51</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1.49</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Site of chemotherapy</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEO</td>
<td>45</td>
<td>66.18</td>
</tr>
<tr>
<td>Non-IEO</td>
<td>23</td>
<td>33.82</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Number cycle dose-dense</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>7</td>
<td>10.45</td>
</tr>
<tr>
<td>6</td>
<td>41</td>
<td>61.19</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>4.48</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>5.97</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>17.91</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
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<table>
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<tr>
<th><strong>Dose Carboplatin (AUC)</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>51</td>
<td>83.61</td>
</tr>
<tr>
<td>2.7</td>
<td>10</td>
<td>16.39</td>
</tr>
<tr>
<td>Unknown</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dose Paclitaxel, mg/m²</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>11</td>
<td>18.03</td>
</tr>
<tr>
<td>60</td>
<td>50</td>
<td>81.97</td>
</tr>
<tr>
<td>Unknown</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Stage FIGO 2018 at diagnosis</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>IB2</td>
<td>18</td>
<td>26.47</td>
</tr>
<tr>
<td>IB3</td>
<td>28</td>
<td>41.18</td>
</tr>
<tr>
<td>IIA1</td>
<td>3</td>
<td>4.41</td>
</tr>
<tr>
<td>IIA2</td>
<td>3</td>
<td>4.41</td>
</tr>
<tr>
<td>IIB</td>
<td>6</td>
<td>8.82</td>
</tr>
<tr>
<td>IIIC1</td>
<td>10</td>
<td>14.71</td>
</tr>
<tr>
<td>Unknown</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Disruption of stromal ring</strong></th>
<th>n.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>31</td>
<td>48.44</td>
</tr>
<tr>
<td>No</td>
<td>33</td>
<td>51.56</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: LVSI: lymphovascular space invasion; IEO: European Institute of Oncology

(5/37).

**Conclusions:** Dose-dense NACT achieved a good response rate. Although CRT remains the standard treatment of LACC, dose-dense NACT followed by surgery can be considered an alternative approach and allows to avoid radiotherapy in over 50% of the patients without affecting recurrence rate.
IS A “CATCH UP” SURGERY AFTER CHEMORADIATION THERAPY FOR LOCALLY ADVANCED CERVICAL CANCER STILL AN OPTION?

E-POSTER VIEWING

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Objectives: The aim of this study was to evaluate the surgical morbidity and oncologic results on patients undergoing completion surgery for locally advanced-stage cervical cancer after initial concurrent chemoradiotherapy (CCR).

Methods: It is a retrospective case/control study including all patients from 01/01/2000 to 31/12/2014 with advanced cervical cancer (stage IIB–IVA) treated with CCR (45 Gray pelvic external radiation therapy with concomitant chemotherapy (Cisplatin 40 mg/m² per week) followed or not by uterovaginal brachytherapy) followed or not by surgery. Disease-free and overall survival rates at 3 and 5 years were compared.

Results: We included 170 patients of whom 50 had CCR and catch-up surgery and 120 only CCR. The two groups were comparable in terms of age at diagnosis, socio-economic characteristics of the patients, characteristics of the disease at diagnosis and after CCR. Hysterectomy was extra-fascial in 66% of cases. It was laparoscopic in 6% of cases. Pelvic lymphadenectomy was performed in 20% of cases. The operative complication rate was 23% with 12 immediate complications in 8 patients. The reoperation rate was 6%. The recurrence rate was 96% in the exclusive RCC group versus 66% in the surgery group with a significant difference in favor of surgery (p < 0.0001). The overall survival at 5 years after surgery was 55% versus 16% in the control group with a significant difference in favor of surgery (p < 0.0001).

Conclusions: The therapeutic impact of surgery based on completion hysterectomy with or without pelvic lymphadenectomy after CCR for locally advanced cervical cancer improved local disease control, overall and recurrence-free survival.
CERVICAL CANCER: WHO IS MOST AFFECTED BY NONCOMPLIANT SCREENING

E-POSTER VIEWING

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Objectives: Our objective is to determine demographic and clinical factors associated with noncompliant cervical cancer screening (5 or more years) in the US.

Methods: Pap smear rates were evaluated using the Behavioral Risk Factor Surveillance System (BRFSS). SEER*Stat 8.3.8 and Joinpoint regression program 4.8.0.1 were used to calculate incidence trends.

Results: From 2001-2016, the overall rate of noncompliant care increased from 6.7% to 19.5% (p<0.001). Based on age, noncompliance was greatest in the 60-64 year old age group (22.8%). Adjusted by race, Whites had the highest rate of noncompliance at 26.7% in 2016. The intersection of Whites in the 60-64 year old age group had the highest rate of noncompliance at 23.9%. We evaluated trends in noncompliant cervical cancer screening over the last 16 years and show that 25-29 year old Blacks had the greatest trend in the increase of noncompliant care at 14.6% annually (p=0.004). In a projected model, nearly 50% of this highest risk subgroup will have noncompliant care in 15 years.

Conclusions: Increasing numbers of women are being screened at time intervals noncompliant to national guidelines. Although Whites are the most noncompliant, Blacks have the greatest trend in the increase of noncompliance.
RETROSPECTIVE REVIEW OF THE MANAGEMENT OF THE PARAAORTIC REGION IN PATIENTS DIAGNOSED WITH CERVICAL CANCER REFERRED FOR DEFINITIVE PELVIC EXTERNAL BEAM RADIOTHERAPY

E-POSTER VIEWING

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¹Philippine General Hospital, Radiation Oncology, Metro Manila - Manila, Philippines, ²Philippine General Hospital, Obstetrics And Gynecology, Manila, Philippines

Objectives: The general objective of this study was to evaluate the management of the paraaortic lymph node region in patients with locally advanced cervical cancer for definitive EBRT with concurrent chemotherapy.

Methods: Records of patients with cervical cancer treated with definitive EBRT with concurrent chemotherapy from 2017-2019 were retrospectively reviewed, and relevant data were tabulated.

Results: A total of 150 patient records were reviewed. Survival outcomes were available for 77 patients; 31 were treated with EFRT and 46 were treated with Pelvic EBRT. Patients were more likely to receive EFRT if they were staged as having more advanced (> Stage IIIB) disease, or if there was note of enlarged (> 1.0 cm) pelvic nodes (P=0.004), > 3 pelvic nodes (P<0.001), or involved common iliac (P<0.001), external iliac (P<0.001), internal iliac (P<0.001), or obturator (P=0.019) nodes, or prominent or enlarged paraaortic nodes at the time of CT-simulation (P<0.001). After a median follow-up of 11.3 months, there was no significant difference observed in terms of pelvic recurrence-free survival (77.4% vs 80.4%; P=1.000), paraaortic recurrence-free survival (936% vs 89.1%; P=0.95), distant metastasis-free survival (77.4% vs 80.4%; P=0.780) and disease-free survival (61.3% vs 69.6%; P=0.472) between patients receiving EFRT versus Pelvic EBRT. The presence of enlarged (> 1.0 cm) paraaortic lymph nodes during CT-simulation was independently associated with inferior disease-free survival (OR 8.45 [1.48 to 48.26]; P=0.016).

Conclusions: Comparable survival outcomes were observed between cervical cancer patients receiving EFRT and Pelvic EBRT. Patients presenting with enlarged paraaortic nodes were found to have inferior disease-free survival despite having received EFRT.
OVERALL SURVIVAL AND TIME TRENDS IN CERVICAL CANCER IN ALMATY, KAZAKHSTAN

E-POSTER VIEWING

R. Bolatbekova\(^1\), D. Kaidarova\(^2\), N. Izbagambetov\(^1\), T. Valiyeva\(^1\), Y. Kukubassov\(^3\), A. Aidarov\(^1\), G. Bagatova\(^1\), B. Kudaibergenova\(^1\), A. Satanova\(^3\), A. Sarmenova\(^1\)

\(^1\)Almaty Oncology Center, Oncogynecology, Almaty, Kazakhstan, \(^2\)Kazakh Institute of Oncology and Radiology, Head Of Kazior, Almaty, Kazakhstan, \(^3\)Kazakh Institute of Oncology and Radiology, Oncogynecology, Almaty, Kazakhstan

Objectives: In Kazakhstan standardized incidence of CC was 17.2 per 100,000, the mortality rate was 6 per 100,000 for 2020. The overall survival (OS) of CC in Kazakhstan was 52.5\% (95\%CI:50.7-54.2). The CC Screening program uses cytology (Pap-smear) from 2008 for women 30-70 years every 4 years. Almaty remains the country’s largest city with high cancer incidence and mortality. The purpose was to analyze time-trends for 2005-2020 and OS from CC in Almaty.

Methods: Incidence and mortality were sourced from National Cancer Registry database. All rates were directly age-standardized. Data on survival were obtained from reports. OS was performed using the Kaplan-Meier method. The statistical analysis was performed with SPSS23.0.

Results: The total number of registered women with CC in Almaty was in 2462. CC incidence is decreased from 16 to 13.4 per 100000 female population for last 15 years, Mortality i from 5.8 to 4.6 per 100000 female population. The average age of women with CC in 2016 was 50.8±11.7. 241 cases included: most of them at 1st stage-128(50.3\%) 90(35.3\%) in stage II, 18(7\%) in stage III, 5(1.9\%) in an advanced stage. 38 women were dead from CC. The OS was 81.7±0.88\% (95\%CI: 80.82-82.58)

Conclusions: The CC incidence and mortality is lower in comparison with the republican values associated with better screening service and control in Almaty. The OS from CC in Almaty was higher than Kazakhstan regional average. Despite of positive results of CC screening, mortality rate is high compared to developed countries, which makes it necessary to introduce HPV-screening and HPV-vaccination.
OUTCOMES AFTER ESTABLISHMENT OF A PILOT CERVICAL CANCER NAVIGATION PROGRAM AT A TERTIARY TANZANIAN ACADEMIC HOSPITAL

E-POSTER VIEWING

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Objectives: Standard of care for advanced locoregional cervical cancer is primary chemoradiation (pCRT). The majority of patients prescribed pCRT for advanced cervical cancer do not complete their treatment in Northern Tanzania secondary to a complex web of health and socioeconomic stressors. Bugando Medical Center (BMC), a tertiary academic care center in Mwanza, Tanzania, established a cervical cancer navigation program (CCNP) to overcome these barriers.

Methods: Funding was provided by the International Mennonite Foundation. CCNP consisted of a navigator, hostel manager, and project manager. Patients were provided food, transportation, housing, labs, imaging, and treatment costs as needed. Patients were also given counseling, education, and social support throughout the course of pCRT.

Results: 71 consecutive patients referred to BMC with newly diagnosed cervical cancer were enrolled between January 2020 and December 2020. These patients were not surgical candidates and were prescribed pCRT. Their age range was 30 to 89 years (median 50) and the majority of patients had squamous cell (70, 99%) and 1 patient (1%) had adenocarcinoma. 26 (37%) were HIV positive or unknown and 45 (63%) were HIV negative. During the year, 53 (75%) patients were able to fully complete recommended pCRT and 18 (25%) are still undergoing treatment; no one was lost to follow up during treatment.

Conclusions: Social determinants of health play a role in timely completion of pCRT so in order to address these, a pilot CCNP was successfully implemented at BMC and supported 71 patients financially, medically, and psychosocially through their pCRT.
PATTERNS OF CARE AND OUTCOMES OF ADENOCARCINOMA OF CERVICAL CANCER POST TREATMENT – RETROSPECTIVE STUDY FROM A TERTIARY CARE CENTRE IN SOUTH INDIA

E-POSTER VIEWING

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¹Christian Medical College and Hospital, Vellore, Department Of Radiation Oncology, Vellore, India, ²Christian Medical College, Vellore, Gynecologic Oncology, Vellore, India

Objectives: Non - squamous histologies such as adenocarcinoma of the cervix might have an aggressive clinical course. There is sparse literature on tailoring treatment in adenocarcinoma cervix. In this study we plan to do a retrospective review of patients with this entity.

Methods: The medical records of 2462 patients with cervical cancer between January 2008 to December 2018 were collected. The records of 180 patients who had histologically proven adenocarcinoma cervix were reviewed. The demographics, treatment modalities and outcomes were analyzed in 111 patients who had treatment in this institution.

Results: The mean age of the patients was 57.52 years (Range 20-84 years). Demographics and treatment details are presented in the attached table (Table 1). The median follow up period was 20 months. The median overall survival in stage 1, stage 2, stage 3 and stage 4 are 37 (IQR:17-60), 28 (IQR: 12.5 -40.5), 11.5 (IQR:7-34) and 9 (IQR:5-16) months respectively. The median survival for the entire cohort was 22 months (IQR : 9-48).

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Total(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n(%)</td>
<td>111(100%)</td>
</tr>
<tr>
<td>Age in years</td>
<td>57.52</td>
</tr>
<tr>
<td>Stage 1 2A 2B 3A 3B 4A 4B</td>
<td>30 (16%) 1 (0.05%) 44 (25%) 1 (0.05%) 22 (12%) 1 (0.05%) 13 (7%)</td>
</tr>
<tr>
<td>Chemo-radiation Radiation(RT)</td>
<td>58 (52%)</td>
</tr>
<tr>
<td>Surgery – Adjuvant NACT – surgery</td>
<td>11 (9%)</td>
</tr>
<tr>
<td>NACT –RT Chemotherapy Palliative</td>
<td>12 (10%)</td>
</tr>
<tr>
<td>treatment</td>
<td>1 (0.9%)</td>
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</table>

Conclusions: This present study shows poorer survival when compared to squamous cell carcinoma in literature. The benefit of addition of chemotherapy or surgery as salvage to the present standard of care needs to be studied prospectively in a larger population.
TREATMENT OF LOCAL AND LOCO-REGIONAL RECURRENCES IN LOCALLY ADVANCED CERVICAL CANCER, RETROSPECTIVE STUDY.

E-POSTER VIEWING

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¹Instituto Nacional de Cancerologia, Gynecology Oncology, Mexico, Mexico, ²Instituto Nacional de Cancerologia, Clinical Research, Mexico, Mexico

Objectives: Recurrent disease in the central pelvis following radiation therapy may potentially be cured with pelvic excenteration (PE) procedure. However, there are other options of treatment according to the characteristics of the patients. The aim of this study is to describe treatments and clinical outcomes in patients with isolated pelvic failures after definitive radiation treatment for cervical cancer.

Methods: Cervical cancer patients with isolated pelvic failure after definitive radiation with brachytherapy (RT) were identified in a tertiary academic center from 2005 to 2014. Isolated failures in the cervix or pelvic nodes were biopsy-proven, and had a compute tomography without distant metastasis.

Results: Isolated pelvic failure was detected in 79 (7.6) out of 1046 consecutive patients treated RT. The median time to isolated pelvic recurrence was 15 months (range 3–153). Median follow-up time for patients alive after isolated pelvic recurrence was 49 months (range 2–181). Of these 79 patients, 19 (24.1%) have PE has elective treatment but only 3 (3.8%) received this procedure, 3 (3.8%) patients had radical hysterectomy (2 patients by original treatment plan and one did not accept PV), 32 (40.5%) was candidate for SC and receive this treatment. 3 patients (3.8%) was candidate palliative care but 13 (16.5%) receive chemotherapy. 24 patients (30.4%) did not receive other treatment, or rejected treatment. Median OS for patients treated with surgery, chemotherapy, or palliative care or not was 20 months (14–145), 9 months (2–12), respectively.

Conclusions: Locoregional recurrence could be cured by pelvic excenteration, but most of the patient did not accept the treatment compromising the overall survival.
EPV092 / #74

TODAY’S PREVENTABLE CANCERS: HPV VACCINATION KNOWLEDGE AND UPTAKE IN HEALTH PROFESSIONAL GRADUATE STUDENTS (HPS)

E-POSTER VIEWING

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Objectives: HPV vaccination is safe and effective for cancer prevention, but uptake remains low. Very little data exists on attitudes and knowledge of HPV vaccines among HPS. Edification of HPS knowledge will improve their ability to educate patients.

Methods: This cross-sectional survey study of HPS (medical, public health, nursing) assessed knowledge of HPV, HPV vaccine, and vaccine uptake. The study was IRB approved (#20201459). Data analysis was conducted in SPSS.

Results: 234 students completed the survey with more students identifying as female (Table). Knowledge of the HPV vaccine differed significantly between professions (p < 0.001) and was significantly higher in medicine compared to both nursing (p < 0.001) and public health (p < 0.01). Knowledge of HPV differed significantly between professions (p < 0.001) and was significantly higher in medicine compared to both nursing (p < 0.001) and public health (p < 0.005). There were no knowledge differences between the nursing and public health schools. Nursing and public health students largely were unaware that the latest age to receive vaccination is 44. 92% of participants initiated the HPV vaccine series, but only 61% completed the vaccine series.
Conclusions: HPS across schools demonstrated gaps in knowledge surrounding both HPV and the HPV vaccine. Specifically students knew HPV causes cervical cancer; however, major knowledge gaps persist in the prevention of HPV infection. These areas represent high-yield opportunities for improvement within HPS education to ensure dissemination of knowledge regarding cancer prevention.

<table>
<thead>
<tr>
<th>Biological Sex</th>
<th>Medicine n = 141 (18%)</th>
<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
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<tr>
<td>Female</td>
<td>108 (77)</td>
<td>48 (89)</td>
<td>35 (90)</td>
</tr>
<tr>
<td>Male</td>
<td>33 (23)</td>
<td>6 (11)</td>
<td>4 (10)</td>
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<table>
<thead>
<tr>
<th>HPV Related Cancer Risk Factors</th>
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<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used Oral Contraceptive Pills</td>
<td>85 (60)</td>
<td>33 (61)</td>
<td>27 (69)</td>
</tr>
<tr>
<td>Have Smoked</td>
<td>1 (1)</td>
<td>2 (4)</td>
<td>2 (5)</td>
</tr>
<tr>
<td>Sexually active</td>
<td>120 (85)</td>
<td>41 (76)</td>
<td>31 (80)</td>
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<table>
<thead>
<tr>
<th>HPV vaccine knowledge, median (SD)</th>
<th>Medicine n = 141 (18%)</th>
<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
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<tbody>
<tr>
<td></td>
<td>0.800 (0.188)</td>
<td>0.634 (0.211)</td>
<td>0.634 (0.199)</td>
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<tr>
<th>Initiated HPV vaccine Series</th>
<th>Medicine n = 141 (18%)</th>
<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
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<tbody>
<tr>
<td></td>
<td>112 (79)</td>
<td>38 (70)</td>
<td>33 (85)</td>
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<thead>
<tr>
<th>Completed HPV vaccine Series</th>
<th>Medicine n = 141 (18%)</th>
<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
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<tbody>
<tr>
<td></td>
<td>93 (66)</td>
<td>24 (46)</td>
<td>27 (69)</td>
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</table>

<table>
<thead>
<tr>
<th>HPV knowledge, median (SD)</th>
<th>Medicine n = 141 (18%)</th>
<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
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<tbody>
<tr>
<td></td>
<td>0.846 (0.104)</td>
<td>0.769 (0.122)</td>
<td>0.769 (0.106)</td>
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</table>

<table>
<thead>
<tr>
<th>Condoms are effective in preventing against HPV. (False)</th>
<th>Medicine n = 141 (18%)</th>
<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29 (21)</td>
<td>16 (30)</td>
<td>7 (18)</td>
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<table>
<thead>
<tr>
<th>HPV is spread through blood or other bodily fluid. (False)</th>
<th>Medicine n = 141 (18%)</th>
<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
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<tbody>
<tr>
<td></td>
<td>61 (43)</td>
<td>12 (22)</td>
<td>16 (41)</td>
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<table>
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<tr>
<th>Oldest age for HPV vaccine</th>
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<th>Nursing n = 54 (14%)</th>
<th>Public Health n = 39 (35%)</th>
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<tr>
<td>15</td>
<td>8 (6)</td>
<td>4 (7)</td>
<td>5 (13)</td>
</tr>
<tr>
<td>26</td>
<td>27 (19)</td>
<td>19 (35)</td>
<td>16 (41)</td>
</tr>
<tr>
<td>34</td>
<td>15 (11)</td>
<td>5 (9)</td>
<td>4 (10)</td>
</tr>
<tr>
<td>44 (correct)</td>
<td>86 (61)</td>
<td>24 (44)</td>
<td>13 (3)</td>
</tr>
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</table>
CLINICAL CHARACTERISTICS, TREATMENT RESPONSE AND PROGNOSIS OF LOCALLY ADVANCED ADENOCARCINOMA OF THE CERVIX, A LOCAL STUDY

E-POSTER VIEWING

M. Yu
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Objectives: The objective of this study is to determine the clinical characteristics, treatment response and prognosis of locally advanced adenocarcinoma of the cervix who underwent concurrent chemoradiotherapy with weekly Cisplatin or Carboplatin in comparison to squamous cell carcinoma.

Methods: Outpatient charts of the cervical cancer patients from the outpatient department of Section of Gynecologic Oncology of a tertiary hospital were retrospectively reviewed.

Results: Among the 979 charts reviewed, only 278 patients were included in the analysis. Seventy-five percent of the patients had squamous cell carcinoma and only 20% had adenocarcinoma. Baseline characteristics were comparable. Ninety-eight percent had Cisplatin-based concurrent chemoradiotherapy. Median follow up was 17 months, with 75% of the patients had complete response and 16% had recurrent disease. Most common site of recurrence was cervix, lungs and bones. Disease free survival and overall survival was the same for adenocarcinoma and squamous cell carcinoma.

Conclusions: Patients with locally advanced adenocarcinoma of the cervix who underwent concurrent chemoradiation had the same treatment response and prognosis to patients with squamous cell carcinoma.
A MACHINE LEARNING APPROACH APPLIED TO GYNECOLOGICAL ULTRASOUND TO PREDICT PROGRESSION-FREE SURVIVAL IN OVARIAN CANCER PATIENTS

E-POSTER VIEWING

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\textsuperscript{1}Policlinico of Bary, Obstetrics And Gynecology Department, Bari, Italy, \textsuperscript{2}University of Bari “Aldo Moro”, Interdisciplinar Department Of Medicine, Bari, Italy, \textsuperscript{3}Department of Emergency and Organ Transplantation, Pathology Section, Bari, Italy, \textsuperscript{4}Department of Emergency and Organ Transplantation, Rheumatology Unit, Bari, Italy

Objectives: Ultrasound(US) is a cheap, non-invasive and well-recognized image modality for diagnosing and assessing ovarian cancer(OC). However, approximately 18\% to 31\% of adnexal lesions detected on US remain indeterminate. Machine learning(ML) is a promising tool for the implementation of complex multi-parametric algorithms. Despite the standardization of features capable of supporting the discrimination of ovarian masses into benign and malignant, there is the lack of accurate predictive modeling based on US examination for progression-free survival (PFS).

Methods: In this retrospective observational study, we analyzed patients with epithelial ovarian cancer(EOC) who were followed in a tertiary center from 2018 to 2019. Demographic, clinical and laboratory characteristics were collected as well as information about post-surgery histopathology. Furthermore, we recorded data about US examinations according to International Ovarian Tumor Analysis(IOTA) classification. Proper feature selection was used to determine an attribute core set. Random Forest(RFF) algorithm was trained and validated with 10-fold cross-validation to predict 12-month PFS. The accuracy of the algorithm was than assessed scoring accuracy and Area Under Receiver Operating Characteristic(AUROC).

Results: Our analysis included n.32OC patients with mean age of 54.1±14.9 years at diagnosis. Histotypes were n.19/32(59.4\%) serous carcinoma, n.5/32(15.6\%) mucinous, n.5/32(15.6\%) endometriod and n.3/32(9.4\%) clear cell. All patients underwent radical surgery. The attribute core set used to train machine learning algorithms is reported in Figure 1. RFF showed an accuracy of 0.81, AUROC 0.91.

Conclusions: We developed an accurate model to predict 12-month PFS in patients with OC based on a ML algorithm applied to gynecological ultrasound evaluation, requiring few easy-to-collect attributes.
PARADIGM SHIFT TO SENTINEL LYMPH NODE BIOPSY IN ENDOMETRIAL CANCER SURGERY: RECENT U.S. TRENDS

E-POSTER VIEWING

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1University of Southern California, Division Gynecology Oncology, Department Of Obstetrics And Gynecology, Los Angeles, United States of America, 2University of Feibrug Faculty of Medicine, Obstetrics And Gynecology, Frieburg, Germany, 3University of Southern California, Norris Comprehensive Cancer Center, Los Angeles, United States of America, 4Columbia University College of Physicians and Surgeons, Gynecologic Oncology, New York, United States of America

Objectives: This study examined the population-level uptakes and outcomes of sentinel lymph node (SLN) biopsy for early endometrial cancer.

Methods: This retrospective observational study queried the Surveillance, Epidemiology, and End Results Program, examining 83,139 women with endometrial cancer who underwent primary hysterectomy with lymph node evaluation for T1 disease from 2003-2018. Main outcome measures were (i) temporal trends and patient characteristics in utilization of SLN biopsy, and (ii) endometrial cancer-specific mortality associated with SLN biopsy.

Results: The utilization of SLN biopsy increased significantly from 0.2% to 29.7% from 2005-2018 with robust increase after 2016 (P<0.001; top-panel). The uptake of SLN biopsy was higher for endometrioid histology (0.3% to 31.6% between 2005-2018) versus non-endometriod histology (0.6% to 21.0% between 2006-2018)(both, P<0.001). In a multivariable analysis, recent year surgery, endometrioid histology, well-differentiated tumors, T1a disease, and smaller tumor size remained independent characteristics for SLN biopsy use (all, P<0.05). Performance of SLN biopsy was not associated with increased endometrial cancer-specific mortality compared to lymphadenectomy in endometrioid histology (subdistribution-HR 0.96, 95%CI 0.82-1.1; bottom-panel) and non-endometriod histology (subdistribution-HR 0.85, 95%CI 0.69-1.0) in propensity score weighted models. In low-risk endometrial cancer, the increase in recent SLN biopsy resulted in 15.3 percent point increase in the surgical nodal evaluation by 2018 (expected versus observed rates, 37.8% versus 53.1%).
Conclusions: The landscape of surgical nodal evaluation is shifting from lymphadenectomy to SLN biopsy in early endometrial cancer. Effects of SLN biopsy-based surgical treatment on endometrial cancer survival warrants further confirmation.
MALIGNANT PERIVASCULAR EPITHELIOID TUMOR OF THE UTERUS ASSOCIATED WITH
HYPERPROLACTINEMIA

E-POSTER VIEWING

J.I. Argel, D. Benavides
Philippine General Hospital, Obstetrics And Gynecology, Manila, Philippines

Objectives: Malignant perivascular epithelioid tumors (PEComas) are rare mesenchymal tumors
originating from perivascular epithelioid cells with specific histologic and immunologic features. Due to its
rarity, lack of specific clinical findings, aggressive and unpredictable biologic behavior, this type of tumor
is difficult to manage and there is no standard therapeutic strategy.

Methods: A 34-year-old G1P1(1001) presented with a history of galactorrhea (elevated prolactin 313
ng/mL) and irregular menstruation. On work-up, cranial magnetic resonance imaging (MRI) revealed no
mass on the pituitary gland, abdominopelvic MRI showed a large uterine mass. She was initially treated
medically which offered no relief of symptoms. She was then diagnosed and managed as a case of
ectopic prolactin secreting leiomyoma uteri. Myomectomy was performed and prolactin level decreased to
normal level (6.3 ng/mL) and with resolution of symptoms. Histopathology revealed malignant PEComa.
Prolactin increased when tumor recurred and she underwent re-exploration and tumor debulking.
Specimen from first and second operation were compared and shared the same histomorphological
features. Immunohistochemical stain for prolactin was performed because of the suspicion of ectopic
prolactin secreting tumor but revealed a negative result. The patient was given 3 cycles of Doxorubicin.

Results: Endocrine paraneoplastic syndrome is the production of hormonal substances that produce
unique clinical syndromes, example is prolactin. Ectopic prolactin secretion is the production of hormone
by a cell type that does not normally produce the hormonal substance or produces it normally at very low
levels.

Conclusions: The index case showed malignant PEComa of the uterus associated with
hyperprolactinemia with negative immunohistochemical stain for prolactin.
EXAMINING THE RISK OF COLORECTAL CANCER IN PATIENTS WITH MLH-1 PROMOTER HYPERMETHYLATED ENDOMETRIAL CANCER

E-POSTER VIEWING

A. Kanbergs, L. Philp, K. James, T. Randall
Massachusetts General Hospital, Obstetrics And Gynecology, Boston, United States of America

Objectives: DNA Microsatellite instability (MSI) due to hypermethylation of the MLH1 gene leading to deficient DNA mismatch repair (MMR) is a frequent finding in sporadic endometrial (EC) and colorectal cancers (CRC). Individuals with germline MMR mutations have an 80% lifetime risk of colorectal cancer (CRC) and follow strict cancer screening protocols. It is unclear if women found to have sporadic MSI high EC have an increased risk of colorectal malignancy. The objective of this study was to determine if there is an increased risk of CRC in patients with MLH-1 promoter hypermethylated EC as compared to patients with microsatellite stable (MSS) disease.

Methods: We performed a retrospective cohort study of all cases of EC with known MMR status treated at Massachusetts General Hospital between 2013-2019. Patients with germline MMR mutations were excluded. ICD-9/10 codes from electronic medical records were used to determine the incidence of CRC in the two groups. Chi-squared testing was used to assess for differences in the proportion of CRC between MMR groups with p < 0.05 considered significant.

Results: Among 988 patients with EC not associated with a germline MMR mutation, 16% (n=162) had MLH-1 promoter hypermethylation and 84% (n=826) did not. Among those with MLH-1 promoter hypermethylation there were 6 cases (3.6%) of CRC vs. 34 cases (4.1%) in those with MSS disease (p=.743).

Conclusions: We found no difference in incidence of CRC in individuals with MLH-1 promoter hypermethylated EC as compared with those with MSS disease. Patients with MLH-1 promoter hypermethylated EC should follow general CRC screening guidelines.
LSR ACTIVATES MAPK PATHWAY AND PROMOTES CELL PROLIFERATION AND INVASION IN ENDOMETRIAL CANCER: ANALYSIS OF BIOINFORMATICS-BASED SIGNAL TRANSDUCTION

E-POSTER VIEWING

Y. Nagase¹, K. Hiramatsu¹, S. Nakagawa¹, S. Matsuzaki¹, T. Kimura¹, S. Serada², Y. Ueda¹, T. Naka², T. Kimura¹
¹Osaka University Graduate School of Medicine, Department Of Obstetrics And Gynecology, Suita, Osaka, Japan, ²Kochi University, Department Of Clinical Immunology, Nankoku, Kochi, Japan

Objectives: Lipolysis-stimulated lipoprotein receptor (LSR) is a membrane protein that has been studied in various malignant tumors. We previously reported that high expression of LSR was associated with poor prognosis, advanced stage, deep myometrial invasion, and metastasis in endometrial cancer (EC). However, the mechanism by which LSR affects patient’s prognosis remains largely unclear. Here, we aimed to investigate the functions of LSR in EC.

Methods: Cell proliferation and invasion were analyzed using LSR-knockdown cell lines (HEC1 and HEC116), and the activity of several signaling pathways were examined by Western blotting. To investigate the function of LSR in EC cells, the pathway enrichment and ontology analysis were performed using the publicly available proteomic data.

Results: LSR-knockdown significantly suppressed cell proliferation in WST-8 assay. The pathway analysis demonstrated that MAPK signaling pathway was enriched in proteins correlated with high LSR expression. In ontology analysis, we found several biological processes, including “regulation of ERK1/2” and “MAPK cascade.” Following the results of pathway enrichment and ontology analysis, we confirmed that LSR-knockdown downregulated the phosphorylation of MEK/ERK pathway, including MEK1/2, ERK1/2, and p90RSK in western blotting. Cell invasion assay and western blot analysis demonstrated that LSR-knockdown suppressed MT1-MMP/MMP2 expression and cell invasion. Interestingly, ERK1/2-knockdown also suppressed MT1-MMP/MMP2 expression, suggesting that LSR activated MT1-MMP/MMP2 via ERK1/2 and promoted cell invasion.

Conclusions: Our results of in vitro study and bioinformatic analysis showed that LSR regulated cell proliferation and invasion via MEK/ERK pathway, and contributed poor prognosis in EC. LSR may be a new therapeutic target of advanced EC.
APPLICATION OF A MACHINE LEARNING ALGORITHM TO IDENTIFY PREDICTORS OF RECURRENCE AND RECURRENCE FREE SURVIVAL IN HIGH GRADE ENDOMETRIAL CANCER

E-POSTER VIEWING

S. Piedimonte¹, T. Feigenberg², B. Cormier³, J. Kwon⁴, W. Gottlieb⁵, M. Plante⁶, S. Lau⁵, L. Helpman⁷, M.C. Renaud⁶, T. May⁸, D. Vicus⁹
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Objectives: To train various machine learning algorithms to predict recurrence and recurrence-free survival (RFS) in high-grade endometrial cancer (HGEC)

Methods: Data was retrospectively collected across 8 Canadian centers including 1237 patients and divided arbitrarily 50% training, 25% validation and 25% testing. Four models were trained to predict recurrence: random forests, boosted trees, and 2 neural networks. Receiver operating characteristic curves (ROC) were used to determine model performance and select the best model based on highest area under the curve (AUC) in the test set. For time to recurrence models, we trained a random forest and Lasso model compared to Cox Proportional hazards. Concordance was reported using a c-statistic.

Results: Among the 4 models tested, the bootstrap random forest had the best AUC in the test set and was the best model to predict recurrence in HGEC; the AUCs were 85.2%, 74.1% and 71.8% in the training, validation and test sets respectively. The top 5 predictors were: stage, uterus height, specimen weight, adjuvant chemotherapy and pre-operative histology. When stratified by stage, the AUC in the test set increased to 77% for Stage III and 80% for Stage IV. For time to recurrence, there was no difference between the Lasso and Cox Proportional Hazards models (test set c-index 71%) while the random forest had a c-index of 60.5%.

Conclusions: A bootstrap random forest model best predicted recurrence in HGEC; model prediction further improved in Stage III and IV patients. Machine learning survival models performed similar to Cox Proportional Hazards but could be conducted with greater efficiency.
PROSPECTS FOR IMPROVING THE METHODS OF COMPLEX TREATMENT OF PATIENTS WITH ENDOMETRIAL CANCER STAGE I

E-POSTER VIEWING

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Objectives: The analysis was performed in 968 women with endometrioid stage I endometrial cancer who underwent hysterectomy without / with adjuvant therapy (radiation or chemotherapy) in the Oncologynecology Research Department of the National Cancer Institute from 2015 to 2020. Although three-quarters received adjuvant treatment, recurrences occurred on average during the first three years.

Methods: To evaluate the survival of patients with endometrioid stage I endometrial cancer depending on the type of treatment or their combination. The following statistical methods were used: standard descriptive and parametric. Survival of patients was analyzed by Kaplan-Meyer method. P values of < 0.05 were considered significant.

Results: Overall recurrence-free survival was 92.58 ± 7.38% with a median non-recurrence survival of 34.3±14.7 months. A total of 68 relapses were detected - 7.02%. The median time from hysterectomy to the first recurrence, local and regional, was 6-18 months, respectively, and 24-36 months after combination treatment. The best survival was in the group of patients who received both surgical and chemotherapeutic treatment - averages of 59.5 months, and the worst after surgery - an average of 26.8 months (X² = 1.031417, p = 0, 59708) (See Figure 1).

Fig.1. Comparison of survival depending on the method of treatment in different groups of patients.
Conclusions: Hysterectomy shows the most common recurrences of loco-regional, and the combination of surgical treatment with radiation therapy - increases the frequency of distant metastases. Surgical treatment with radiation or chemotherapy leads to improve recurrence-free survival.
ROBOTIC-ASSISTED SURGERY FOR ENDOMETRIAL CANCER IN MORBIDLY AND EXTREMELY MORBIDLY OBESE PATIENTS

E-POSTER VIEWING

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Objectives: We sought to evaluate the outcome of robotic-assisted surgery for endometrial cancer in morbidly obese (MO) and extremely morbidly obese (EMO) patients.

Methods: We retrospectively reviewed all robotic gynecologic oncologic surgeries performed for endometrial cancer, in women with a BMI>=40kg/m2, from 2012 to 2017 in our center. Patients were divided into two groups (MO: 40-49kg/m2, EMO: >=50kg/m2). Complications and outcome were compared. Fisher's test, t-test and Kaplan-Meier were used for statistical analyses.

Results: Eighty-seven women were included: 64 (74%) MO and 23 (26%) EMO. The main histology was endometrioid adenocarcinoma (77% of MO and 61% of EMO) and endometrial intraepithelial neoplasia (19% of MO and 35% of EMO). The median blood loss was 100mL in MO and 75ml in EMO (p=NS). The median length of stay was one day for each group (range: 0-11). Two EMO (9%) and none of the MO patients required conversion to laparotomy due to poor surgical field exposure (p=0.067). Overall, 5 MO patients (8%) and 5 EMO (22%) had a surgical complication (p=0.12), but only 3 patients (1 MO and 2 EMO) required re-hospitalization within 30 days. The median follow-up was 47.7 months (range: 1.43-93.6). Recurrence occurred in 9% in each group, with no difference in recurrence-free survival (p=0.96). Only one MO patient died of cancer recurrence.

Conclusions: The robotic-assisted surgery for endometrial cancer in morbidly obese patients is a safe and feasible procedure. The morbidly obese and extreme morbidly obese patients appear to have similar oncologic outcome, length of hospital stay, blood loss and low surgical complications.
UTERINE CARCINOSARCOMA: A MULTICENTRE REVIEW OF TREATMENT AND OUTCOMES OVER 26 YEARS

E-POSTER VIEWING

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Objectives: Uterine carcinosarcoma (UCS) is a rare neoplasm with a poor prognosis and a paucity of evidence on treatment. The objective was to review the characteristics, treatment and outcomes of UCS cases across two gynaecology units and five private gynaecology practices in Melbourne.

Methods: UCS cases were identified from hysterectomy pathology records between 1994 and 2020 inclusive. Patient characteristics, histopathological stage, adjuvant therapy, recurrence and survival status were extracted from patient records.

Results: 208 cases of UCS were identified. The overall recurrence rate was 26.0% and the overall death rate was 60.1%. Increasing age at diagnosis was associated with an increased risk of death (adjusted OR 1.04, 95% CI 1.01-1.08, p=0.019). Risk of death was highest in Stage III disease (adjusted OR 4.37, 95% CI 1.67-11.40). Recurrence was a strong determinant of death, with an adjusted OR of 7.58 (p<0.001).

Conclusions: In this relatively large homogenous cohort of UCS cases, significant predictors for survival included age at diagnosis, stage of disease and recurrence.
THE INCREASING INCIDENCE OF OBESITY AND UTERINE CANCER IN PATIENTS UNDER 55 IN ASIA AND THE UNITED STATES - WHO IS MOST AT RISK?

E-POSTER VIEWING

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Objectives: To evaluate the association between age, race, country of residence, and obesity with the rising incidence of uterine cancer in the United States (US) and Taiwan.

Methods: Data were obtained from the United Statistics Cancer Statistics (USCS) program, Behavioral Risk Factor Surveillance System (BRFSS), and Taiwan Cancer Registry from 2001 to 2017. SEER*Stat and Joinpoint regression program were used for statistical analyses.

Results: 560,131 White and 22,963 Asian women were identified in USCS and 13,950 women in the Taiwan Cancer Registry with uterine cancer, with an incidence rate per 100,000 of 21.9 White and 17.3 Asian women in the US and 15.0 women in Taiwan. The proportion diagnosed <55 years of age with uterine cancer varied by race and country of residence with 22% of Whites in the US, 40% Asians in the US and 52% of women in Taiwan (P<0.0001). Evaluation of annual percent changes (APC) in incidence of uterine cancer between 2001-2017 within different age groups indicated that the largest APC was observed in the women diagnosed between 35-39 years old with APC increases of 2.4% in Whites and 3.5% in Asians in the US and 7.2% in Taiwan (P<0.001). Evaluation of obesity trends in women between 2001-2017 using US BRFSS data indicated an APC of 2.4% in Whites (range: 19-28%) and 2.1% in Asians (range: 9-13%).

Conclusions: Compared to US Whites and US Asians, Native Asians were diagnosed with uterine cancer at a younger age and rates are increasing annually. This finding may be attributed to the rise in obesity rates.
IMPLEMENTATION OF MOLECULAR STRATIFICATION IN ENDOMETRIAL CANCER THROUGH MIRNAS CHARACTERIZATION

E-POSTER VIEWING

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Objectives: Introduction. The TCGA project identified four distinct prognostic groups of endometrial carcinoma (EC) based on molecular alterations among which two are correlated with an intermediate prognosis: the MisMatch Repair deficient (MMRd) and the No Specific Molecular Profile (NSMP) groups. NSMP represents a heterogenous subset of patients frequently harboring CTNNB1 alterations and presenting distinctive clinicopathologic features comparing with the CTNNB1 non mutant ones. miRNAs are oncological key players that have not been integrated with the TCGA EC classification. The study aimed to evaluate the miRNA expression profile in EC to identify potential novel biomarkers of diagnosis and prognosis.

Methods: We analyzed miRNA expression in 72 ECs specimens previously classified as MMRd (31) and NSMP (41), including 15 with CTNNB1 mutations. In the discovery step, miRNA expression profile was evaluated in 30 cases through TaqMan Advanced miRNA arrays. Subsequently, in the validation step, four miRNAs were analyzed in the total cohort of ECs by specific miRNA Assays.

Results: Comparison of CTNNB1 mutant versus non-mutant ECs (irrespective of MMRd/NSMP status) in the discovery cohort showed 39 differentially expressed miRNAs. The top deregulated 4 miRNAs (miR-187, miR-325, miR-499a-3p and 5p) were further validated in 72 ECs. miR-499a-3p and miR-499a-5p maintained the statistical significance showing higher expression in CTNNB1 mutant ECs (p<0.0001, for both). Furthermore, miR-499a expression was able to identify EC subgroups with longer recurrence free survival.

Conclusions: Conclusion. miR-499a may be a useful biomarker and could be integrated in the current TGCA classification scheme to better stratify EC patients
NUCLEAR FEATURES ALLOW FOR HIGHLY SENSITIVE SELECTION OF ENDOMETRIAL CARCINOMAS FOR P53 TESTING

E-POSTER VIEWING


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Objectives: The World Health Organization endorses molecular subclassification of endometrial endometrioid carcinomas. Our objectives were to test the sensitivity of tumor morphology in capturing p53-abnormal (p53abn) cases and to model the impact of p53abn on changes to ESGO/ESTRO/ESP risk stratification.

Methods: 292 consecutive endometrial carcinoma resections received at Foothills Medical Centre, Calgary, Canada (2019-2021) were retrieved and assigned to ESGO risk groups without and with p53 status. Three pathologists reviewed representative H&Es, predicted the p53 status, and indicated whether p53 immunohistochemistry would be ordered. Population-based survival for endometrial carcinomas diagnosed 2008-2016 in Alberta was obtained from the Alberta Cancer Registry.

Results: The cohort consisted mostly of grade 1/2 endometrioid carcinomas (EEC12; N=218, 74.6%). 152 EEC12 (52.1% overall) were stage IA and 147 (50.3%) were low-risk by ESGO. The overall prevalence of p53abn and subclonal p53 was 14.5% and 8.3%. The average sensitivity of predicting p53abn among observers was 83.6% and observers requested p53 immunohistochemistry on 39.4% with a sensitivity of 98.5% to detect p53abn (99.6% negative predictive value). Cytologic features including tumor giant cells, smudged chromatin, cherry-red/macronucleoli, and atypical mitoses accurately predicted p53abn. In 7/292, p53abn upgraded ESGO risk groups (2 to intermediate-risk, 5 to high-risk). EEC12/stage IA patients had an excellent cause-specific 5-year survival of 98.5%.

Conclusions: Pathologists can select cases for p53 testing with high sensitivity and low risk of false negativity. Molecular characterization of endometrial carcinomas has great potential to refine ESGO risk classification for a small subset but offers little value for approximately half of endometrial carcinomas, namely, EEC12/stage IA.
EMERGING IMMUNOTHERAPY PARADIGMS IN ADVANCED ENDOMETRIAL CANCER: THE EFFECT OF ONLINE EDUCATION ON CLINICIAN KNOWLEDGE AND CONFIDENCE

E-POSTER VIEWING

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Objectives: This study determined whether online continuing medical education (CME) could improve the knowledge of oncologists (oncs) and obstetricians/gynaecologists (obs/gyns) regarding the rationale and evidence for immunotherapy paradigms in advanced endometrial cancer.

Methods: A 30-minute online video lecture was launched for physicians outside the USA August 2020 with data collected to November 2020. Educational effect assessed with repeated-pairs pre-/post-activity-individual participants serving as own control. 3 multiple-choice, knowledge questions and 1 self-efficacy, 5-point Likert scale confidence question were analyzed. Chi-squared test assessed pre- to post-activity change (5% significance level, P <.05). Magnitude of change in total number of correct responses overall, and for each question, determined with Cramer’s V (<.06=Modest, 0.06-0.15=Noticeable, .16-.26=Considerable, >.26=Extensive).

Results: 142 obs/gyns and 60 oncs completed pre- and post-activity questions. Positive educational effect was observed for obs/gyns (noticeable effect, V=.092, P<.01; average % of correct responses increasing from 33 to 42%) and oncs (noticeable effect, V=.150, P=.0043; average % of correct responses increasing from 47 to 62%). Increases in correct responses post-activity seen for questions on response to 2nd line chemotherapy (% relative improvement, obs/gyn: 23%, oncs 22%), rationale for immunotherapy (obs/gyns: 24%, oncs: 72%), data for the dostarlimab GARNET trial (obs/gyn: 36%, oncs: 21%). Confidence in knowledge of the evidence for immunotherapy strategies increased post-activity (total average confidence shift: 27% obs/gyns and 40% oncs). Overall, 22% of learners’ responses were improved and 39% of learners’ responses were reinforced.

Conclusions: This online CME activity resulted in a positive educational impact for both clinical specialties. However, education gaps remained evident post-activity.
COMBINATION TARGETED TREATMENT WITH MEK AND PAN-ERBB INHIBITORS ENHANCES ANTITUMOR ACTIVITY IN ERBB AMPLIFIED EX-VIVO SEROUS ENDOMETRIAL CANCER CELLS

E-POSTER VIEWING

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Objectives: ERBB pathway alterations present therapeutic targets in high grade endometrial cancer (EC), but efficacy can be limited by persistent co-activation of other ERBB binding partners. The efficacy of dual-inhibition MEK+pan-ERBB or BET+pan-ERBB in an ERBB2/ERBB3 amplified EC was investigated via 3D microcancer ex-vivo cell assay.

Methods: Tumor was prospectively collected from a patient with stage IIIc1 serous EC. Whole exome, mRNA, and MatePair genomic characterization was performed. Tumor cells were grown in 3D culture and subjected to titrating drug treatments. Cell viability was determined by the CellTiter-Glo Luminescent Assay. Data transformation and dose-response curves were generated using GraphPad PRISM using the variable slope model. CalcuSyn software with the Chou-Talalay method analyzed drug interactions and synergy. Afatinib, binimetanib, and JQ1 were used to inhibit pan-ERBB, MEK1/2, BET, respectively. For translational relevance, inhibitory effect was defined as percent reduction in ATP from baseline at the physiologically achievable concentration (maximum plasma concentration (Cmax) value).

Results: Sequencing revealed amplifications of ERBB2 (17q12), RAF1, c-myc, and ERBB3 (12q13.2) low-level gain. Inhibition of viability was moderate by single agents: Afatinib, binimetanib, JQ1, as shown by inhibitory effect values of 14.4%, 47.8%, 8.8 %, respectively at physiologically achievable concentrations (Cmax) of afatinib. Combinations demonstrated increasing inhibitory effect values: 99.7% for Afatinib+ binimetanib, and 99.5% for Afatinib+JQ1. Synergy was evidenced for both combinations by a combination index <1 (Figure 1).
Conclusions:

Combined inhibition of pan-ERBB with inhibition of MEK or BET proteins synergistically suppress viability in patient-derived serous EC harboring ERBB amplifications.

Figure 1: Microcancer ex vivo exposure to MEK+pan-ERBB and BET+pan-ERBB inhibitors. Dose-response curves of single and combination treatments (left) were 10-fold titrated across 8 log doses for each agent. The highest concentration (i.e. fraction of ful (F0F) = 1) of afatinib, binimetinib, and JQ1 was 3 μM, 10 μM, and 50 μM, respectively. The physiologically achievable concentration of afatinib is indicated (dotted lines). A combination index (CI, right) was used to assess synergy with afatinib + binimetinib and afatinib + JQ1 as shown by Fa-CI plots.
ENDOMETRIAL CANCER IMMUNOHISTOCHEMICAL RISK STRATIFICATION IN A LARGE UTERINE-CONFINED CANCER SERIES

E-POSTER VIEWING

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Objectives: The aim of this study is to assess the clinical reproducibility and the oncological validity of the Endometrial cancer (EC) risk stratification based on the molecular information given by the immunohistochemistry (IHC).

Methods: Retrospective IHC analyses were conducted in a large series of 778 pre-operative uterine-confined ECs, studying the presence/absence of MLH1, MSH2, MSH6, to define the mismatch repair (MMR) stable or instable phenotype; the presence of p53 mutations and other molecular features. The molecular profile was correlated with histological, clinical and prognostic EC patients’ data.

Results: Based on the IHC, we defined 3 EC populations: MMR stable (MMRs), instable (MMRi) and p53 mutated (p53+) patients. Our result demonstrated that the IHC stratification statistically correlated with the most relevant anatomo-clinical features: FIGO stage (p<0.001), grading (12.5% G3 in MMRs vs 22.9% in MMRi vs 95.3% in p53+, p<0.001), histotype (Type II 6.2% in MMRs vs 5.3% in MMRi vs 87.5% in p53+, p<0.001), presence of LVSI (positive in 16.3% in MMRs vs 23.8% in MMRi vs 38.7% in p53+, p<0.001), myometrial invasion and tumor dimension (p=0.003 and p<0.001 respectively). Again, the 3 IHC populations statistically reflected the EC risk class ESGO-ESMO-ESP classification 2020 (p<0.001). These results were confirmed also in Kaplan-Meier curves in terms of over-all survival (OS) and disease-free survival (DFS) (p<0.001).

Conclusions: In this large series, we demonstrated that the pragmatic and systematic use of IHC may have an important role to properly stratify, in terms of histological features and clinical outcome, the uterine-confined EC patients.
ENGOT-EN11/GOG-3053/KEYNOTE-B21: PHASE 3 STUDY OF PEMBROLIZUMAB OR PLACEBO IN COMBINATION WITH ADJUVANT CHEMOTHERAPY WITH/WITHOUT RADIOTHERAPY IN PATIENTS WITH NEWLY DIAGNOSED HIGH-RISK ENDOMETRIAL CANCER

E-POSTER VIEWING


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Objectives: Pembrolizumab, an anti–PD-1 antibody, has demonstrated activity as monotherapy and in combination with lenvatinib in patients with previously treated mismatch repair (MMR) deficient and MMR proficient endometrial cancer (EC). ENGOT-en11/GOG-3053/KEYNOTE-B21 (NCT04634877) is a phase 3, randomized, double-blind study of pembrolizumab or placebo in combination with adjuvant chemotherapy with/without radiotherapy in patients with EC.

Methods: Eligible patients are ≥18 years with newly diagnosed high-risk (stage I/II non-endometrioid or with p53 abnormality and any histology, stage III/IVA), previously untreated EC following surgery with curative intent with no evidence of disease post-operatively. ~990 patients will be randomized to receive pembrolizumab 200 mg or placebo Q3W for 6 cycles plus chemotherapy (carboplatin area under the curve [AUC] 5/6 plus paclitaxel 175 mg/m² Q3W or carboplatin AUC 2/2.7 plus paclitaxel 60 mg/m² QW) in stage 1. Patients receive pembrolizumab 400 mg or placebo Q6W for 6 cycles in stage 2. Radiotherapy (external beam radiotherapy [EBRT] and/or brachytherapy) ± radiosensitizing cisplatin 50 mg/m² (days 1 and 29) may be administered after completion of chemotherapy. Randomization is stratified by MMR status (pMMR vs dMMR) and, within pMMR, by planned radiation therapy (cisplatin-EBRT vs EBRT vs no EBRT), histology (endometrioid vs non-endometrioid), and FIGO surgical stage (I/II vs III/IVA). Dual primary endpoints are disease-free survival (DFS; per investigator assessment) and OS. Secondary endpoints include DFS (per BICR), DFS (per investigator assessment) and OS by biomarker status (PD-L1 and tumor mutational burden), safety, and QoL. Enrollment began December 2020 and is ongoing in 28 countries.

Results: Not applicable
Conclusions: Not applicable
PITFALLS IN PRE-OPERATIVE PREDICTION OF LYMPH NODE METASTASIS IN EARLY ENDOMETRIAL CANCER

E-POSTER VIEWING

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Objectives: The role of lymphadenectomy in early-stage endometrial cancer is controversial as it is associated with intra-operative complications, and its therapeutic benefit is not established. Prediction of lymph nodal metastasis to perform selective lymph node dissection is desirable. This study was conducted to study the grade of the tumor obtained by endometrial biopsy specimen and depth of myometrial invasion assessed by imaging pre-operatively as predictors of lymph nodal metastasis in early endometrial cancers.

Methods: This was a cross-sectional study where we studied 100 patients from August 2016 to May 2018. After Ethical Committee clearance, all patients diagnosed with early endometrial cancer in our hospital were included in the study after getting informed consent. Pre-operative tumor grade and depth of myometrial invasion were studied as predictors of lymph node metastasis.

Results: The incidence of positive lymph node metastasis in our study was 18.6%. Both pre-operative tumor grade and depth of myometrial invasion were not significantly associated with lymph node metastasis. There was significant variation between pre-operative and post-operative tumor grade and depth of myometrial invasion. Among postoperative histopathological factors, only lymphovascular space invasion was significantly associated with lymph node metastasis.

Conclusions: In our study, neither pre-operative nor postoperative grade of the tumor and depth of myometrial invasion were significantly associated with lymph node metastasis. There was considerable variation between pre-op and post-op grades of the tumor, making pre-op grade an unreliable factor in predicting lymph node metastasis in endometrial cancer. Among postoperative histopathological factors, only lymphovascular space invasion was significantly associated with lymph node metastasis.
ANALYSIS OF THE FREQUENCY OF ENDOMETRIAL CANCER STAGE I

E-POSTER VIEWING

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Objectives: In 2020, according to the National Cancer Registry, endometrial cancer in the structure of cancer took second place (10.9%) after breast cancer. Although the detection and treatment of the disease in the early stages has good prospects, but there are relapses from 2% to 26%, according to various literature.

Methods: The analysis of recurrence rate among 968 patients with endometrial cancer and stages of endometrioid type. Recurrences amounted to 68 cases (7.02%). The staging took place according to the 1988 FIGO classification. The following statistical methods were used: standard descriptive, parametric and nonparametric. Differences at p <0.05 were considered significant.

Results: The analysis was performed depending on the characteristics of the tumor process and the type of treatment, the recurrence rate was estimated - see table 1. The average age of patients ranged from 25 to 85 years. The recurrence time was detected, on average, after 36 months ± 15.97 months. In combination treatment, receiving adjuvant radiation therapy, recurrences were most often detected - after 6-18 months ± 13.53 months. Long-term recurrences were detected after a combination of surgical treatment with chemotherapy at 32-64 months ± 14.31 months. Table 1.Comparison of recurrence rates depending on the characteristics of the tumor process and the type of treatment
Notes: At p <0.05 to compare the correlation between treatment, age of patients, stage Ia, Ib, Ic, tumor differentiation.

**Conclusions:** Our study demonstrates that the frequency of their occurrence is approximately the same, regardless of the method of treatment used. However, with relapses, life expectancy is significantly reduced.
ENDOMETRIAL ASPIRATION FOR ENDOMETRIAL CANCER DIAGNOSIS

E-POSTER VIEWING

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Objectives: The diagnosis of endometrial cancer, the third most common among gynecological tumors in Brazil, must be made by anatomopathological examination of the biopsy of the endometrial cavity using hysteroscopy or semiotic curettage. Recently, the endometrial aspirate technique has been used in order to speed up the diagnosis as it is an easy, low cost, outpatient method, dispensing with more complex tests, such as hysteroscopy. The aim of the study was to compare the results of this technique with those of semiotic uterine curettage in women with suspected endometrial hyperplasia/carcinoma.

Methods: Analytical and retrospective study by analyzing the medical records of 52 women between 41 and 83 years old at the outpatient clinic of Hospital das Clínicas Samuel Libânio, Brazil. Material collected by means of endometrial aspirate and uterine curettage from patients with endometrial thickening on ultrasound, with or without bleeding, uterine bleeding after menopause or abnormal uterine bleeding.

Results: 52 patients evaluated with endometrial aspirate, 12 were diagnosed with endometrial adenocarcinoma and three with hyperplasia with endometrial atypia. The endometrial aspirate was positive in 8 of the adenocarcinomas, suspected in two and negative in two other cases. In atypical hyperplasia, aspirate was positive in one case and negative in two.

Conclusions: The use of endometrial aspirate for diagnosis was 66.6% positive in this study, a satisfactory method in scenarios of limited availability of more accurate tests. However, further studies are needed to assess the sensitivity/specificity of the method, as well as standardization in the collection and interpretation of the findings.
EPV111 / #303

SENTINEL LYMPH NODE MAPPING FOR ENDOMETRIAL CANCER: A PROSPECTIVE STUDY ABOUT THIRTY EIGHT CASES

E-POSTER VIEWING

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Objectives: Endometrial cancer (EC) represents the most common gynecological cancer mostly diagnosed at stage I. Sentinel lymph node (SLN) arised as a valuable option to lymph node dissection. We aim to determine negative predictive value (NPV), overall and bilateral detection rates of SLN in EC stage I.

Methods: This was a cross-sectional prospective study including 38 patients with EC stage I treated at Salah Azaiz Institute over a period of 34 months from March 2018 to January 2021.

Results: Endometrioid adenocarcinoma was reported in 89\% of cases. The pelvic MRI showed IA and IB stages in 58\% and 42\% of cases, respectively. The detection techniques were combined (48\%), colorimetric (34\%) and radioisotope (18\%). Lymphoscintigraphy was conducted in 66\% of women demonstrating overall, bilateral and failed detection rates of 92\%, 24\% and 8\%, respectively. The overall, bilateral and failed intra-operative detection rates were of 76\%, 37\% and 24\% respectively. A micrometastasis (1\%) was noted among a total of 87 SLNs. False negative rate (FNR) and NPV were of 0\% and 100\%. Factors affecting overall detection were initial histologic grade (p=0.01) and tumor size on MRI (p=0.04). Final histologic grade 1 (p=0.005), 2 (p=0.002) and myometrial invasion (p=0.04) were also significant contributors. No significant factors affecting bilateral detection were set.

Conclusions: FNR and NPV were of 0\% and 100\% similarly to previous results through literature. We aim to continue this promising protocol toward including more patients that may helps us improve our overall and bilateral detection rates.
UTERINE CARCINOSARCOMA FOLLOWING TAMOXIFEN THERAPY FOR BREAST CANCER: A SERIES OF 11 CASES

E-POSTER VIEWING

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Objectives: Uterine carcinosarcoma (UC) is rare and carries a poor prognosis. It represents only 1-2% of uterine cancers and less than 5% of all uterine malignancies. Although these tumors usually arise de novo, some cases developed under Tamoxifen therapy have been reported. We aim to report our institution’s experience.

Methods: A retrospective study of 11 women with endometrial carcinosarcoma after breast cancer were treated at Salah Azaiez Institute of Oncology from 2004 to 2014.

Results: The mean age of UC diagnosis was 64 years (50-82 years). All patients were given adjuvant hormone therapy by Tamoxifen for breast cancer. The mean duration of Tamoxifen use was 42 months (3-60 months) with a mean cumulative dose of 25709mg (1800-36500mg). The main presenting symptom of UC was post-menopausal bleeding. Ultrasound showed thickened endometrium in four cases. Endometrial biopsy revealed UC in three cases. Surgery was performed in ten cases. It consisted of total hysterectomy and bilateral oophorectomy in all cases; we performed lymphadenectomy in three cases. Adjuvant chemotherapy and radiotherapy were performed in three cases. The median follow-up after surgery was nine months (1-64 months). One patient developed a peritoneal recurrence five months after surgery. Three women developed bone metastasis from their uterine cancer, and two patients developed liver metastases from their breast cancer.

Conclusions: The survival benefits associated with five-year adjuvant Tamoxifen counterbalances the low morbidity and mortality risk associated with endometrial adenocarcinoma development. Things are different with UC and its pejorative prognosis. The rarity of this tumor makes the risk of its development undetermined.
PROGNOSTIC FACTORS AND ONCOLOGIC OUTCOMES FOR PATIENTS TREATED WITH ADJUVANT CHEMOTHERAPY AND VAGINAL VAULT BRACHYTHERAPY FOR STAGE I ENDOMETRIAL SEROUS CARCINOMAS.

E-POSTER VIEWING

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Objectives: Endometrial serous carcinomas (ESC) hold a poor prognosis, even at early stages. This study evaluates the outcomes and prognostic factors for stage I (FIGO 2018) ESC treated with adjuvant chemotherapy and vaginal vault brachytherapy (VBT).

Methods: Patients were selected through a database of patients treated with hysterectomy for stage I ESC between 2007 and 2019 at the Centre Hospitalier de l'Université de Montréal. The intended adjuvant treatment had to be 6 cycles of Carboplatin and Paclitaxel and VBT. Time to events were analyzed by Kaplan-Meier. Cox regression analysis was performed to identify prognostic factors.

Results: A total of 76 patients with stage IA (N=64) and IB (N=12) ESC were included in this study. Median age at diagnostic was 67. Median follow up was 60 months. 5-year overall survival (OS) and progression-free survival (PFS) were 83% and 79.5%. Nine patients relapsed, 3 with local recurrence, 3 with regional recurrence and the other 3 with distant recurrence. Amongst the known prognostic factors included in univariate analysis, positive peritoneal washing and advanced age were significant prognostic factors for OS (p<0.0001 and p=0.013, respectively). Age, isthmus invasion, deep myometrial invasion and positive peritoneal washings were significant prognostic factors for PFS (p=0.049, p=0.024, p=0.022 and p<0.0001, respectively).

Conclusions: In stage I ESC, adjuvant chemotherapy and VBT was associated with good oncologic outcomes. Advanced age and positive peritoneal washings were significant prognostic factors for OS. Further studies are needed to assess whether a subgroup of patients would benefit from treatment intensification or de-escalation.
EPV114 / #325

EXPRESSION OF AQUAPORINS IN HUMAN ENDOMETRIAL CANCER: IDENTIFICATION AND REGULATION BY OVARIAN HORMONES IN CARCINOGENESIS OF ENDOMETRIAL CANCER.

E-POSTER VIEWING

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Objectives: Aquaporins contribute to pathogenesis of Endometrial cancer. Our study presents the first screen of grade I and grade III endometrial cancer cell lines for all 13 AQP classes in response to physiological doses of estrogen and progesterone.

Methods: Ishikawa (IKC, grade I) and MFE-280 (grade III) were assessed with estrogen and progesterone at relevant doses, at multiple time points for cell proliferation, motility (3D migration and invasion assays), and cytoskeletal organisation. Patterns of AQP expression were compared in IKC and MFE-280 by quantitative (q) PCR and western blot (WB).

Results: Cell numbers, 3D migration and invasiveness were increased in IKC by estrogen and decreased by progesterone in a dose- and time-dependent manner. Estrogen induced formation of lamellipodia in IKC. The EC50 and IC50 values for estrogen and progesterone were 1nM and 100nM respectively. Transcript levels of AQPs 0, -2, -3, -4, -5, -8 were significantly decreased by estrogen and progesterone in IKC, whereas AQP11 and AQP12 were increased. In contrast, in MFE-280 cells, estrogen and progesterone caused an increase in transcript levels for AQPs 3,-4,-7, -8, whereas expression of AQPs 0, and -11 were decreased. Protein expression of AQP-1 and -4 was confirmed by WB.

Conclusions: These findings indicate the potential role of aquaporins in progression and invasion of endometrial cancer, and highlight the previously unstudied AQPs 11 and 12 as targets of potential interest. Outcomes here provide a foundation for further exploration of aquaporin inhibitors in decreasing the progression of EC, and insights into new therapeutic strategies.
INTERIM ANALYSIS OF 10-YEAR DATA REGARDING PRESENTATION AND MANAGEMENT OF UTERINE CARCINOSARCOMA (UCS) CASES ACROSS THE THAMES VALLEY CANCER ALLIANCE NETWORK

E-POSTER VIEWING

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Objectives: UCS comprises <5% of uterine malignancies, accounting for >15% associated mortality. With no established guidelines, we present our experience to determine clinical characteristics, treatment modalities and histology outcomes of UCS.

Methods: We conducted a multicentre retrospective cohort study, including all surgically managed UCS cases between March 2010 and January 2020. Data was collected on patients’ demographics, medical history, pre-operative and final histology and FIGO staging, peri-operative and post-operative findings.

Results: 82 (9.7%) UCS cases were identified from a total of 847 surgically managed uterine cancers, with 51 diagnosed with UCS. 3 cases were down and 12 up-staged following surgery. 15 cases of MRI lymphadenopathy led to a PPV of 40%. Positive lymph nodes and omentum were identified in 15.8% and 11.3% of cases respectively, with half of lymph node metastases diagnosed following systematic dissection (the majority of which were LVSI positive). There were no operative complication themes.

Table 1: Pre-operative characteristics and investigations of patients with UCS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (range), years</td>
<td>70 (45–95)</td>
</tr>
<tr>
<td>Mean BMI (range), kg/m²</td>
<td>29 (17–44)</td>
</tr>
<tr>
<td>Menopausal status</td>
<td>N</td>
</tr>
<tr>
<td>Pre-menopausal</td>
<td>1</td>
</tr>
<tr>
<td>Post-menopausal</td>
<td>81</td>
</tr>
<tr>
<td>Pre-op FIGO stage (7 without stage recorded)</td>
<td></td>
</tr>
<tr>
<td>Early-stage disease (FIGO I–II)</td>
<td>57</td>
</tr>
<tr>
<td>Late-stage disease (FIGO III–IV)</td>
<td>18</td>
</tr>
<tr>
<td>Median time interval from presentation to surgery (range), weeks</td>
<td>5 (1–13)</td>
</tr>
</tbody>
</table>
Conclusions: UCS presented with almost double the incidence rate previously described. The overall accuracy of pre-operative staging was 81%. Our analysis showed that 86% of cases were managed laparoscopically, with more favourable peri-operative and post-operative profiles. Despite the lack of management guidelines, we stress the importance of urgent surgical treatment for UCS, in the form of total hysterectomy, bilateral salpingo-oophorectomy, systematic bilateral pelvic lymph node dissection and omentectomy. Data on adjuvant treatment, recurrence and survival is currently under analysis.
Objectives: High grade endometrial carcinoma limited to the endometrium or a polyp is a rare clinical entity. Currently there is no consensus on standard treatment. Thus, the goal of this study was to evaluate the clinical outcomes of patients with type II endometrial carcinoma without myometrial infiltration or limited to a polyp.

Methods: We retrospectively identified type II endometrial carcinoma with spread limited to the endometrium or a polyp from April 2013 to November 2017. Medical records were reviewed for the following information: age at diagnosis, characteristics of patients, type of surgery, histology, stage according to FIGO 2009 classification, adjuvant treatments, and site of recurrence. Descriptive statistics and the Kaplan–Meier estimate were used for analysis.

Results: Twenty-six patients with a type II stage IA adenocarcinoma were included. All were surgically staged with total hysterectomy, salpingo-oophorectomy and lymph nodes assessment. The median age at diagnosis was 69 years. All patients had either disease limited to the endometrium (61.5%) or a polyp (38.5%). Only four patients had lymphovascular space invasion (16.5%). Median follow up was 44 months (2-75 months). Most patients did not receive adjuvant treatment after surgery (73%). Three patients (11.5%) experienced recurrences 15, 21 and 55 months after surgery. Following systemic treatment all are alive and free of disease. The 3-year progression free survival and overall survival were 91% and 100% respectively.

Conclusions: Based on our data, expectant management with surveillance alone following surgery appears to be safe for patients with high-grade endometrial carcinoma limited to a polyp or the endometrium without myometrial invasion.
PD-L1 IS A TUMOR SUPPRESSOR IN AGGRESSIVE ENDOMETRIAL CANCER CELLS AND ITS EXPRESSION IS REGULATED BY MIR-216A AND LNCRNA MEG3

E-POSTER VIEWING

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Objectives: Poorly-differentiated endometrioid adenocarcinoma and serous adenocarcinoma represent an aggressive subtype of endometrial cancer (EC). Programmed death-ligand-1 (PD-L1) was known to exhibit a tumor cell-intrinsic function in mediating immune-independent tumor progression. However, the functional relevance of tumor cell-intrinsic PD-L1 expression in aggressive EC cells and the mechanisms regulating its expression remain unknown.

Methods: PD-L1 expression in 65 EC tissues and 18 normal endometrium samples was analyzed using immunohistochemical staining.

Results: Positive PD-L1 expression was identified in 84% of benign cases but only in 12% of the EC samples, and the staining levels of PD-L1 in EC tissues were significantly lower than those in the normal tissues. Higher PD-L1 expression predicts favorable survival in EC. Ectopic expression of PD-L1 in aggressive EC cells results in decreased cell proliferation and the loss of mesenchymal phenotypes. Mechanistically, PD-L1 exerts the anti-tumor effects by downregulating MCL-1 expression. We found that PD-L1 levels in aggressive EC cells are regulated by miR-216a, which directly targets PD-L1. We further identified a mechanism whereby the long non-coding RNA MEG3 represses the expression of miR-216a, thereby leading to increased PD-L1 expression and significant inhibition of cell migration and invasion.

Conclusions: These results revealed an unappreciated tumor cell-intrinsic role for PD-L1 as a tumor suppressor in aggressive EC cells, and identify MEG3 and miR-216a as upstream regulators of PD-L1.
THE INCREASED INCIDENCE OF UTERINE CANCER WITH HIGH RISK HISTOLOGIES - A POPULATION STUDY FROM THE TAIWAN CANCER REGISTRY

E-POSTER VIEWING

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Methods: Data were obtained from the Taiwan Cancer Registry of Taiwan Health and Welfare Data Center for women diagnosed with a malignancy of the uterine corpus from 2001 to 2017. Joinpoint regression analysis was used to evaluate and project trends over time.

Results: There were 26,827 women in Taiwan Cancer Registry diagnosed with uterine cancer between 2001-2017, including 25.2% with grade (G)1-endometrioid endometrial carcinoma (EEC), 36.5% with G2-EEC, 25.2% G3-EEC, 3.5% with uterine serous carcinoma (USC), 3.4% with uterine carcinosarcoma (UCS) and 2.1% with uterine clear cell carcinoma (UCCC). The proportion of women with a high-risk histology defined as G2-EEC, G3-EEC, USC, UCS, or UCCC increased from 51% to 63% when diagnosed at 50-59 or 60-69 years of age, respectively. The average incidence per 100,000 by histology was 9.2 with EEC, 0.64 with USC, 0.51 with UCS, and 0.25 with UCCC. The annual percent change (APC) in incidence between 2001 and 2017 increased by 10.6% for a USC diagnosis, 5.8% for a UCS diagnosis, and 4.6% for a UCCC diagnosis. Predictive modeling projects that the incidence of USC in women between 60-64 years old will surpass G1-EEC incidence in the same age group by 2022.

Conclusions: High-risk uterine cancers constitute a substantial portion of the uterine cancers in the Taiwan Cancer Registry, particularly for women in their 60s or older. This exponential rise has important health and welfare implications in Taiwan and the International community.
VOLUME OF NODAL DISEASE AND ONCOLOGIC OUTCOMES IN ENDOMETRIAL CANCER PATIENTS WITH POSITIVE SENTINEL LYMPH NODES: AN ITALIAN MULTI-INSTITUTIONAL STUDY

E-POSTER VIEWING


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Objectives: To assess predictive factors for sentinel-lymph-nodes (SLNs) involvement and recurrence-free-survival (RFS) in patients with endometrial cancer

Methods: A multicenter retrospective evaluation of endometrial-cancer patients with positive (macro-micro metastases or ITCs) SLNs, treated between 2003 and 2020, was performed. Predictive factors for nodal involvement (endometrioid vs non-endometrioid histology, grading, lymphovascular-space-invasion (LVSI), myometrial-invasion (MI), cervical-stromal-invasion, ESGO/ESTRO/ESP risk group), adjuvant therapy and oncological outcomes were evaluated

Results: 142 patients were identified among 12 participating centers. In 64.8% of cases a low-volume disease (≤2 mm) was found in SLNs: 33 (23.2%) ITCs and 59 (41.6%) micrometastases. Predictors of macrometastatic SLNs were: high grade [p:0.002], LVSI [p:0.007] and MI >50% [p:0.008]. 17 (18.5%) patients with low-volume disease (8 micrometastases and 9 ITCs) did not receive any adjuvant therapy. At a mean follow-up of 34.6 months (range 1–215) months, 21 (14.8%) relapses were recorded, only one among patients not receiving any adjuvant. The RFS at 2-years for the micrometastatic patients was 91%, similar to ITCs patients (79.1%), regardless of adjuvant treatment, but statistically better than patients with macrometastases (72.3%) [p: 0.026]. The only factors affecting RFS were deep MI [p:0.03] and cervical stromal invasion [p:0.046].

Conclusions: More than half of patients with positive SLNs had low-volume disease. Grading, MI and LVSI predicted volume of nodal metastases. MI and cervical invasion affected RFS; while adjuvant treatment did not seem significantly associated with RFS in patients with low-volume disease. Longer follow-up time and a larger sample size are needed to understand the role of adjuvant therapy in low-volume metastatic SLNs.
ENDOMETRIAL CANCER: MOLECULAR ANALYSIS AND CLINICOPATHOLOGICAL CORRELATION: A PILOT STUDY

E-POSTER VIEWING

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¹Christian Medical College, Vellore, Gynecologic Oncology, Vellore, India, ²Christian Medical College, Vellore, Molecular Pathology, Vellore, India, ³Christian Medical College, Vellore, Pathology, Vellore, India, ⁴Christian Medical College, Vellore, Radiation Oncology, Vellore, India, ⁵Christian Medical College, Vellore, Biostatistics, Vellore, India

Objectives: Aim/Introduction: Limited reproducibility and imprecise risk estimation of traditional classification have paved the way for molecular research in endometrial cancer. The study aims to determine the prevalence of Polymerase Epsilon gene (POLE) mutation, P53 mutations, and microsatellite instability (MSI) in endometrial cancer, followed by clinicopathological correlation.

Methods: Materials And Methods: A retrospective cohort involving 50 consecutive patients of primary endometrial carcinoma was identified from 01.01.2016 to 01.02.2018 using the computerized database. Molecular classification of endometrial cancer was done with the following components. POLE ultramutated: using exon 9-14 mutational analysis, Microsatellite instability (MSI) using Mismatch repair protein IHC (MLH1, MSH2, MSH6), and Copy number high/low: using p53 IHC as a surrogate marker.
Results:
An interim analysis of 29 patients was done. Eight (27.6%) patients had MLH1 mutation, 1 (3.5%) patient had POLE and MLH1 mutation, while 2 (6.9%) had both POLE and P53 mutation. Seven (24.2%) patients were found to have null mutations of P53, while the remaining 11 (37.9%) had no specific molecular profile (NSMP). ESMO-ESGO risk group correlation, recurrences, and deaths are shown in table 1.
Conclusions: Implications: Recurrence in low risk groups, behaviour of multiple classifiers, NSMP group and POLE mutated higher risk/stage cancers are areas still under-researched. A larger study exploring the integrated approach will help answer these questions and open novel avenue of research aimed at immunotherapy in endometrial cancer especially in recurrent settings.
BASELINE CLINICAL OUTCOMES OF LYNCH SYNDROME PATIENTS UNDERGOING ANNUAL SURVEILLANCE VERSUS RISK-REDUCING SURGERY IN A PROSPECTIVE COHORT STUDY

E-POSTER VIEWING

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1University of Toronto, Gynecologic Oncology, Toronto, Canada, 2Princess Margaret Cancer Centre/University of Health Network/Sinai Health Systems, Gynecologic Oncology, Toronto, Canada, 3Princess Margaret Cancer Centre, Biostatistics, Toronto, Canada

Objectives: To describe baseline characteristics of Lynch syndrome (LS) patients enrolled in a prospective study of annual surveillance versus risk-reducing surgery (RRS) and determine prevalent cases of endometrial intraepithelial neoplasia (EIN), endometrial (EC) and ovarian (OC) cancers.

Methods: A prospective cohort study was implemented in February 2015 for LS patients diagnosed based on a pathogenic variant in mismatch repair genes but unaffected by gynecologic cancer. Baseline investigations included CA-125, ultrasound and endometrial biopsy (EMB); further investigations were performed as warranted. Patients were recommended RRS by age 40 or following child-bearing. All others had annual surveillance and analyzed per treatment received.

Results: Among 82 patients, 41 underwent RRS and 41 annual surveillance. The most frequent mutation was MSH6 (34.1%). 25.9% had a personal history of LS-associated cancer and 97.5% had a family history, most commonly being colorectal (74.4%). Patients in the RRS group had a higher median age at LS diagnosis (47 vs 32 years, p<0.001) and entry into LS screening program (47 vs 33 years, p<0.001). At baseline, median CA-125 was 10 in both groups (p=0.65). The baseline EMB rate was 85% (n=70) with an abnormality rate of 4.88% (two EIN in surveillance group and one EC in RRS group). Seventy (91%) individuals underwent baseline ultrasound and no OCs were detected. In patients undergoing RRS, the median time from initial visit to surgery was 6.1 months (range 1.1-20.7); 3 additional EINs were diagnosed on final pathology.

Conclusions: In LS patients followed in a surveillance program, the prevalent rate of EIN/EC is 5-10%, mostly in the RRS group. RRS within the recommended time prevents diagnosis of significant pathology.
EPV122 / #421

ISOLATED LYMPHATIC RECURRENCE IN ENDOMETRIAL CANCER: A RETROSPECTIVE STUDY.

E-POSTER VIEWING

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1Mayo Clinic, Department Of Obstetrics And Gynecology, Rochester, United States of America, 2Division of Biomedical Statistics and Informatics, Department Of Health Sciences Research, Rochester, United States of America, 3AOUI Verona, University of Verona, Department Of Obstetrics And Gynecology, Verona, Italy, 4Mayo Clinic, Department Of Laboratory Medicine And Pathology, Rochester, United States of America

Objectives: We investigated factors associated with cause-specific survival (CSS) after isolated lymphatic recurrence (ILR) in endometrial cancer (EC).

Methods: We identified patients who developed ILR among 4,216 EC patients surgically treated at the Mayo Clinic between 1984 and 2017. ILR was defined as the first and unique evidence of recurrence in lymph node-bearing areas (with or without (±) vaginal recurrence). Univariate and multivariable Cox regression analysis was used to evaluate factors associated with CSS after ILR.

Results: We observed 70 cases of ILR: 12 pelvic, 15 paraaortic, 14 pelvic and paraaortic, and 29 distant (± pelvic and/or paraaortic). Most women (90.0%) underwent pelvic and/or paraaortic lymphadenectomy during primary surgery, and 68.3% had positive nodes. Among 70 patients, 50 died of disease with median survival after ILR of 1.4 years. Patients who did not die of EC had a median follow-up after ILR of 6.6 (IQR 4.8-10.0) years. By univariate analysis, histologic grade, lymphovascular space invasion, ILR site, concomitant vaginal recurrence, and ILR treatment were significantly associated with CSS after ILR. CSS after ILR was not associated with primary lymphadenectomy, stage, or adjuvant therapy. Results of the multivariable analysis are reported in the Table.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No. of events per level</th>
<th>Adjusted HR (95% CI)</th>
<th>P</th>
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<tbody>
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<td>FIGO grade</td>
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</tr>
<tr>
<td>1</td>
<td>5/14</td>
<td>Reference</td>
<td>0.007</td>
</tr>
<tr>
<td>2</td>
<td>12/16</td>
<td>5.11 (1.68, 15.52)</td>
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<tr>
<td>3</td>
<td>33/40</td>
<td>5.10 (1.79, 14.51)</td>
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<td>Pelvic and paraaortic ILR</td>
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<td>38/56</td>
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<td>Yes</td>
<td>12/14</td>
<td>3.08 (1.52, 6.21)</td>
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<td>Concomitant vaginal recurrence</td>
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<td>&lt;0.001</td>
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<td>Yes</td>
<td>4/4</td>
<td>8.21 (2.50, 26.97)</td>
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<td>Treatment of ILR</td>
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<td>Observation or hormonal therapy only</td>
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<td>2.60 (1.09, 6.19)</td>
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</tr>
<tr>
<td>Chemotherapy and/or radiotherapy</td>
<td>28/34</td>
<td>2.75 (1.27, 5.94)</td>
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<tr>
<td>Surgery ± other treatments</td>
<td>9/19</td>
<td>Reference</td>
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</tr>
</tbody>
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Abbreviations: CI, confidence interval; FIGO, International Federation of Gynecology and Obstetrics; HR, hazard ratio; ILR, isolated lymphatic recurrence.
**Conclusions:** Histologic grade 2 or 3 of the primary tumor and concomitant recurrence in the pelvic and paraaortic lymph node basins or at the vaginal cuff were independent predictors of poor CSS after ILR. The choice to surgically treat ILR in some patients was associated with improved CSS.
RISK OF LEIOMYOSARCOMA IN PATIENTS UNDERGOING HYSTERECTOMY FOR PRESUMED BENIGN DISEASE.

E-POSTER VIEWING

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Objectives: To estimate the incidence and to identify risk factors of leiomyosarcoma among women undergoing hysterectomy for presumed benign disease.

Methods: This is a retrospective single-center study of consecutive patients who underwent total hysterectomy with benign indications at Del Ponte Hospital (Varese) between 01/01/2000 and 31/12/2019. Data were manually collected by operative records and institutional surgical reports, including demographic and histopathologic characteristics. Factors associated with the occurrence of unexpected uterine leiomyosarcoma (uLMS) were searched. Stratification by age, menopausal status and uterine weight was performed.

Results: Overall, 4428 patients were included in the analysis and 24 (0.54%) had a final diagnosis of uLMS. Among 2936 patients with preoperative indication of uterine fibroids, the rate of uLMS was 0.99%. The increase of age at surgery resulted to be positively associated with the incidence of uLMS (from 0.09% in patients <45yo to 1.97% in patients >75yo; p=0.01). The absolute risk of LMS increased in post-vs. premenopausal patients (1.27% vs. 0.25%; p=0.001). Increase in uterine weight was also associated with higher risk of uLMS (p<0.001).

The pooled analysis included menopausal status (pre vs. post) and uterine weight (<1kg vs. >1kg); postmenopausal women with uterus weighting 1kg or more had an absolute risk of uLMS of 5.45%.
Conclusions: The overall risk of uLMS in women undergoing hysterectomy for presumed benign indication is low. However, there is a significant increased risk in post-menopausal patients with enlarged uteri.
NEOADJUVANT CHEMOTHERAPY FOLLOWED BY SURGERY FOR ADVANCED-STAGE ENDOMETRIAL CANCER

E-POSTER VIEWING

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Objectives: Neoadjuvant chemotherapy (NACT) plus interval debulking surgery (IDS) is a treatment strategy for ovarian cancer patients with unresectable disease or poor performance status. It has also used for the treatment of advanced endometrial cancer (ECa) and a survival benefit has been shown. This study reviews our single-institution experience with NACT and surgery for advanced endometrial cancer.

Methods: Data were collected retrospectively about patients with ECa treated January 2015-March 2021. Outcome measures include response; survival; and treatment-related morbidity.

Results: There were 18 patients aged 39-72yrs. Data is complete for 16 (two had surgery overseas). Histological type was: endometrioid (72%); serous (22%); mixed (6%). 33% were stage IV; 45% stage III; 22% stage II. All patients received Carboplatin/Paclitaxel chemotherapy. Two also received radiotherapy before surgery. Patients received between 2-6 cycles of chemotherapy. Fifteen patients (83.3%) had optimal debulking surgery and one sub-optimal debulking. One patient was lost to follow-up. Another expired before surgery due to septic shock. Data regarding survival is available for 14/18 patients. One has died. Thirteen patients are alive with survival of 6-48mth. Two patients are alive with recurrence. Eleven are alive without recurrence. Overall median survival is currently 20mth. 83% had no significant complications; 11% had wound infection; one patient died from septic shock.

Conclusions: NACT and IDS delivers high rates of optimal debulking in patients with advanced stage ECa. There are acceptable levels of morbidity. This study suggests that NACT followed by IDS is at least a non-inferior strategy for patients with advanced ECa who are unsuitable for primary surgery.
THE PREVALENCE OF UTERUS CANCER IN UZBEKISTAN

E-POSTER VIEWING

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Objectives: To estimate the prevalence of endometrial cancer in Uzbekistan over the last 3 years.

Methods: We collected uterine cancer statistical indicators from official statistics in Uzbekistan for the years 2018–2020.

Results: Analyzed data of uterina cancer (UC) in 2018-20 years showed that 641 (1.4), 640 (1.9) and 609 (1.8) UC patients were identified in the Republic, respectively. In 2018 year 315 patients were from the country-side. The patients were into stages as follows: I stage - 31.2%, II stage - 39.9%, III stage - 16.1%, IV - 5.3%. The mortality rate in 2018 was 0.7 (234 patients) and the 5-year survival rate consisted 47.3%. The patients were into stages as follows: I stage - 34.8%, II stage - 41.7%, III stage - 14.4%, IV stage - 3.1%. The mortality rate in 2020 was 0.8 (256 patients) and the 5-year survival rate consisted 49.5%. In 2020 the patients were into stages as follows: I stage – 35.8%, II stage – 41.7%, III stage – 11.3%, IV stage – 4.4%. 568 patients were from the country-side. 5-year survival rate consisted 48.7%. The mortality rate in 2020 was 0.8 (274).

Conclusions: The morbidity of UC in Uzbekistan has not tend to decrease and requires primary care physicians to promote a healthy lifestyle, a more careful approach to all types of uterine bleeding at women of both fertile and menopausal age. Timely putting diagnosis and treatment of endometrial hyperplastic processes will significantly reduce the number of women at risk for UC.
UNDIFFERENTIATED AND DEDIFFERENTIATED CARCINOMA OF THE ENDOMETRIUM: CLINICOPATHOLOGIC FEATURES AND IMPLICATIONS FOR PROGNOSTICATION AND MANAGEMENT

E-POSTER VIEWING

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Objectives: Undifferentiated and dedifferentiated endometrial carcinomas (UEC/DDEC) are rare, high grade, and have only been increasingly recognized within the past decade. Studies of their behavior and response to adjuvant to guide prognostication and management are limited. We present the management experience of a single institution.

Methods: Using the Juravinski Hospital electronic medical record, we identified all patients with UEC or DDEC treated at our institution from January 2005-December 2020. Clinical information was obtained by chart review.

Results: We identified 35 patients with UEC/DDEC; 15 UEC, 20 DDEC. Mean age was 66 years. Only 25.1% had preoperative endometrial biopsy concordant with final pathology despite 87.5% review by gynecologic pathologists. Stage distribution was 37.1% stage I, 14.3% stage II, 14.3% stage III, 34.3% stage IV. 7/33 (21.2%) had gross residual after surgery; 4 received adjuvant carboplatin-paclitaxel chemotherapy with 2 progressions, 1 partial response and 1 complete response (ORR 50%). Mean PFS was 11.7±9.3 months. Fifteen patients had progressive or recurrent disease—of these, 4 were treated with radiation, 3 with chemotherapy (adriamycin, carboplatin-paclitaxel, doxorubicin), and all 7 progressed on treatment. The most common site of recurrence was widely disseminated disease (54.5%), followed by nodal (18.2%) and chest (18.2%). Mean OS was as follows by stage: stage I-II completely resected, 43 months; stage III completely resected, 19 months; stage IV, suboptimally debulked or inoperable, 20 months.

Conclusions: UEC/DDEC are aggressive tumours with poor prognoses and remain challenging to diagnose on preoperative biopsy. Platinum-based adjuvant chemotherapy may have some efficacy, however, recurrences respond poorly to salvage.
IMPACT OF COMPUTED TOMOGRAPHY-DETERMINED SARCOPENIA AND ARTIFICIAL INTELLIGENCE-DRIVEN WAIST SKELETAL MUSCLE VOLUME ON SURVIVAL OUTCOME IN ENDOMETRIAL CANCER

E-POSTER VIEWING

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Objectives: To investigate the impact of computed tomography (CT)-determined sarcopenia and body composition on survival outcomes in patients with endometrial cancer.

Methods: We retrospectively identified patients diagnosed with endometrial cancer between 2014 and 2018. Using an artificial intelligence-based tool, the skeletal muscle area (cm²) at the third lumbar vertebra (L3) and the skeletal muscle volume (cm³) at the waist level from pre-treatment CT scans were measured. These values were converted to the L3 skeletal muscle index (SMI) index and volumetric SMI by normalisation. The relationships between L3, volumetric SMIs, and survival outcomes were evaluated.

Results: Altogether, data of 385 patients were analysed. The mean patient age was 55.5 years. Applying the well-known cut-off value for sarcopenia to the L3 SMI, sarcopenia (<39.0 cm²/m², n=177) and non-sarcopenia (≥39.0 cm²/m², n=208) groups showed similar progression-free survival (PFS; P=0.335) and overall survival (OS; P=0.241). Using the median value, the low-volumetric SMI group (<206.0 cm³/m³, n=192) showed significantly worse PFS (3-year survival rate, 77.3% vs. 88.8%; P=0.004) and OS (3-year survival rate, 92.8% vs. 99.4%; P=0.003) than the high-volumetric SMI group (≥206.0 cm³/m³, n=193). In multivariate analyses adjusted for baseline body mass index and other factors, low-volumetric SMI was identified as an independent poor prognostic factor for PFS (adjusted HR, 1.762; 95% CI, 1.051-2.953; P=0.032) and OS (adjusted HR, 5.964; 95% CI, 1.296-27.448; P=0.022).

Conclusions: Waist skeletal muscle volume is a novel prognostic biomarker in patients with endometrial cancer. Assessing body composition before treatment may provide important prognostic information for such patients.
WOMB CANCER RISK AWARENESS: DEVELOPING TOOLS TO INFLUENCE CHANGE

E-POSTER VIEWING

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Objectives: Endometrial or womb cancer is the most common gynaecological malignancy in the developed world. Efficient and cost-effective methods of increasing public awareness about womb cancer are research priorities for patients and clinicians. Until now, there has been no accepted measure of womb cancer awareness. We aimed to develop the self-complete Womb Cancer Awareness Measure (WCAM).

Methods: Relevant questions on warning signs, risk factors and existing cancer screening programmes were extracted from the literature and ratified by patients and expert clinicians. Reliability and validity were assessed in female research participants aged 19-65 (n=65) and expert clinicians (n=10). Readability was calculated using the Flesch Reading Ease formula. Test-retest reliability was tested over two weeks. Construct reliability was established by comparing scores of expert clinicians and non-medical academics. Sensitivity to change was measured by comparing participants who read a womb cancer leaflet against a control leaflet.

Results: The readability of the WCAM was high (71%). Test-retest reliability revealed high percentage exact agreement of 78-80% for all items. Discrepancies were due to improvement in the second score, demonstrating that the WCAM completion increased knowledge and awareness. Experts achieved higher knowledge scores than non-medical academics indicating good construct validity (p<0.001). The measure was sensitive to change; the womb cancer leaflet group (n=22) scored higher for cancer awareness [mean 70(13)] than the controls (n=21) [mean 54(6.2)] (p<0.001).

Conclusions: This study demonstrates the psychometric validity of the WCAM and its potential for use for further testing. Ongoing work will extensively validate this awareness measure in an ethnically and socioeconomically diverse population including women at increased risk of womb cancer.
EPV129 / #529

LONG-TERM CLINICAL AND ECONOMIC VALUE OF PEMBROLIZUMAB + LENVATINIB COMPARED WITH CHEMOTHERAPY IN PREVIOUSLY TREATED ADVANCED ENDOMETRIAL CANCER PATIENTS IN SWEDEN: A COST-EFFECTIVENESS ANALYSIS

E-POSTER VIEWING

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Objectives: Advanced endometrial cancer (aEC) patients previously treated with systemic therapy have limited treatment options in Europe. In the Phase-III trial KEYNOTE-775, pembrolizumab + lenvatinib (PEM+LEN) demonstrated statistically significant and clinically meaningful improvements in OS, PFS and ORR versus chemotherapy (the treatment of physician’s choice [TPC] of doxorubicin or paclitaxel). The long-term clinical and economic value of PEM+LEN needs to be understood. The objective of this study was to assess the cost-effectiveness of PEM+LEN vs chemotherapy for previously treated aEC patients in Sweden.

Methods: A three-state partitioned survival model (progression free, progressed disease, and death) was developed. The proportion of patients in each health state was estimated using the area under the curve based on KN-775 OS and PFS data, to which costs/benefits from a Swedish healthcare perspective were applied over a lifetime horizon. OS, PFS, time-on-treatment, adverse event, and EQ-5D utility data were obtained from KEYNOTE-775. Treatment acquisition, administration, resource use and adverse events were obtained from Sweden. A 3% discount rate was applied. Sensitivity analyses were conducted.

Results: Treatment with PEM+LEN resulted in an increase of 1.96 Life-years (LYs), 1.42 quality-adjusted life-years (QALYs), and SEK 1,180,044 in costs vs chemotherapy (TPC). The incremental cost-effectiveness ratio for PEM+LEN vs chemotherapy was 828,569 SEK/QALY-gained. Cost-effectiveness results were sensitive to OS/time-on-treatment extrapolations, and adjustments for subsequent therapies.

Conclusions: Model-based analysis suggests that PEM+LEN extends life-years and QALYs over chemotherapy, and can be considered cost-effective compared with chemotherapy at a willingness-to-pay threshold of SEK 1-million in Sweden.
ENDOMETRIAL CANCER (EC): LYMPHOVASCULAR SPACE INVASION (LVSI) AND LYMPH NODE METASTASIS (LNM) ACCORDING TO MOLECULAR SUBGROUPS

E-POSTER VIEWING

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Objectives: To evaluate the distribution of LVSI and LNM according to the EC molecular classification.

Methods: Patients with EC surgically treated were retrospectively analyzed. Tumor grade and histologic subtype were assessed by HE technique. MMR and p53 status were assessed by IHC in all patients. POLE was sequenced in 6 LCN G3 patients. Chi-square test was adopted for categorical data. Odds-ratio was adopted to evaluate association.

Results: 70 consecutive patients entered the study: endometrioid type was found in 61 (87.1%); G1-2 in 44 (62.9%) and G3 in 26 (37.1%) patients, respectively. Molecular profiling classified 3 (4.3%) as POLE-ultramutated, 34 (48.6%) as LCN, 22 tumors (31.4%) as MMRd and 11 (15.7%) as p53-mutated. LVSI was found in 18 (25.7%) patients: 0/3 (0%) u-POLE, 6/34 (17.6%) LCN, 6/22 (27.3%) MMRd and 6/11 (54.5%) p53-mutated (p = 0.07). LNM were present in 17 (24.3%) cases: 0/3 (0%) u-POLE, 5/34 (14.7%) LCN, 5/22 (22.7%) MMRd and 7/11 (63.6%) p53-mutated (p < 0.01). MMRd vs LCN: OR 1.75 (95% CI 0.48-6.34, p=0.39) for LVSI and 1.70 (95% CI 0.43-6.75, p=0.44) for LNM.

Conclusions: The rate of LVSI and LNM showed a significantly increasing trend from u-POLE to p53-mutated. Among the MMRd and LCN molecular subtypes with intermediate prognostic impact, where the classical prognostic parameter may have a role, MMRd patients had a higher, although not significant, risk of LVSI and LNM. The reduced number of patients, which is one of the limit of the study may explain the lack of significance. Larger studies are suggested.
LOWER UTERINE SEGMENT INVOLVEMENT IN HIGH-GRADE ENDOMETRIAL CARCINOMA IS NOT INDEPENDENTLY ASSOCIATED WITH ADVERSE ONCOLOGICAL OUTCOME

E-POSTER VIEWING

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Objectives: To evaluate the association of lower uterine segment involvement (LUSI) in high-grade endometrial cancer (HGEC) with oncological outcome.

Methods: We performed a retrospective multi-center cohort study of consecutive women with HGEC stages I-III who underwent surgery in nine gynecological oncology centers in Israel. Recurrence-free and overall survival were compared between both groups. Univariate, Kaplan-Meier survival and Cox proportional hazard model analyses were used.

Results: Overall 432 women, 152 with and 280 without LUSI were followed for a median time of 35 months (interquartile range 17-71). Both groups were comparable in demographical and medical history characteristics. Cancer histological type did not differ between groups with uterine serous carcinomas and grade 3 composing 39.1% and 33.3% of the cohort. Carcinosarcoma and clear cell histology composed the rest. Women with LUSI had higher rates of ≥stage II disease (58.6% vs. 22.1%, p<0.001) and lower rate of lymphovascular space invasion (LVSI) (66.4% vs. 79.3%, p=0.003). LUSI was associated with an Odds Ratio for disease recurrence of 1.7 (95% Confidence Interval 1.1-2.6). Univariate survival analysis underlined shorter median overall survival among LUSI women (28 months vs. 41, p<0.001). Cox proportional hazards model adjusted for LVSI, age, disease stage and chemotherapy demonstrated that LUSI was not independently associated with decreased OS.

Conclusions: In women with HGEC, the presence of LUSI is not an independent poor prognostic factor.
THE PROGNOSTIC IMPACT OF LOWER UTERINE SEGMENT INVOLVEMENT IN WOMEN WITH
LOW-RISK ENDOMETRIAL CARCINOMA: A MULTICENTER STUDY

E-POSTER VIEWING

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Objectives: To study whether lower uterine segment involvement (LUSI) correlates with oncological outcomes in women with stage IA endometrial carcinoma with low risk features.

Methods: We performed a retrospective multi-center cohort study of consecutive women with stage IA EC, who underwent complete surgical staging in eight gynecologic oncology centers in Israel. We included only women with grade 1-2 endometrioid histology, with negative lymphovascular space invasion, and those who did not receive adjuvant therapy. Univariate analysis, Kaplan-Meier survival and Cox proportional hazard models analysis were used to compare survival outcomes between women with and without LUSI.

Results: We identified 283 cases for analysis. LUSI was diagnosed in 25 (8.8%). Media follow up was 72 months (interquartile range 40-144). There were no significant differences between both groups with regard to the following parameters: age, medical history, duration of symptoms, tumor grade and time from diagnosis to surgery. Overall 5-year survival and 5-year progression free survival were similar between the groups (log rank test p=0.993, p=0.244, respectively). Recurrence rate did not differ between groups (0% in LUSI vs. 5.0% in No LUSI groups, p=0.614). In Cox regression model adjusting for age, comorbidities and tumor grade – LUSI was not associated with overall survival (p=0.556).

Conclusions: In women with stage IA EC with low-risk features, the presence of LUSI does not correlate with oncological outcome. LUSI as a sole finding should probably not dictate a decision upon adjuvant management in this low-risk population.
MINIMALLY INVASIVE APPROACH IN ENDOMETRIAL CANCER WITH LOWER UTERINE SEGMENT INVOLVEMENT IN ≥ STAGE II: IS IT SAFE?

E-POSTER VIEWING

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Objectives: To compare survival outcomes between women with stages II-IV endometrial carcinoma (EC) with lower uterine segment involvement (LUSI), staged by minimally invasive surgery (MIS) and those staged by laparotomy.

Methods: A retrospective multi-center cohort study of nine gynecologic-oncology centers. Univariate analysis, Kaplan-Meier survival and Cox proportional hazard models analysis were performed to compare women surgically staged by MIS and those operated by laparotomy in different stages and histology of EC.

Results: Over a median follow-up period of 3 years (interquartile range, 1.5-6 years) 212 women were included, 68 (32.1%) were surgically staged by MIS. Stages of disease among the study cohort were stages II, III and IV, 32.1%, 51.9%, and 16.0%, respectively. Stage distribution did not vary between MIS and laparotomy groups (p=0.144). High-grade histology was less common in MIS group (44.1% vs. 67.4%, p<0.001). Adjuvant radiation and chemotherapy rates were comparable. Recurrence (local and distal) rate did not differ between groups (44.1% MIS vs. 31.9% laparotomy, p=0.084). Local recurrence rate was higher in MIS group (32.4% vs. 18.1%, p=0.023). Overall survival and local recurrence-free survival were similar in both groups (log rank test p=0.08, p=0.33, respectively). In Cox regression model adjusting for age, comorbidities, tumor grade, disease stage and adjuvant therapy, route of surgery (MIS vs. laparotomy) was not associated with overall survival (p=0.169) or local recurrence (p=0.296).

Conclusions: In women with stage II-IV EC with LUSI, MIS was associated with higher local recurrence rate, yet overall survival was comparable between patients with MIS and laparotomy, regardless of adjuvant therapy.
THE STUDY OF SOME CLINICO-GENETIC CHARACTERISTICS IN PREGNANT WOMEN WITH UTERINE LEIOMYOMAS

E-POSTER VIEWING

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Objectives: Uterine leiomyomas (ULs) are common among pregnant women. Besides numerous investigations, the relationship between ULs and adverse pregnancy outcome is not clearly understood until now. Notably, the majority of fibroids do not change their size during pregnancy, but one-third may grow in the first trimester, also may cause multiple complications.

Methods: We evaluated some clinical variables, including the following: the patient age, the size and number of uterine fibroids, serum levels of Anti-TPO, Ft4, TSH, Glucose, Antiphospholipid Antibodies and Ferritin. Also, we investigated the fetus risk for trisomies of 13, 18, and 21 chromosomes. In present study, we included 20 pregnant women (10 with leiomyomas (ages - 37 ± 2,334) and 10 without leiomyomas (ages - 38 ± 3,44)). P < 0.05 was regarded as statistically significant.

Results: Our study suggested that ULs are associated with hypothyroidism in pregnant women with ULs. Notably, our studies show that all fetuses are non-affected, according to trisomies.

Conclusions: In conclusion, we have thought that the hypothyroidism may some role in ULs.
CLINICAL AND PATHOLOGICAL FEATURES OF ENDOMETRIAL CANCER PATIENTS WITH DNA MISMATCH REPAIR DEFICIENCY TREATED AT A BRAZILIAN CANCER HOSPITAL

E-POSTER VIEWING

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Objectives: Identification of DNA mismatch repair (MMR) deficiency has been proposed as a screening strategy for Lynch Syndrome (LS) in endometrial cancer (EC) patients and is useful in predicting tumor sensitivity for immune checkpoint blockade therapies. The proportion of EC with MMR deficiency is reported to be 26%, and around 3% of EC may be attributed to LS. The present study aims to identify clinicopathological features of EC patients tested for tumoral MMR expression in a Brazilian cancer center.

Methods: 479 patients treated for EC from 2010 through 2020 at Instituto do Câncer do Estado de São Paulo (ICESP) had their tumors analyzed by immunohistochemistry for MLH-1, MSH-2, MSH-6 and PMS-2. Clinical and pathological information from these cases were retrieved using a REDCap database and statistics were calculated using the SPSS software.

Results: From the 479 cases analyzed, 453 resulted in conclusive immunostainings for MMR enzymes: 305 (67%) were MMR proficient (pMMR) and 148 (33%) were MMR deficient (dMMR). Results comparing the two groups are shown in Table 1.
Conclusions: In this population, dMMR EC had a higher prevalence than previously reported. Detection of germline mutation is necessary to investigate whether LS is more prevalent. Clinical aspects did not differ between groups. Lymphvascular space invasion was more frequent in the tumors of the dMMR

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<th>Table 1. Clinicopathological features according to MMR expression</th>
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<td><strong>pMMR</strong></td>
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<tr>
<td>Average age at diagnosis (min-max)</td>
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<td>Average body mass index (min-max)</td>
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group, whereas aberrant p53 immunostaining was more prevalent in the pMMR group. Mortality was significantly higher in the dMMR group.
METFORMIN USE AMONG DIABETIC WOMEN AND ENDOMETRIAL CANCER SURVIVAL: AN ISRAELI GYNECOLOGIC ONCOLOGY GROUP STUDY

E-POSTER VIEWING

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Objectives: Diabetes mellitus is a risk factor for the development of endometrial hyperplasia and endometrial carcinoma (EC). We aimed to evaluate the association between metformin use and oncologic outcome in diabetic women with EC.

Methods: A retrospective multi-center cohort study of diabetic women with EC treated in nine gynecologic oncology centers between 2000-2014. Univariate, Kaplan-Meier survival and Cox proportional hazard model analyses were performed to compare survival outcomes between women treated with metformin and those who were not.

Results: A total of 577 diabetic women with EC were included, 330 (57.2%) were treated with metformin and 247 were not. There was no difference between the groups in terms of age, hypertension, statin use, hormonal replacement therapy use, disease stage, grade, lymphovascular space invasion (LVSI) or median follow up time. Women treated with metformin were more likely to have positive abdominal fluid cytology and be operated by minimally invasive route (Odds Ratio [95% Confidence Interval]: 2.8 [1.1-7.2] vs. 1.6 [1.1-2.3], respectively). Median follow up was 53 months (interquartile range 20-91). Recurrence rate did not differ between study groups (p=0.267). Cox proportional hazards model adjusted for age, disease stage, grade, LVSI, radiation therapy and chemotherapy, demonstrated comparable progression free survival and overall survival between diabetics who used metformin versus those who did not (p=0.486, p=0.194, respectively).

Conclusions: Metformin use did not influence prognosis in diabetic women with EC. Large prospective studies to elucidate the association of metformin and oncological outcomes in diabetic subgroups of women with EC are of need.
Objectives: Robotic hysterectomy and sentinel lymph node biopsy (SLNB) using Indocyanine green is an effective and safe alternative treatment for patients with endometrial cancer.

Methods: A single-institutional retrospective study was performed including all patients with intermediate-risk endometrial cancer who underwent robotic hysterectomy plus SLNB using ICG between January 2020 and April 2021. Surgical outcomes of these patients regarding lymphoedema and lymphocele formation were compared in a retrospective manner with outcomes of endometrial cancer patient that underwent abdominal hysterectomy and complete pelvic lymph node dissection.

Results: In total from January 2020 until April 2021, 15 patients were surgically treated for intermediate endometrial cancer with robotic hysterectomy and SLNB using ICG. Their outcomes were compared with those who underwent abdominal hysterectomy plus pelvic lymph node dissection for endometrial cancer (30 patients). Regarding oncological outcome, 8 out of 15 patients of robotic group were treated for endometrioid endometrial cancer stage IB low grade without LVSI, while the rest of them had endometrioid endometrial cancer stage IA high grade. None of the included patients had metastases to the sentinel lymph node. Regarding the complications, none of the robotic group patients suffered from lymphoedema or lymphocele formation, while in abdominal group 1 out of 30 suffered from lymphoedema and 5 from lymphocele formation.

Conclusions: Although our small experience, according to our results robotic hysterectomy in combination with SLNB is a feasible treatment that can be used in treatment of patients with intermediate endometrial cancer with same or even better long term results regarding lymphatic drainage.
**Objectives:** The prevalence of Endometrial Cancer (EC) progressively increases with age, therefore, with the general aging of the population, we will have to treat a rising number of patients defined as “elderly”. The main study goal was to assess the overall detection rate, the bilateral mapping, and the mapping failure rate in elderly patients, and to evaluate SLN anatomical distribution and predictors for mapping failure.

**Methods:** A cohort of patients with apparently early-stage EC undergoing SLN biopsy between May-2015 and March-2021, in 4 Italian referral Cancer-Center, were retrospectively retrieved. The study population has been divided into women under and over 65 (Group-1 and 2).

**Results:**
Eight-hundred-forty-four women were enrolled (group 1: 449, group 2: 395). A 1.280-fold increase in the risk of failed mapping per 10-year-old increase (OR: 1.280, p=0.001) and a decrease of both overall detection rate and bilateral mapping were found (respectively OR: 0.726, p=0.006 and OR 0.781, p=0.001) (Figure1). A decreased SLN mapping along the “uncommon sites” was noted in older women (left hemiplevis: 15.7% vs 7.1%, p <0.001; right hemiplevis 13.2% vs 8.6%, p =0.058) (Figure2).

**Conclusions:** Age represented an independent predictor of unsuccessful mapping and affects the anatomical distribution of the SLN leading to a stepwise reduction of “uncommon” mapping sites.
TP53 MUTATIONS DIFFERENTIALLY AFFECT PROGNOSIS OF ENDOMETRIAL CANCER: AN IN-SILICO APPROACH

E-POSTER VIEWING

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Objectives: The Cancer Genome Atlas cohort of endometrial carcinoma (TCGA-UCEC) consists of 40.3% (214/530) of TP53-mutants. TP53 mutation-spectrum consists of missense and truncated mutations yielding loss-of-function/gain-of-function (GOF) and only loss-of-function effects, respectively. Of the four TCGA-defined molecular categories, namely, prognostically superior POLE, MSI, 'copy number low' and prognostically worst 'copy number high', the last includes TP53-mutants. We have compared progression free survival (PFS) among missense, truncated and most frequent GOF TP53-mutants, in the context of overlapping mutations in POLE and/or MSI-specific genes.

Methods: Our study is based on mutation-analysis from TCGA-UCEC categorizing cases into TP53-mutants, POLE-mutants and MSI-specific gene-mutants. Mutational overlap is termed as ‘mixed’. MSI-status is based on mutations in MSH2/MSH3/MSH6/MLH1/MLH3/PMS1/PMS2.

Results: PFS of TP53 truncated-only (n=37) and TP53 truncated-mixed (group-A) (n=12) differed significantly (p,log-rank=0.013) unlike that among TP53 missense-only (n=123), TP53 truncated-only, and TP53 missense-mixed (n=21) (p,log-rank=0.305). GOF TP53 Y220C (group-B) (n=6) depicted better PFS. There was no difference in PFS of group-A or group-B from those having POLE mutated wild-type TP53 (group-C) (p,log-rank=0.582) (n=9). Together, group-A and group-B showed lower risk (HR=0.087; 95\%CI = 0.012 - 0.638; p=0.016) and better PFS compared to other TP53 mutations (p,log-rank=0.010).

Conclusions: Clinically, group-A and group-B behave like group-C, having better prognosis. Therefore, these patients may escape adjuvant therapy despite their TP53-mutant status. The subset of cases who would benefit from this comprise 8.41\% (group-A + group-B = 18/214*100) of the TP53-mutant cases or 3.39\% (group-A + group-B = 18/530*100) as opposed to the repoetedly acclaimed 1.69\% (group-C = 9/530*100) of total cases.
SURVIVAL OUTCOMES IN ENDOMETRIAL CANCER PATIENTS HAVING LYMPHADENECTOMY, SENTINEL NODE MAPPING PLUS BACK-UP LYMPHADENECTOMY AND SENTINEL NODE MAPPING ALONE

E-POSTER VIEWING


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Objectives: Sentinel node mapping (SNM) has replaced lymphadenectomy for staging surgery in apparent early-stage endometrial cancer (EC). Here, we evaluate the long-term survival of three different approaches of nodal assessment in low, intermediate, and high-risk EC.

Methods: This is a multi-institutional retrospective study evaluating long-term outcomes (at least 3 years of follow-up) of EC patients having nodal assessment between 2006 and 2016. In order to reduce possible confounding factors, we applied a propensity-matched algorithm.

Results: Charts of 940 patients were evaluated: 174 (18.5%), 187 (19.9%), and 579 (61.6%) having SNM, SNM followed by backup lymphadenectomy and lymphadenectomy, respectively. Applying a propensity score matching algorithm (1:1:2) we selected 500 patients: 125 SNM vs. 125 SNM plus backup lymphadenectomy vs. 250 lymphadenectomy. Baseline characteristics of the study population were similar between groups. The prevalence of nodal disease was 14%, 16%, and 12% in patients having SNM, SNM followed by backup lymphadenectomy and lymphadenectomy, respectively. Overall, 19 (7.6%) patients were diagnosed with low volume nodal disease (7 and 12 patients with micrometastasis and isolated tumor cells). The mean (SD) follow-up time was 62 (±11) months. The survival analysis comparing the three techniques did not show statistical differences in terms of disease-free (p=0.750) and overall survival (p=0.899). Similarly, the type of nodal assessment did not impact survival outcomes after stratification on the basis of uterine risk factors.

Conclusions: SNM provides similar long-term oncologic outcomes than lymphadenectomy. Further evidence is warranted to assess the prognostic value of low-volume disease detected by ultrastaging and the role of molecular/genomic profiling.
TOTAL HYSTERECTOMY FOR UNEXPECTED UTERINE LEIOMYOSARCOMA: IMPACT OF SURGERY ON ONCOLOGICAL OUTCOMES.

E-POSTER VIEWING

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Objectives: To evaluate the impact of preoperative diagnosis of malignancy on survival in patients surgically treated for apparent early-stage uterine leiomyosarcoma (ULMS).

Methods: Data of consecutive patients who underwent total hysterectomy at Del Ponte Hospital, (Varese-Italy) between January 2000 and December 2019 were retrieved. Only cases with histologically proven ULMS at final diagnosis were included and stratified according with the preoperative finding of malignancy into: “Suspicious ULMS” vs. “unexpected ULMS”. Demographic, pathologic and surgical-related characteristics were compared. Survivals curves were estimated with Kaplan-Meier methods and predictors of recurrence were investigated.

Results: Overall 36 patients ULMS were included, 24 and 12 “unexpected ULMS” and “suspicious ULMS”, respectively. No significant differences between the groups in terms of baseline characteristics and surgical approach (minimally-invasive approach: 3, 25% vs. 15, 62.5%, p=0.08) were found. The morcellation of the uterus was less likely performed in patients in “suspicious ULMS” (18, 33% vs.14, 58.33%; p=0.005). The survival analysis did not show statistical differences between the groups. No differences in survival (DFS (log-rank=0.28) and OS (log-rank=0.78). Details on recurrence are reported (Table1). No predictors of relapse were found, including uterine morcellation (41.67% vs. 66.67%, p=0.15).

Conclusions: Patients undergoing hysterectomy for ULMS have poor prognosis regardless the surgical approach. In our population, preoperative suspicious of malignancy did not influence survival outcomes and morcellation did not seem to have a detrimental effect on recurrence rate. Larger studies are warranted to confirm our findings.
### Recurrence pattern: Suspicious vs. Unexpected

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<th>Suspicious</th>
<th>Unexpected</th>
<th>p value</th>
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<td>21 (58%)**</td>
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<td>14 (57%)**</td>
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<td>3 (9%)**</td>
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<td>Distant recurrence</td>
<td>13 (36%)**</td>
<td>3 (9%)**</td>
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<tr>
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<td>11 (30%)**</td>
<td>3 (9%)**</td>
<td>0.70</td>
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<tr>
<td>Nodal recurrence</td>
<td>2 (5%)**</td>
<td>1 (3%)**</td>
<td>0.36</td>
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<tr>
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<td>11 (30%)**</td>
<td>2 (6%)**</td>
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<tr>
<td>Adjuvant therapy (OR)</td>
<td>25 (64%)**</td>
<td>10 (28%)**</td>
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</table>

### Recurrence pattern: Laparoscopic vs. Open Surgery

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<th>Open surgery</th>
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<td>21 (58%)**</td>
<td>9 (28%)**</td>
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<td>Single recurrence</td>
<td>16 (57%)**</td>
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<tr>
<td>Distant recurrence</td>
<td>13 (36%)**</td>
<td>4 (13%)**</td>
<td>0.15</td>
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<tr>
<td>Pulmonary recurrence</td>
<td>11 (30%)**</td>
<td>4 (13%)**</td>
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<tr>
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<td>Pelvic-portal recurrence</td>
<td>11 (30%)**</td>
<td>7 (21%)**</td>
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<td>Adjuvant therapy (OR)</td>
<td>29 (83%)**</td>
<td>14 (41%)**</td>
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DEMONSTRATION OF A LEARNING CURVE IN THE INITIATION OF SENTINEL LYMPH NODE MAPPING IN ENDOMETRIAL CANCER IN A WELSH TERTIARY GYNAE CANCER CENTRE

E-POSTER VIEWING

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Objectives: To audit the outcomes of sentinel lymph node mapping in a Welsh cancer centre, in order to demonstrate a sufficient learning curve to adopt sentinel lymph node biopsy as the mainstay of surgical lymph node mapping in endometrial cancer.

Methods: There are no current standards against which to audit the departments learning curve for adoption of sentinel lymph node mapping as endometrial cancer staging. We identified published quality indicators for sentinel lymph node mapping – including <5% false negative rate, >20 cases per surgeon performing the procedure, successful bilateral mapping in >50% of cases. Our local gynae oncology database was searched to identify all cases of sentinel lymph node dissection for endometrial and cervical cancer. Data from the gynae oncology database and the patients electronic clinical record was then collated and analysed using excel.

Results: 43 patients were identified having undergone a sentinel lymph node biopsy +/- lymphadenectomy for endometrial or cervical cancer. Bilateral sentinel lymph nodes were mapped in 67.4% of cases. In the first 21/43 patients 57.1% were mapped, comparative to 77.3% in latter 22/43 patients. 38 sides with successful lymph node mapping and lymphadenectomy were identified. Sentinel lymph nodes had a 33% sensitivity for identifying lymph node metastasis in the first half of the data set comparative to 100% in the latter half.

Conclusions: The data demonstrated a significant learning curve, within the department, in the successful mapping of sentinel lymph nodes in endometrial cancer.
RETROSPECTIVE DATA ANALYSIS OF HOSPITAL SANTA MARCELINA, SAO PAULO-SP, BRAZIL

E-POSTER VIEWING

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Objectives: Evaluate the epidemiological aspects of patients with endometrial cancer, based on statistics from the Oncology Gynecology Center of Santa Marcelina Hospital in Sao Paulo, Brazil between 2011 to 2018.

Methods: Evaluate the epidemiological aspects of patients with endometrial cancer (EC), based on statistics from the Oncology Gynecology Center of Santa Marcelina Hospital in Sao Paulo, Brazil between 2011 to 2018.

Results: The median age at diagnosis was 63 years and the diagnosed cases were predominantly white ethnicity (51%). Bleeding after menopause was the most frequent symptom reported (77.8%). Among the cases analyzed, 36 nulliparous patients presented endometrial cancer (15%). The most prevalent histological type was endometrioid adenocarcinoma (66.1%). The most frequent tumor staging was IA with 30.9%, followed by IB 18.83%, II 2%, IIIA 8%, IIIB 9.2% IIIIC1 4.6%, IIIIC2 6.69%, IVA 0.42% and IVB 16.74%. Surgical staging with hysterectomy and bilateral adnexectomy represented 76.9% and the most frequent adjuvant treatment was brachytherapy (53.1%). Seventy patients underwent brachytherapy and pelvic radiotherapy (29.9%) and 38 patients underwent adjuvant brachytherapy, radiotherapy and chemotherapy as an adjuvant (15.9%). An overall survival rate of 65% and a mortality rate of 29% over the 5-year period have been identified.

Conclusions: EC is the eighth most frequent gynecological tumor in Brazil. Data analysis allowed to corroborate the most common clinical symptom and the frequent histological type in the literature. This neoplasm classically presents early symptoms and curative treatment, however the data analysis shows a high death rate and diagnosis of advanced disease. So, the endometrioid type, doesn’t have the best prognosis always and needs a better molecular analysis to optimize therapy, to reduce mortality.
THE TUNISIAN COUNTRY-SPECIFIC GUIDELINES FOR ENDOMETRIAL CANCER

E-POSTER VIEWING

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Objectives: Endometrial cancer is the second gynecologic cancer. The varying tumors profile from country to country and the difference in the means available in each country have raised the need for a country-specific guideline. We aim to Present the Tunisian guideline for endometrial cancer.

Methods: All relevant international and national scientific literature available from 2016 to 2021 was used to establish this guideline.

Results: This guideline was made by the Gynecologic Oncology Multidisciplinary team of the National Cancer center. Three questions were asked. What is the actual state of the art? Could it be applied in our country? If not, can we adapt the guideline to our reality?. During the consensus, the panel tried to cope between the actual state of the art and the Tunisian Field reality. The main limitations were the Distant radiation appointment, the patient loss to follow up, and the non-systematic use of biological markers. The 2009 FIGO classification was used to stage our patients. For stage I disease, The ESMO 2016 risk classification was used to stage our patients. For stage I disease, The ESMO 2016 risk classification was used. One preoperatory and composed of three levels of risks low, intermediate, and high risk. The other classification is post-operatory and comprises low, Intermediate, high-intermediate, and high-risk levels. Based on this Data and our country reality panel developed recommendations.

Conclusions: A country-specific guideline based on the international state of the art is more effective to offer the best quality of care available to our patients. It would also point to the lack and what needs to be done to keep on improving the health system.
MULTICENTRIC PREDICTIVE SCORE VALIDATION FOR NODAL ASSESSMENT IN ENDOMETRIAL CANCER PATIENTS: PRELIMINARY DATA.

E-POSTER VIEWING

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¹University of Parma, Department Of Medicine And Surgery, Parma, Italy, ²University of Palermo, Department Of Gynecologic Oncology, Arnas Civico Di Cristina Benfratelli, Palermo, Italy, ³Università Cattolica del Sacro Cuore, Department Of Woman And Child Health And Public Health, Woman Health Area, Fondazione Policlinico Universitario A. Gemelli Irccs, Roma, Italy, ⁴IRCCS Sacro Cuore Don Calabria Hospital, Gynecologic Oncology, Minimally-invasive Pelvic Surgery, International School Of Surgical Anatomy, Negrar, Italy, ⁵University of Verona, Department Of Obstetrics And Gynecology, Verona, Italy

Objectives: Sentinel lymph node (SLN) is considered the standard of care in early-stage endometrial cancer (EC) patients. In case of SLN failure, a side-specific lymphadenectomy of the no mapping hemipelvis is recommended. Nevertheless, most hemipelvis lymphadenectomies showed no nodal involvement. Previously, we published a preoperative predictive score of nodal involvement. In case of a negative score (value 3-4), the risk of nodal metastases was extremely low. The present multicentre study aims to validate the predictive score of nodal involvement in patients undergoing nodal assessment.

Methods: EC patients undergoing surgical treatment with nodal staging were included in the analysis. A preoperative predictive score of nodal involvement was calculated for all patients before surgery was performed. The score included myometrial infiltration, tumor grading (G), tumor diameter, and Ca125 assessment. STARD (standards for Reporting Diagnostic accuracy studies) guidelines were followed for the score accuracy.

Results: 1038 patients were included in the analysis and 155 (14.9%) nodal metastases were detected. The score was negative (3 and 4) in 475 patients and positive (5-7) in 563 cases. The score showed 83.2% sensitivity, 50.8% specificity, 94.5% negative predictive value, and 55.7% diagnostic accuracy. The area under the curve (AUC) was 0.75. The logistic regression between negative score and absent nodal metastases showed OR 5.133, 95% CI (3.30-7.98), p <0.001.

Conclusions: The nodal preoperative predictive score is a fair diagnostic test. The risk of nodal metastasis is extremely low in case of negative score. In SLN failure, the application of the present score associated with SLN algorithm could avoid unnecessary lymphadenectomies.
Acceptability of bariatric surgery in young women with endometrial cancer and atypical endometrial hyperplasia: a qualitative study

E-poster viewing

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1Princess Margaret Cancer Centre/University of Health Network/Sinai Health Systems, Gynecologic Oncology, Toronto, Canada, 2St. Michael's Hospital/Unity Health Toronto, Obstetrics & Gynecology, Toronto, Canada, 3University of Toronto, Dalla Lana School Of Public Health, Toronto, Canada

Objectives: Endometrial cancer (EC) or atypical hyperplasia (AH) in young women with obesity is often the first significant obesity-related comorbidity they experience. Significant, sustained weight loss through bariatric surgery may result in a durable response by addressing obesity directly, and subsequently improve oncologic and reproductive outcomes. However, it is not known whether bariatric surgery is acceptable to this patient population.

Methods: We performed a qualitative study to understand the acceptability of bariatric surgery among women of reproductive age with BMI ≥ 35 and grade 1 EC/AH. Semi-structured interviews were used to explore participant perceptions towards their weight, fertility, and the possibility of bariatric surgery as part of the treatment strategy for their EC/AH.

Results: Eleven participants with median age of 33 years (range 27-38) and BMI of 42.1 (35.1-56.9) were interviewed. Two (18%) participants had grade 1 EC, and 9 (82%) had AH. Patients were reluctant to accept bariatric surgery as a treatment option due to 1) lack of knowledge about the procedure, 2) stigma attached to bariatric surgery, and 3) fear of the unknown. The desire to conceive was highlighted as the strongest motivator for patients to consider bariatric surgery. Their perception towards their weight, fertility and diagnosis of EC/AH were characterized by concepts of 'helplessness', 'isolation', 'frustration' and 'guilt'. We observed a significant gap in participant understanding of the complex interplay between their cancer, fertility and obesity.

Conclusions: We need to provide patient-oriented counseling on implication of their weight on their cancer and fertility, before presenting bariatric surgery as a treatment option.
LIVE BIRTH, REMISSION AND RELAPSE RATES FOR FERTILITY-PRESERVING TREATMENTS OF ENDOMETRIAL ADENOCARCINOMA: A SYSTEMATIC REVIEW AND META-ANALYSIS

E-POSTER VIEWING

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Objectives: Endometrial adenocarcinoma affects over 380,000 women annually, with increasing incidence primarily driven by obesity. 5-7% of women are below 45 years at diagnosis, and many of these desire fertility-preservation rather than standard surgical treatment. This updated review aims to inform decision making in clinical practice, by evaluating the efficacies of different fertility-preserving treatments on the live birth, regression and relapse rates for women with endometrial carcinoma desiring fertility.

Methods: A systematic search was performed of Medline, Embase, Central, & Cochrane, to identify studies describing fertility-preserving treatment for endometrial cancer. Patients were divided into 3 treatment groups: systemic progestogens, intra-uterine progestogens, or hysteroscopic resection with adjuvant progestogen. A random-effects meta-analysis model was used.

Results: 41 observational studies met inclusion criteria, with 1057 patients in total. The proportion of women receiving systemic progestogens who achieved a live birth was 18.1% (95% CI 12.6–23.7%), remission 71.5% (95% CI 66.5–76.4%) and relapse 20.3% (95% CI 13.1–27.4%). For intra-uterine progestogens, the proportion achieving a live birth was 13.3% (95% CI 11.1–15.5%), remission 65.9% (95% CI 53.0–78.8%) and relapse 2.86% (95% CI 0.0–9.16%). For hysteroscopic resection, the proportion achieving a live birth was 19.1% (95% CI 8.79–29.5%), remission 82.7% (95% CI 73.1–92.3%) and relapse 6.80% (95% CI 1.72–11.9%).

Conclusions: Although the quality of evidence is limited, these results demonstrate that hysteroscopic resection with adjuvant progestogen is associated with the highest rates of live birth and remission. This enables women considering such treatments to be fully counselled on the realistic possibilities of their desired reproductive and oncological outcomes.
OUTCOMES OF VARIOUS FERTILITY-SPARING OPTIONS FOR EARLY CERVICAL CANCER PATIENTS VERSUS ABDOMINAL RADICAL Hysterectomy: ONE CANCER CENTER TEN-YEAR EXPERIENCE

E-POSTER VIEWING

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Objectives: Cervical cancer (CC) is one of the most common malignant neoplasms and is diagnosed at the youngest middle age among all gynecological cancers. To examine the oncologic and reproductive outcomes of fertility-sparing surgery (FSS) compare to abdominal radical hysterectomy (ARH) in women with early stage CC.

Methods: Retrospective data were analyzed from 121 patients with IA2-IB1 and IIA1 CC stages treated at NN Alexandrov National Cancer Centre of Belarus from 2009 to 2018.

Results: A total of 83 patients met the FSS inclusion criteria. Thirteen patients were excluded. The rest of 70 patients were selected in FSS study (group 1). Patients were stratified for 3 types of FSS. The results of treatment in group 1 were compared with 51 patients (group 2), whom ARH was performed. Five-year overall survival and 5-year disease-free survival (DFS) were similar between the two groups – 93.1% (SE 4.0%) vs 98.0% (SE 2.0%), p=0.431; and 88.3% (SE 4.2%) vs 92.1% (SE 3.8%), p=0.594, respectively. Similarly, 5-year DFS rate were comparable between groups for all the stages examined. During follow-up 9 pregnancies were achieved in 6 patients. Most pregnancies (6/9, 66.7%) and all deliveries (4) occurred in the ultraminimal FSS subgroup whose patients underwent amputation and pelvic lymphadenectomy.

Conclusions: Within this population of early CC patients, equivalent oncologic outcomes have been achieved for FSS group were ultraminimal and minimally invasive approaches were used to compare with ARH group. The fertility-preserving procedure had clear advantages of less invasive access surgery in terms of reproductive outcomes compared to ART.
PERFORMANCE CHARACTERISTICS OF BRIEF FAMILY HISTORY QUESTIONNAIRE TO SCREEN FOR LYNCH SYNDROME IN WOMEN WITH NEWLY DIAGNOSED OVARIAN CANCERS

E-POSTER VIEWING

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Objectives: Ovarian cancer (OC) is the third most common Lynch syndrome (LS)-associated cancer in women but there is no established screening strategy to identify LS in this population. We have previously validated the 4-item brief Family History Questionnaire (bFHQ) in endometrial cancers. The objective of this study was to assess whether bFHQ can be used as a screening tool to identify women with OC at risk of LS.

Methods: In this multicenter prospective cohort study, women with OC completed bFHQ, extended Family History Questionnaire (eFHQ; encompassing Amsterdam II criteria, Society of Gynecologic Oncology 20-25% criteria and Ontario Ministry of Health criteria), immunohistochemistry (IHC) for mismatch repair (MMR) proteins and universal germline testing for LS. Performance characteristics were compared between bFHQ, eFHQ, and IHC.

Results: Of 215 participants, 169 (79%) were evaluable with both bFHQ and germline mutation status; 12 of these 169 were confirmed to have LS (7%). Nine of 12 patients (75%) with LS were correctly identified by bFHQ, compared to 6 of 11 (55%) by eFHQ and 11 of 13 (85%) by IHC. The sensitivity, specificity, positive predictive values and negative predictive values of bFHQ were 75%, 66%, 15% and 98%. The 4-item bFHQ was more sensitive than eFHQ and took less than 10 minutes for each patient to complete.

Conclusions: Patient-administered bFHQ may serve as an adequate screening tool to triage women with OC for further genetic assessment for LS, especially in centers without access to universal tumor testing for IHC for MMR.
DYNAMICS OF THE INCIDENCE RATES FOR GYNECOLOGIC CANCER IN UZBEKISTAN

E-POSTER VIEWING

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Objectives: Estimate trends of change in cancer morbidity for cervix, uterine corpus, and ovaries of the female population of Uzbekistan over a 10-year period (2010-2020).

Methods: We collected cervical, uterine and ovarian cancer incidence data from official statistics in Uzbekistan for the years 2010–2020.

Results: For the period 2010-2020, there were 16,137 cases of cervical cancer, 5,772 cases of uterine cancer and 7,562 cases of ovarian cancer for the first time. During the analyzed period, more than 55% of cervical cancer cases, 70% of uterine cancer and more than 42% of ovarian cancer were registered at stages I–II. In 2010 there were 7,738 patients with cervical cancer, 5,253 patients with uterine cancer and 3,503 cases with ovarian cancer, meanwhile, in 2020 there were 9,125, 5,017, 4,391 cases with cervical, uterine and ovarian cancer accordingly. The maximum incidence rate of gynecologic cancer was observed at the age of 45-65 years. The proportion of stage I cervical cancer cases was highest in Namangan region (30.4%), of uterine cancer in Tashkent city (60.2%) and ovarian cancer in Andijan region (19.6%) compared with other regions.

Conclusions: Our results suggest constant increase in incidence rate of cervical, uterine and ovarian cancer in Uzbekistan. For the last 10 years percentage of I-II stages of cervical, uterine and ovarian cancer was not so high. Every year there is a tendency in increasing of patients with gynecologic cancer. But from 2021 to 2025, it is planned to screen 3,473,902 women for cervical cancer.
Objectives: Mismatch repair gene testing for patients with endometrial cancer assists in identifying suspected mutation carriers with Lynch syndrome. The purpose of this study is to examine the factors predictive of endometrial cancer patients’ adherence to genetic counseling referrals for genetic testing.

Methods: An IRB-approved retrospective study was conducted on eligible patients identified at multidisciplinary tumor boards between January 2016 to October 2019. Our primary outcome was genetic testing completion when recommended by a genetic counselor. Data collected included age at diagnosis, ethnicity, stage, metastasis, mismatched repair deficiency testing, presence of Lynch syndrome, and genetic counselor presence at the tumor board. We performed univariate analyses to test for group differences using the independent student’s t-test for age and Fisher’s exact test for categorical variables. We performed multivariable logistic regression to determine the independent odds of genetic testing, including age, metastasis, and stage.

Results: Our sample included 165 patients, and genetic testing was recommended for 30 (18.2%). Sixteen of the 30 (53.3%) patients recommended for testing adhered to the recommendation. As a result, three patients were diagnosed with Lynch syndrome. There was a significant difference in age between those tested versus those who did not get tested. On multivariable analysis, for every one year increase in age, the odds of genetic testing decreased. There was a trend toward reduced odds of genetic testing among patients with stage III/IV compared to I/II cancer.

Conclusions: Our findings suggest an opportunity to increase the genetic testing referral process for older patients and possibly those with more advanced disease.
GENETIC PROFILE BY WHOLE EXAM SEQUENCING OF BORDERLINE OVARIAN TUMORS: SERIES OF 32 PATIENTS

E-POSTER VIEWING

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Objectives: Borderline ovarian tumors are defined as non-invasive epithelial ovarian tumors which can have an intraperitoneal extension. Molecular studies have shown a correlation between the patient's response to chemotherapeutic treatments adjunct to surgery and the tumor's genetic profile, especially related to the KRASand BRAF genes. This study aims to assess the molecular profile of BOTs in the Lebanese population by Whole Exome Sequencing (WES) and correlate the results with patients' clinical profiles.

Methods: 33 tumors belonging to 32 Lebanese patients presenting with BOTs, diagnosed at Hôtel Dieu de France were included. A total of 234 genes involved in different germinal and somatic types of cancer were analyzed using Next Generation Sequencing in the 33 included tumors. Genetic variants detected in more than 5% of the reads, with a sequencing depth ≥ 50x, were selected.

Results: Among 33 tumors, 18 were serous, 12 mucinous and 3 seromucinous. Molecular analysis of tumors allowed us to detect mutations in genes involved in the MAP Kinase (MAPK) cascade and in the DNA repair mechanism. Our initial analysis revealed an association between defects in DNA Double-Strand Break repair and occurrence of mucinous BOT, in 75% of cases. Mutations affecting MAPK signaling pathway were detected in 46.9% of BOT.

Conclusions: Here we report the molecular profile of BOT in the Lebanese population. This is the first study associating the DNA repair pathway to BOT. The inclusion of further patients is essential to validate our hypothesis and to better delineate the mechanisms of the disease, thus allowing the implementation of targeted therapeutic approaches.
RELIABILITY, COSTS AND APPLICABILITY OF THE WHOLE BODY DEXA SCAN IN THE ASSESSMENT OF MUSCLE MASS AFTER RISK-REDUCING SALPINGO-OOPHORECTOMY IN BRCA1/2 PV CARRIERS

E-POSTER VIEWING

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Objectives: Sarcopenia is the quantitative and qualitative loss of skeletal muscle, which may be associated with acute surgical menopause after risk-reducing salpingo-oophorectomy (RRSO) in BRCA1/2 PV carriers. Magnetic Resonance Imaging (MRI) and Computed-Tomography (CT) are currently the golden standard to measure muscle mass. Dual Energy X-ray Absorptiometry (DEXA) is less costly with less radiation exposure. As there are no data on its intra- and inter-observer variability, the aim of this study was to establish if the DEXA scan could be a reliable alternative to CT or MRI in the analysis of muscle mass.

Methods: To assess inter- and intra-observer variability, DEXA scans of the lower extremities of women 10 or more years after RRSO were analyzed by two observers, who independently analyzed each scan twice. Information about costs and radiation dose from the DEXA, CT and MRI were collected from literature.

Results: DEXA scans of 34 women with a median age of 58.0 years (range 45.0-73.0) and a median BMI of 24.6 (range 18.0-47.2) were analysed. Inter-observer variability had an Interclass correlation coefficient (ICC) of 0.997 and acceptable limits of agreement. Intra-observer variability was also low: ICCobserver1: 0.998 and ICCobserver2: 0.997. Observer 1 had lower limits of agreement. Costs and radiation exposure were lower for DEXA than CT and MRI.

Conclusions: The assessment of muscle mass of the lower extremities with DEXA scan has a high reliability, is less costly and has a lower radiation dose than CT and MRI. DEXA scan may be a good alternative for measuring muscle mass to diagnose sarcopenia.
HIV TESTING IN CERVICAL DYSPLASIA, PRACTITIONERS' OPINION

E-POSTER VIEWING

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Objectives: Cervical dysplasia is an HIV indicator condition and according international recommendations HIV testing is strongly advised in women with cervical dysplasia, because the risk of an undiagnosed HIV is thought to be >0.1%. Therefore an HIV test should be offered to all women with cervical dysplasia. There is no literature about the opinion of Gynaecologist on HIV screening in patients with cervical dysplasia.

Methods: We sent an online questionnaire to gynecologist in South West Netherlands to investigate 1) what they know about this issue, 2) their opinion and willingness on active HIV testing for this cervical dysplasia.

Results: The questionnaire was sent to 103 gynaecologists of whom fifty-six participants replied (54%). Forty-eight (86%) think patients are not offended when HIV testing is offered and 50 (89%) have no difficulty to address HIV testing. Thirty-nine (70%) gynaecologist think that the prevalence of undiagnosed HIV infection is lower than 0.1% , and only seven (12,5%) accept HIV testing in case of a prevalence of 0.1% or less. Thirty-two (57%) are willing to test with a prevalence of 1% or higher.
Conclusions: To address and offer HIV testing seems not an issue for the gynaecologists questioned in our study. However, the willingness to routinely perform an HIV test for cervical dysplasia at the assumed 0.1% prevalence looks insufficient and differs from the recommendations of international policy makers. Discussion is needed to change the threshold or the willingness for testing.
DISPARITIES IN CERVICAL CANCER INCIDENCE IN NATIVE ASIANS VS. US ASIANS - A POPULATION ANALYSIS

E-POSTER VIEWING

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Objectives: To evaluate the incidence and trends of cervical cancer in native Asians compared to Asians in the United States.

Methods: Data were obtained from Taiwan Cancer Registry in Health and Welfare Data Center and United States Cancer Statistics between 2001 and 2017. SEER*Stat 8.3.8, Joinpoint regression program 4.8.0.1, Microsoft Excel calculated the age-adjusted incidence (AAI, per 100,000 women), age-specific incidence (ASI, per 100,000 women), and trends (average annual percent change, AAPC).

Results:

Compared to US Asians, native Asians had a significantly higher cervical cancer incidence at 7.8 vs. 5.1 per 100,000. Over time, the incidence in Taiwan is improving at a rate of 6% per year but remains high. Based on age groups, the incidence increased at a younger age in Whites (25-29 years) compared to an
older age in US Asians (30-34 years) and native Asians (35-39 years). Although new cases peaked in Whites and US Asians after age 40 and then plateaued in the older age groups, native Asians continued to have an increase into age 80. In fact, the incidence of cancer in native Asians age 85 and older was 53.6 vs. 12.7 in US Asians, a four-fold difference.

**Conclusions:** After age 40, cervical cancer incidence was increasing every 5-age years in native Asians while plateauing in the US. Native Asians aged 85+ years had a four-fold higher incidence of cervical cancer compared to age-matched US Asians. The lack of screening may explain these disparities.
Adequacy of Information Received for Patients Treated Overseas and Its Impact on Continuing Treatment and Follow-up

E-Poster Viewing

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Objectives: The gynaecological oncology service in Doha treats all women living in or visiting Qatar. Despite the quality and affordability of the service many women travel overseas for treatment or present following treatment overseas requesting further management. We frequently experience difficulties relating to the quality of information received regarding their management which makes follow up and ongoing treatment more challenging.

Methods: Patients discussed in the multidisciplinary team meeting over a 3yr period who received treatment overseas were identified. The electronic patient record was reviewed for each patient to assess the quality of the information received regarding the clinical management (investigations, operative reports, chemotherapy and radiotherapy treatments). Pathology information received was assessed in terms of availability of reports meeting minimum dataset criteria or provision of pathological specimen blocks.

Results: 15.1% of patients (n=129/850) discussed by the MDT sought treatment overseas between 4/2015 and 3/2018. Patients travelled to 28 different destinations. Most commonly U.S.A (15.7%), Philippines (15%), UK (10.5%) and Thailand (9.2%). 60% of patients provided no or poor pathology information. 19% had no formal and 29% had inadequate clinical information regarding treatment received. Only 32.6% (n=42) provided adequate clinical and pathological information.

Conclusions: The quality of information provided for patients travelling between different countries frequently falls below a level that is required for confident decision making regarding future management. Development of a recommended minimum dataset report to be used for such patients would be of significant value and is perhaps something that would appropriately be managed by the IGCS.
PATIENTS SEEKING GYNAECOLOGIC ONCOLOGY TREATMENT OVERSEAS: DOES IT MAKE A DIFFERENCE?

E-POSTER VIEWING

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Objectives: All gynecologic oncology patients in Qatar receive treatment recommendations according to guidelines developed after reviewing international best practice (e.g., NCCN; ESGO; BGCS guidelines) by our multidisciplinary team (MDT). However, despite a highly-regarded and highly-affordable or free national health service, many women travel overseas for treatment. We wished to investigate if the decision to travel resulted in any difference in treatment received, and whether that was of any benefit or harm to the patients.

Methods: We performed a retrospective review of all patients discussed in the MDT meeting over a 3yr period to identify those who received treatment overseas. The treatment received was reviewed for each case and compared with our MDT plan.

Results: Approximately 1 in 7 (15.1%) patients (n=129/850) discussed by the MDT sought treatment overseas between 4/2015 and 3/2018. Patients travelled to 28 different destinations, most commonly; U.S.A(15.7%); Philippines (15%); UK(10.5%) and Thailand(9.2%). 25% of patients received different treatment to that recommended by our MDT. One had been referred to an overseas centre due to the unusual nature of her disease. Two patients opted for unrecognized and unproven treatment by alternative practitioners. Many patients were subjected to unnecessary investigations, surgery, chemotherapy or radiotherapy.

Conclusions: Most women who travelled abroad received the same treatment to that recommended by the Qatar MDT. Commonly, where there was different treatment, we considered that treatment received was inappropriate according to our guidelines and international best practice. There was a tendency for patients to receive additional or unnecessary treatment after travelling.
THE IGCS PROJECT ECHO VIRTUAL TUMOR BOARD: REVIEW OF A PATHOLOGIST’S EXPERIENCE FROM THE FIRST 2 YEARS

E-POSTER VIEWING

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Objectives: This project aimed to summarize the experience of a mentor pathologist in the IGCS ECHO project virtual tumor boards, which utilize case-based analysis of patients using videoconferencing technology to connect physicians in low resource settings with international mentors.

Methods: All cases discussed by a single pathologist in the IGCS project ECHO virtual tumor board sessions from July 2019 to May 2021 were included. De-identified information was entered into a spreadsheet. Standard descriptive analysis was performed.

Results: Since July 2019, 50 virtual tumor board sessions were attended by one mentor pathologist. One to three cases were presented each session. A local site pathologist was present in 60% of sessions. Pre-meeting case details and microscopic images were emailed to mentor for 94% of sessions and 64% of cases, respectively. Pathologic diagnosis was included for 91% of cases. Mentor pathologist significantly contributed to the discussion of 71 (86%) cases. Cases discussed were primarily cancers of the ovary (n=30), cervix (n=23) and endometrium (n=10). Cancers of the uterus (n=4), vulva (n=4), vagina (n=2), fallopian-tube (n=1), germ cell tumors (n=4), pregnancy-related malignancies (n=3), and tuberculosis (n=1) were also reviewed. Case discussions were focused on tumor morphology, grading and accurate classification, prognostic factors, differential diagnosis, immunohistochemistry, appropriate tumor sampling, and the value of cytology. Appropriate references were suggested for review.

Conclusions: Participation of consultant pathologists in IGCS project ECHO virtual tumor boards significantly improves the quality of pathology data for clinical management and provides educational opportunities to physicians in low resource settings for better management of gynecological cancers.
ROLE OF PATHOLOGY CONSULTANT IN ADVANCEMENT OF DIAGNOSTIC ONCOLOGY IN UNDERSERVED COUNTRIES

E-POSTER VIEWING

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Objectives: Quality pathology assessment and reporting of gynecological cancers remains a significant challenge worldwide. Since 2019, the International Gynecological Cancer Society has been offering pathology support to underserved countries through monthly multidisciplinary conferences involving local and expert pathologists. We describe the format of this intervention.

Methods: An expert pathologist joins conferences at 3-5 sites from underserved countries and discusses the clinical management of challenging cases selected by local gynecologic oncologists. Local and expert gynecologic surgical oncologists participate at each meeting, with occasional participation from radiation oncologists. Local pathologists from two sites consistently participate in these conferences; only these two sites submit pathology images and reports for review by an expert pathology consultant, who provides feedback on the accuracy of the diagnosis and the completeness of the pathology report. Other sites provide only a summary of the pathology diagnosis for discussion. All discussed cases are recorded in an Excel spreadsheet and include details on the management recommendations and the diagnostic pathology reports.

Results: A pathology report remains a major challenge for local pathologists. The details important for tumor staging and management are often scarce or not present. The sites with involved local pathologists are starting to use International Collaboration on Cancer Reporting (ICCR) checklist for completeness of the report.

Conclusions: Successful collaboration between local pathologists and international consultants is the first step towards improving the quality of pathology at many sites. The involvement of the local pathologists in the multi-disciplinary conferences and the collaboration with expert pathology consultants is crucial for the advancement of diagnostic oncology in underserved countries.
GLOBAL ASSESSMENT OF GUIDELINES FOR BRCA1/2 GENETIC TESTING: CALL TO ACTION IN HEALTH EQUITY FOR WOMEN AND FAMILIES AT RISK FOR HEREDITARY OVARIAN CANCER

E-POSTER VIEWING

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Objectives: Personal and familial knowledge of genetic predispositions, especially BRCA1/2 deleterious mutations, have increasing implications in cancer prevention and outcomes. [1, 2] Lack of genetic testing is a barrier to global health equity. We explored the current state of genetic testing throughout the world and assessed regional variabilities.

Methods: Guidelines for BRCA testing were found in publications, position papers, and online documents that outline testing criteria through a non-systematic literature review conducted by two certified cancer genetic counselors. Six categories for testing BRCA were created to capture the wide breadth of testing standards worldwide (Table 1). [3-16]

Results: Worldwide variability in BRCA testing persists even in regions with codified guidelines. Even regions with the economic structure to support widespread testing and clearly defined guidelines, (i.e. United States and United Kingdom) are undertesting for BRCA. Accessibility of these guidelines alone poses a regional difficulty not only for public knowledge and awareness, but uniform practice among healthcare providers.

Conclusions: Global assessment of BRCA-directed guidelines are tremendously variable; therefore, formalized global guidelines are needed to expand access to testing, thereby improve health equity and patient outcomes. Lack of implementation even in Category-1 regions, highlights the need for greater awareness of guideline recommended care, and additional strategies to ensure optimized guideline adherence coverage.
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Region [3-16]</th>
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<tbody>
<tr>
<td>1</td>
<td>Places/regions that have formalized testing criteria – (i.e. US with NCCN, ACOG, USPSTF; UK with NICE)</td>
<td>United States of America, United Kingdom, Australia, China, Canada, Wales/Australia, India, France, Netherlands, Germany, South America, Mexico, Spain, Malasia, Norway, Colombia, Brazil</td>
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<tr>
<td>2</td>
<td>Places/regions that only do testing on a research/clinical – no defined national or professional criteria</td>
<td>Korea, Nigeria, Nepal, Saudi Arabia, Pakistan, Columbia, Japan, Northern Africa (excluding Libya, South Africa)</td>
</tr>
<tr>
<td>3</td>
<td>Places/regions where there is no indication testing is done</td>
<td>Russia, Qatar</td>
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<tr>
<td>4</td>
<td>Places/regions that are exploring population-based testing</td>
<td>United States of America, Canada, Australia, Israel</td>
</tr>
<tr>
<td>5</td>
<td>Inconclusive data / know doing research but can't find criteria</td>
<td>Philippines, Finland, Sweden</td>
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CHALLENGES IN HISTOPATHOLOGICAL DIAGNOSIS AND CLASSIFICATION OF PRIMARY UTERINE SARCOMAS IN A REGIONAL TERTIARY ONCOLOGY CENTRE OVER A 5 YEAR PERIOD.

E-POSTER VIEWING

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Objectives: We aimed to determine clinicopathological characteristics of uterine sarcomas and compare the initial histological diagnosis at a tertiary oncology centre with the expert opinion from a specialist sarcoma unit.

Methods: The histopathology electronic data base was searched using the key words "Uterine" and "Sarcoma". All clinical and histological characteristics were collected retrospectively. The expert pathology diagnosis was also collected, where available and compared with the initial opinion offered by our department.

Results: From January 2015 to January 2020 thirty seven patients were identified. Their median age was 61 years (23-82). Eighteen patients (48.6 %) had Leiomyosarcoma, 6 (16.2%) Low grade endometrial stromal sarcoma, 5 (13.5%) High grade endometrial stromal sarcoma, 3 (8.1%) Undifferentiated uterine sarcoma, 3 (8.1%) Rhabdomyosarcoma and 2 Adenosarcoma (5.4 %). In 19 (51.3%) cases a second expert review had been sought from a sarcoma unit. There was diagnostic agreement in almost 80% of the cases with the HGESS being the most challenging. 81% of patients underwent surgery and 7( 18.9%) received chemotherapy or radiotherapy. 30 (81%) patients had early stage disease. Fifteen patients (40.5%) had a recurrence, with the commonest sites being the pelvis and distant lung metastasis. Seventeen of the patients have died (46%).

Conclusions: In our series there was good correlation between the initial diagnosis and the expert opinion. However, in certain tumour types, specialist review was particularly beneficial in reaching the final diagnosis. This may reflect the enhanced availability of molecular testing at centralised specialist centres. The prognosis is generally unfavourable even in early stage disease.
EDUCATIONAL VALUE OF USING CASE-BASED, RECORDED, OPEN-ACCESS VIDEOMICROSCOPY IN GYNECOLOGIC PATHOLOGY

E-POSTER VIEWING

L. Hassell
University of Oklahoma Health Sciences Center, Pathology, Oklahoma City, United States Minor Outlying Islands

Objectives: The COVID-19 pandemic mandated shifting teaching methods to socially distanced modalities. We took the opportunity to create enduring video-microscopy materials of several types using digital slides and offer them via social media to our trainees. Most of the videos also provided links to digital slides for follow-up self-study. After 13 months of providing content, we assess the reach of the effort, and collate responses.

Methods: Whole slide images from personal, institutional and public libraries on PathPresenter were used to prepare video presentations, augmented by presentation slides uploaded into the presentation module of the Digital Anatomic Pathology Academy. Video recordings of the presentation were then uploaded to YouTube and the links shared via social media channels (Facebook and Twitter) and email notice to trainees. YouTube channel analytics provided total views, geographic reach of audience and retention times for each video, as well as comments and reactions. Facebook audience reach was also available for videos posted to groups.

Results: A total of 89 gynecologic pathology videos were produced and posted, generating a total of 16,718 views, 180 comments, 792 likes and an unknown number of shares. Average audience reach of Facebook-posted videos was 1,500 using a single niche site directed at developing world pathologists. Survey data from group users indicated that most had directly viewed the digital slides.

Conclusions: Teaching videos are eagerly received by trainees and practitioners, offer access to unique and common cases, and assist pathology and non-pathology trainees. Patients also gain from the content. Linkage with digital slides is a valued enhancement.
IMPACT OF LYMPH NODE STAGING IN EARLY-STAGE OVARIAN CARCINOMA

E-POSTER VIEWING

F. Teixeira¹, V. De Castro¹, C. Faloppa¹, L. Kumagai¹, H. Mantoan¹, L. Badiglian-Filho¹, A. Menezes¹, B. Goncalves¹, A. Guimaraes², A. Da Costa², G. Baiocchi¹
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Objectives: Our aim was to analyze the prevalence of positive lymph node in presumed early-stage ovarian carcinoma (OC) after systematic lymph node dissection (LND) and the impact in adjuvant chemotherapy.

Methods: We evaluated a series of 765 patients with OC who underwent surgical treatment from January 2007 to December 2019. Patients with peritoneal disease and incomplete surgical staging were excluded. All cases had systematic pelvic and paraaortic LND up to the renal vessels. After patient referral to our center, a second surgery for staging was done in 37.8% of cases.

Results: A total of 142 cases were ultimately included. The median pelvic and paraaortic lymph nodes (LN) dissected were 30 (range, 6-81) and 21 (range, 3-86), respectively. Stage shifts after LND and LN metastasis occurred in 8.4% of cases (12/142) – high-grade serous, 11.9% (5/42); clear cell, 16.6% (5/30); endometrioid, 5.1% (2/39); mixed, 0% (0/13); and mucinous, 0% (0/19). Notably, we found clinically suspicious LN (imaging or intraoperative) in 50% of the metastatic LN. Median hospital stay length was 6 days (range, 2-33) and 3.6% had grade ≥3 complications. Moreover, 110 (77.6%) patients underwent adjuvant chemotherapy and all cases had indication due to histologic type regardless the result of LN staging. After a median follow-up of 50.7 months (range, 1-206) we noted 27 (18.9%) recurrences, and the 5-years recurrence free and overall survival were 92.5% and 98.1%, respectively.

Conclusions: We found a relatively low rate of lymph node positivity and half of positive cases had clinically suspicious LN. The LN status did not impact the indication of adjuvant chemotherapy.
CLINICAL SIGNIFICANCE OF MR IMAGING IN THE JUDGMENT OF LYMPH NODE METASTASIS IN GYNECOLOGICAL MALIGNANT TUMORS

E-POSTER VIEWING

J. Wang, Y. Tang
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Objectives: The lymph node metastasis is closely related to tumor prognosis, and the formulation of postoperative treatment for gynecological malignant tumors. The purpose of this paper is to investigate the clinical value of magnetic resonance imaging in lymph node metastasis of gynecological malignant tumors.

Methods: 208 patients undergoing pelvic lymph node and para-aortic lymph node dissection in the Department of Gynecology Chongqing University Cancer Hospital from January 2014 to June 2018 were analyzed retrospectively. SAS9.2 software was used for statistical analysis.

Results: The pathological diagnosis in 208 patients showed that 63 patients has pelvic lymph node metastasis, Transfer rate is 30.29%. The sensitivity of MRI to pelvic lymph node transfer is 41.27%. Specificity is 92.41%, Positive forecast value is 70.27%. Negative forecast value is 78.36%. Two-related sample rate test (McNemar test), McNmar Statistics: 14.08, P=0.0002, Kappa= 0.38, 95% CI (0.24, 0.52), The detection rates of the two detection methods differ significantly. 37 patients with abdominal aortic lymph node metastasis, Transfer rate is 17.79%. Sensitivity is 29.73%. Specificity is 98.25%. Positive forecast value is 78.57%, Negative forecast value of 86.60%. Two-related sample rate test (McNemar test), McNmar Statistics, 18.24, P<0.0001, Kappa=0.37, 95% CI (0.20, 0.54), The detection rates differ between the two detection methods too.

Conclusions: Magnetic resonance has low sensitivity to lymph node transfer determination, high specificity, high positive and negative prediction value, which can be used as a preoperative routine examination, but by magnetic resonance examination alone, to judge whether there is lymph node transfer that is prone to leakage diagnosis, more effective testing methods are needed to assist in the diagnosis.
E-POSTER VIEWING

Duke University School of Medicine, Obstetrics And Gynecology, Durham, United States of America

Objectives: The COVID-19 pandemic has significantly disrupted medical care. The purpose of this analysis was to determine the impact of the pandemic on gynecologic cancer appointment adherence.

Methods: All appointments scheduled at an academic gynecologic oncology center from March 2019 to January 2021 were included. Appointments were stratified into two groups - pre-pandemic (March ’19 to January ’20) and pandemic (March ’20 to January ’21). Appointments were determined 'missed' if the patient did not show or cancelled. A multivariable logistic regression was performed to determine the odds ratio (OR) of appointment adherence during the pandemic.

Results: 31,803 appointments were scheduled during the study period (15,834 (49.8%) pre-pandemic and 15,969 (50.2%) during the pandemic). There were significantly more appointments missed during the pandemic than pre-pandemic - 7266 (45.5%) vs. 6131 (38.7%); p<.0001. The adjusted odds of missing an appointment were significantly higher during the pandemic (OR 1.43 [95% CI 1.36 to 1.51]; p<.0001). There were more return visits missed during the pandemic than before - 6696 (47.0%) vs 5341 (39.5%); p<.0001. New-patient visit adherence was unchanged. Race, ethnicity, and income were not associated with missed appointments.
Table 1. Attendance by month stratified by pre-pandemic and during-pandemic.

<table>
<thead>
<tr>
<th>Month</th>
<th>Year Prior (%)</th>
<th>Pandemic (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>58.82</td>
<td>42.23</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>April</td>
<td>57.24</td>
<td>34.36</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>May</td>
<td>63.56</td>
<td>45.84</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>June</td>
<td>61.01</td>
<td>56.15</td>
<td>0.0074</td>
</tr>
<tr>
<td>July</td>
<td>63.56</td>
<td>57.94</td>
<td>0.0014</td>
</tr>
<tr>
<td>August</td>
<td>61.09</td>
<td>58.97</td>
<td>0.2423</td>
</tr>
<tr>
<td>September</td>
<td>63.21</td>
<td>63.25</td>
<td>0.9827</td>
</tr>
<tr>
<td>October</td>
<td>61.71</td>
<td>62.23</td>
<td>0.7703</td>
</tr>
<tr>
<td>November</td>
<td>62.72</td>
<td>64.38</td>
<td>0.3739</td>
</tr>
<tr>
<td>December</td>
<td>59.65</td>
<td>57.57</td>
<td>0.2601</td>
</tr>
<tr>
<td>January</td>
<td>61.5</td>
<td>58.17</td>
<td>0.0649</td>
</tr>
</tbody>
</table>
Conclusions: There were increased odds of missing an appointment during the pandemic than during the year prior. This association was mostly explained by return visits as new patient visit adherence was not impacted by the pandemic. Initiatives should be undertaken to determine the effects of pandemic-induced appointment nonadherence.
Objectives: COVID-19 pandemic has affected the systems in all hospitals and non-essential elective surgeries were deferred. In this retrospective study we have evaluated results and complications of gynaecological cancer surgeries in a tertiary care hospital during the first 9 months of covid pandemic in our country.

Methods: We retrospectively analyzed the medical charts of patients who underwent these surgeries from March-December, 2020.

Results: The study included 116 patients, 48 endometrial, 50 ovarian, 14 cervical and 4 vulval & vaginal cancers. Majority of cancers were early stage (64%). The median age was 58 years (range 22-85 years). Surgical approach was laparotomy in 77.6% including 48% complex surgeries. Based on the BGCS framework for prioritization of these surgeries, most of our surgeries belong to priority level 2 (89%) and 3 (11%). COVID verbal screening (by a questionnaire) was done in 90% of patients starting in Mid-March. Formal COVID testing by PCR for all pre-operative patients was commenced in April and hence 89 (77%) of all patients underwent this testing. Only 2 patients were found COVID positive and the surgery was deferred for 4 weeks. Complications based on Clavien-Dindo grade 1, grade 4a and grade 5 were observed in 4 patients. Median hospital stay was 5 days. Out of 12 patients with clinical suspicion of COVID within 30 days of surgery 3 were found to be covid positive, including one requiring ICU admission.

Conclusions: The results show that with adequate preventive measures cancer surgeries can be performed with low risk of severe complications and post-surgical COVID positivity.
E-LEARNING IN GYNECOLOGIC ONCOLOGY: A NEW APPROACH FOR MEDICAL STUDENTS DURING COVID 19 PANDEMIC.

E-POSTER VIEWING

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Objectives: Since the worldwide spread of Covid 19 pandemic, medical education is affected. To ensure the integrity and the continuity of medical education e-learning has been adopted.

Methods: To evaluate the efficiency of e-learning in gynecologic oncology education in time of Covid 19 pandemic, we do a comparative study including 30 undergraduate medical students. Half of them received traditional learning about four gynecologic cancer (endometrial, ovarian, cervical and breast cancers), the others received an e-learning education for the same chapters. Clinical knowledge was evaluated before and after getting the courses in the two groups.

Results: There wasn't a significant differences comparing the two groups evaluations. Before getting the endometrial cancer course, 74 % of e-learning group students (first group) have less than the average score (5/10), versus 68 % in the groupe of traditional learning (the second group). By receiving the course, the rate of good response (more than 5/10) increases respectively to 92 and 94 %. Similar rates were reported for the other delivered chapters.

Conclusions: Based on the non significant differences between results of the two learning methods, e-learning is a efficient tool to provide gynecologic oncology education in time of Covid 19 pandemic. More studies are needed to evaluate the implementation and the student's adherence to this educational process.
MEDICAL CARE OF PATIENTS WITH GYNECOLOGIC CANCER DURING THE COVID-19 PANDEMIC: EXPERIENCE OF A CANCER CENTER IN BRAZIL.

E-POSTER VIEWING

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Objectives: The objective is to assess the impact of COVID-19 pandemic on the care of gynecologic oncology patients.

Methods: This is a retrospective cohort study of all gynecology oncology new patients treated at Brasilia’s University Hospital - Brazil. We compared to periods: pre-COVID-19 (March 2019 to February 2020) and during COVID-19 pandemic (March 2020 to February 2021).

Results: There was a 53% reduction in patients with gynecological cancer undergoing treatment at our hospital. The total of surgeries performed was 40 pre and 18 during the pandemic period, a reduction in the surgical volume by 55%. The most operated tumor in the pre-pandemic period was cervix and during was an equal number of surgeries for cervix, endometrial and ovarian cancer. Admissions for chemotherapy or radiotherapy also decreased by 52%. A total of 78 patients underwent cancer treatment before and 37 during the pandemic. The most frequently treated tumor is cervical cancer, with 53 cases in the pre and 26 during the pandemic, followed by ovarian cancer with 14 cases before and only two during the same period. The median waiting time between diagnosis and surgery was 4.44 days longer during the pandemic, as well as the median time to start chemo and radiotherapy was also longer during the pandemic period.

Conclusions: We observed a significant decrease in the number of gynecological cancer patients undergoing treatment during the COVID-19 pandemic. Our results will help health professionals to understand the indirect consequences of the pandemic and the role of women's health care services in minimizing these consequences.
ANXIETY AND DEPRESSION IN BREAST CANCER PATIENTS DURING COVID-19 PANDEMIC IN TUNISIA

E-POSTER VIEWING

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Objectives: The COVID-19 pandemic has generated global mental health crisis. It has resulted in new sources of anxiety and depression among breast cancer patients. This study aimed to evaluate the anxiety and depression in Tunisian breast cancer patients.

Methods: We conducted an observational study between January and May 2021 during the COVID-19 pandemic. Symptoms of anxiety and depression in cancer patients were screened using the Hospital Anxiety and Depression Scale (HADS). We present preliminary results of a large study. Twenty patients replied to this survey until now.

Results: Mean age of interviewed patients was 47 years [30-67 years]. Eleven patients (55%) had metastatic disease. We reported 14 complete/partial responses (70%), 3 stable diseases (15%) and 3 progressive diseases (15%). About marital status, 14 (70%) were married, 2 (10%) divorced, 41(5%) widowed and 3 (15%) were single. Five women (25%) wanted to see a psychiatrist. The incidence of depression was 35% (7/20). Six patients (86%) had mild depression and one patient (14%) moderate depression. The incidence of anxiety was 25% (5/20). Of those patients, 3 (60%) were experiencing mild anxiety, one patient (20%) moderate anxiety and one (20%) severe anxiety. There were no correlations between anxiety or depression and age, educational or socioeconomic level, marital status, breast cancer stage and treatment delays during COVID.

Conclusions: This study showed high rates of depression and anxiety during the COVID-19 pandemic. A psychological care should be offered to breast cancer patients.
ONCOPHONE 20B: THE PATIENTS PERCEPTION OF TELEMEDICINE DURING FOLLOW UP VISITS FOR GYNECOLOGICAL CANCERS IN COVID-19 PANDEMIC.

E-POSTER VIEWING

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Objectives: the spread of COVID-19 pandemic changed the approach in the management of neoplasms. Telemedicine was one of the tools we experienced to maintain the continuity of care for the patients. Our goal is to evaluate the impact of telemedicine in patients management during follow up visits and its emotional impact.

Methods: We enrolled 79 women with gynecological cancer. SUTAQ questionnaire was used to highlight patients perception about telemedicine. The questionnaire consists of 22 items divided into different subscales: “Enhanced care”(EC), “Satisfaction” (ST), “Privacy and Discomfort”(PD), “Care personnel concerns” (CPC), “Increased accessibility” (IA) and “Telemedicine as a Substitution” (TMS) scales.

Results: Enrolled women had a mean age of 55 years (35 women ≤ 55 years and 44 women ≥ 55 years). The majority of them (61.54%; n=48) achieved a high school diploma or higher while (n=30) had a low educational level (middle school or lower); 87.3% (n=69) were employed and 70.89% (n=56) lived with their partner. Younger women had a better perception towards telemedicine for TMS (mean=3.68) compared to older ones (mean=3.05). The difference was statistically significant (p=0.025). The PD subscale was in favor of higher educated women (mean=2.57) compared to lower educated ones (mean=3.28; p=0.042). No significant differences were observed between intensive and non intensive treatment. EC, ST, IA, and PD reached good responsiveness towards telemedicine, irrespectively of care level.

Conclusions: Telemedicine has been a well-evaluated tool, not only among younger and higher educated women but even by women needing intensive care.
EVALUATION OF HYSTEROSCOPY PRACTICE IN TIME OF COVID 19 PANDEMIC: A MULTICENTER EXPERIENCE

E-POSTER VIEWING

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1Tunis Maternity Center, Department B Of Gynecologic Surgery, Tunis, Tunisia, 2Tunis maternity center, Department B Of Gynecologic Surgery, Tunis, Tunisia, 3Tunis military hospital, Department Of Gynecology And Obstetrics, Tunis, Tunisia, 4University hospital Abderrahmen Mami Ariana, Medical Oncology, Tunis, Tunisia, 5Maternity and neonatology center of Tunis, B, Ben Arous, Tunisia

Objectives: The aims of our study were to assess different indications of office hysteroscopy and to evaluate the efficiency of this examination to diagnose uterine abnormalities in time of Covid 19 pandemic.

Methods: This is a prospective and descriptive study from March 2020 to November 2020. 54 patients were enrolled in our study. They presented an abnormal uterine bleeding. The indication of hysteroscopy was discussed to know if deferring the procedure could have an impact on patient’s condition and outcome. If hysteroscopy was indicated, preference was given to in-office procedure. In case of failure, patients underwent a hysteroscopy in an operating theatre under general or regional anesthesia. All hysteroscopies were performed under specific safety protocol.

Results: 54 patients were enrolled in our study. Office hysteroscopy was performed in all cases. The indication was related to a recurrent abnormal uterine bleeding complicated with anemia or associated to a thick endometrium in post menopausal women. In four cases, office hysteroscopy was performed in infertile women. The failure rate of in-office hysteroscopy was 7.4 %. In 16 cases an operative hysteroscopy was performed in an operating room under anesthesia.Two cases of complex endometrial hyperplasia and one case of endometrial carcinoma were diagnosed. No cases of Covid 19 infection have been reported.

Conclusions: Office hysteroscopy is an efficient and safe examination to manage abnormal uterine bleeding in time of Covid 19 pandemic.
THE ATTRIBUTIVE VALUE OF COMPREHENSIVE SURGICAL STAGING IN CLINICALLY EARLY-STAGE EPITHELIAL OVARIAN CARCINOMA: A SYSTEMATIC REVIEW AND META-ANALYSIS

E-POSTER VIEWING

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¹University Medical Center Utrecht, Imaging And Oncology, Utrecht, Netherlands, ²Netherlands Comprehensive Cancer Organization, Research, Utrecht, Netherlands, ³University Medical Center Utrecht, Medical Oncology, Utrecht, Netherlands

Objectives: To quantify tumor positivity and upstaging rates for all staging surgery steps in EOC patients. Differences between subgroups based on their clinical and histological characteristics are explored.

Methods: A systematic search using synonyms of ‘ovarian cancer’, ‘neoplasm staging’, and ‘neoplasm metastasis’ was conducted in PubMed, Embase, and the Cochrane Library. Meta-analysis was performed on 23 included studies, comprising 5194 clinical stage I or II EOC patients who underwent comprehensive surgical staging. Studies were assessed using the Newcastle-Ottawa Scale risk-of-bias tool. Pooled proportions and 95% confidence intervals were calculated using an inverse variance weighted random-effects model. 

Results: Overall upstaging rate of clinically early-stage EOC patients was 18.7% (95%CI: 14.1-23.4%). Serous histology or high grade EOC showed the highest upstaging rate at 35.3% (95%CI: 21.8-48.7%) and 40.9% (95%CI: 35.6-46.2%). Lymph node involvement resulted in an upstaging rate of 8.7% (95%CI: 6.2-11.3%). Tumor was identified in uterus, cytology, peritoneal biopsies, omentum and appendix in 6.2% (95%CI: 1.8-10.7%), 18.4% (95%CI: 13.8-22.9%), 9.7% (95%CI: 3.8-15.6%), 5.2% (95%CI: 1.7-8.8%) and 3.6% (95%CI: 0.0-7.5%) of EOC patients. The corresponding upstaging rates were 5.9% (95%CI: 1.4-10.4%), 8.5% (95%CI: 1.8-15.2%), 3.5% (95%CI: 1.0-6.0%), 3.9% (95%CI: 1.4-6.3%) and 1.6% (95%CI: 0.0-3.4%), respectively. 

Conclusions: The attributive value of comprehensive surgical staging in clinically early-stage EOC patients remains substantial, particularly in serous and high grade tumors.
OLAPARIB SINGLE-CENTRE EXPERIENCE IN RELAPSED EPITHELIAL OVARIAN CANCER IN SLOVENIA

E-POSTER VIEWING

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Objectives: To evaluate the safety and efficacy of olaparib in treatment of patients with BRCA 1/2 mutated relapsed epithelial ovarian cancer.

Methods: Retrospective analysis of patients with BRCA 1/2 mutated relapsed epithelial ovarian cancer treated with olaparib at the Institute of Oncology Ljubljana in the period from Nov 2015 to Dec 2020.

Results: In the observed period, a total of 88 patients with BRCA 1/2 mutated relapsed epithelial ovarian cancer were treated with olaparib. Median age of patients was 60 years. Majority of patients (61%) had 1st relapse of the disease. Majority of patients (74%) had germline BRCA 1 gene mutation. Majority of patients (85%) had at least one adverse event during olaparib treatment. The most common adverse events (all grades) were: nausea (59%), fatigue (59%), anemia (25%), dispepsia (14%), diarrhea (11%), dysgeusia (10%), neutropenia (6%) and arrhythmia (1%). Severe adverse events (grade 3/4) had 10% of patients: anemia 9%, nausea 1%. Median follow up was 40 months. Median PFS was 14,3 months, median OS was 20,4 months. PFS was in correlation to the type of BRCA gene mutation: 80% of patients with somatic BRCA 1/2 gene mutation were progression-free, 55% of patients with germline BRCA 2 gene mutation were progression-free, while 32% of patients with germline BRCA 1 gene mutation were progression-free (p=0,021). The type of BRCA 1/2 gene mutation did not correlate with OS.

Conclusions: Analysis shows olaparib is safe and effective maintenance treatment in BRCA1/2 relapsed epithelial ovarian cancer with results that a comparable to those published in Study19 and SOLO-2.
THE CORRELATION BETWEEN BRCA STATUS AND SURGICAL CYTOREDUCTION IN HIGH-GRADe SEROUS OVARIAN CARCINOMA

E-POSTER VIEWING

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Objectives: The aim of this study is to compare the amount of residual disease following primary cytoreductive surgery (PCS) in BRCA-mutated (BRCAm) and wildtype (BRCAwt) high-grade serous ovarian cancer (HGSC), and to assess whether BRCA status is an independent predictor of residual disease.

Methods: We conducted a retrospective analysis of patients with stage III/IV HGSC with known germline and somatic BRCA status, treated with PCS from 2000 to 2017. We compared the cytoreduction outcomes and built a predictive model to assess whether BRCA status was associated with amount of residual disease at the time of PCS.

Results: Of 303 women, 120 harbored germline or somatic BRCA mutations (40%) and 183 were BRCAwt (60%). BRCAm women tended to be younger (54 vs. 59; p<0.001), but there were no differences between the two groups in disease burden at presentation, surgical complexity, length of surgery, or perioperative complications. The BRCAm group had a higher rate of complete cytoreduction to no residual disease (0mm) [72% vs. 48%], and a lower rate of optimal cytoreduction (1-9mm) [19% vs. 38%] or suboptimal cytoreduction (≥10mm) [10% vs. 14%] (p<0.001). After accounting for length of surgery, CA-125 level, disease scores and surgical complexity scores, BRCAm status was predictive of complete cytoreduction to 0mm residual disease (OR 5.2; 95% CI 2.44-11.1; p<0.001).

Conclusions: BRCAm status is predictive of complete cytoreduction at time of PCS in HGSC. Timely availability of BRCA testing is paramount as it may aid in the therapeutic decision making between PCS or neoadjuvant chemotherapy in women with newly diagnosed HGSC.
EPV174 / #144

PERIOPERATIVE BLOOD MANAGEMENT OF JEHOVAH’S WITNESSES UNDERGOING CYTOREDUCTIVE SURGERY FOR ADVANCED OVARIAN CANCER

E-POSTER VIEWING

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Objectives: This study aimed to evaluate the efficacy and feasibility of a perioperative Bloodless Medicine and Surgery (BMS) protocol in reducing severe postoperative anemia (Hb <7 g/dL) in Jehovah’s Witnesses (JWs) undergoing cytoreductive surgery for advanced epithelial ovarian cancer (AEOC).

Methods: This was a single-institution retrospective study enrolling JWs who underwent elective bloodless surgery for AEOC between October 2017 and April 2020. All patients followed a standardized BMS protocol based on ferric carboxymaltose (FCM) and erythropoietin (EPO) if indicated.

Results: Twenty-five patients with a mean age of 61.7 years (range, 35-80) were enrolled. Preoperatively, 10 patients (40%) were mildly anemic (mean Hb of 10.2 g/dL [range, 9.2-11.4]) and received FCM. Only 4 (16%) patients had severe anemia after surgery (mean Hb of 6.1 g/dL [range, 4.1-6.9]) and received FCM and EPO. Compared to patients with postoperative Hb >7 g/dL, those with Hb <7 g/dL reported higher mean BMI (25.8±1.8 vs 30.7±1.8 kg/m²; p<0.001), mean baseline CA125 (236.1±184.5 vs 783.7±273.5 IU/mL; p<0.001), median surgical complexity score (2 vs 10; p<0.001), and postoperative overall complications (100% vs 14.3%; p<0.001). Moreover, these patients showed longer mean operating time (3.4±0.6 vs 5.5±0.4 h; p<0.001), hospital length of stay (5.5±0.7 vs 24.0±9.8 days; p<0.001), and time to adjuvant chemotherapy (27.2±2.6 vs 65.3±13.4 days; p<0.001).

Conclusions: The use of a multidisciplinary BMS protocol is safe and effective in reducing the rate of severe postoperative anemia and improving surgical and oncological outcomes of JWs with AEOC. Further large-scale, prospective studies are required to confirm these data.
HOMOLOGOUS RECOMBINATION REPAIR GENES TESTING IN A COHORT OF APULIAN OVARIAN CANCERS PATIENTS IN THE ROUTINE DIAGNOSTIC PROCEDURE

E-POSTER VIEWING

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Objectives: Pathogenic variants in homologous recombination repair (HRR) genes other than BRCA1/2 have been associated with a high risk of ovarian cancer (OC). These findings might be useful for therapeutic procedures such as PARPi. In current clinical practice, the importance of genetic testing has increased, although it is generally limited to BRCA1/2. Herein, we investigated the mutational status of both BRCA1/2 and 5 HRR genes (BRIP1, RAD51C, RAD51D, PALB2 and, BARD1) in 79 unselected OC, thus evaluating the advantage of multi-gene panel testing in the daily clinical practice.

Methods: We analyzed 79 epithelial OC samples by using an NGS custom multigene panel of the 5 HRR pathways genes, beyond the genetic routine BRCA1/2 testing.

Results: Overall, 21 pathogenic variants (26%) were detected. The majority (21.5%) of participants displayed a deleterious mutation in BRCA1/2, whereas 5% harboured a pathogenic variant in one of the HRR genes. Additionally, there were 15 (19%) uncertain significant variants (VUS), 5 of which occurred in BRCA1/2 and 10 of which involved at least one HRR gene. The assessment of germline mutational status showed that a little number of variants (3 pathogenic mutations in BRCA1/2 as well as 2 VUS in BRCA1 and RAD51D) were not detected in the corresponding blood sample. Notably, we unveiled 1 BRIP1 and 4 BRCA1/2 deleterious variants in the low-grade serous and endometroid histology, respectively.

Conclusions: We demonstrated that the usage of a multigene panel, beyond BRCA1/2, improves the diagnostic yield in OC testing and it could produce clinically relevant results.
INVESTIGATING A FAMILY OF CANCER-TESTIS ANTIGENS AS BIOMARKERS FOR THE EARLIER DETECTION OF OVARIAN CANCER

E-POSTER VIEWING

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Objectives: To investigate a family of cancer-testis antigens as biomarkers for early-stage ovarian cancer and whether they can be identified through non-invasive screening methods. We also aimed to examine the role of these cancer-testis antigens in disease progression.

Methods: Manipulation of gene expression in ovarian cancer cell lines through plasmid and small interfering RNA transfection and immunocytochemistry of ovarian cancer stage I-IV tissue arrays.

Results: Previously it has been shown that OCP2 is expressed at a significantly higher frequency in stage I (n=164) and II (n=15) ovarian cancer tissue arrays than current clinically used biomarkers CA-125, HE4 and WT1. Analysis of ovarian cancer cell lines has shown that other family members, OCP3 and 4, are expressed at higher intensities than OCP2. Silencing of these genes in ovarian cancer cells lead to phenotypical changes followed by cell death observed within 24 hours. In addition, overexpression of these genes increases cell proliferation.

Conclusions: This data provides a foundation for further investigation into OCPs as biomarkers for early-stage ovarian cancer in patient blood, urine and tissue. The small size of the proteins may allow them to be excreted and therefore applicable for non-invasive screening. The function of these proteins could also make them candidates for targeted immunotherapy.
OBJECTIVES: To evaluate if the implementation of an institutional OCS protocol, aligned to NCCN guidelines, resulted in a high score index according to ESGO quality indicators (QI) in a Latin American public referral center.

METHODS: All consecutive surgical OC cases after a dedicated multidisciplinary team and protocol were instituted in 2015 up to 2018 were included. QI 1 to 10, 2y-DFS, 2y-OS and surgical complications were analyzed.

RESULTS: Ninety three patients, mean age=59yo (30-82yo), stage III=44 (47,3%) and IV=20 (21,5%), were included. QI 1-10 were 8, 4, 3, 3, 3, 3, 3, 3, 3, sequentially. Debulking procedures were considered: CC0 in 69 (65%), CC1 in 6 (6%), and CC2 in 26 cases (27.9%). Complications, according to Clavien-Dindo, in 30 days, were minor in 2 (2.1%) and major in 17 (18%), including 3 post-operative deaths (3.2%). Two-years DFS, relapsed, persistent and deaths were 41 (44.1%), 16 (17.2%), 10 (10.7%), 26 (29%), respectively.

CONCLUSIONS: Adherance to ESGO QI was feasible and reproducible in a Latin American referral center. Similar criteria could be replicable in LMIC countries for OCS quality assurance.
IDENTIFICATION OF BIOMARKERS AND TARGETS FOR THE IMMUNOTHERAPY OF PATIENTS WITH CLEAR CELL OVARIAN CANCER: A SYSTEMATIC LITERATURE REVIEW

E-POSTER VIEWING

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Objectives: Clear cell ovarian cancer (OC) is a rare type of epithelial cancer commonly associated with endometriosis. Biomarkers for the early detection of clear cell OC and targets for immunotherapy both have the potential to improve outcomes for patients. Our review aims to evaluate the existing literature to determine whether any antigens could fulfil this remit.

Methods: A literature search was carried out to identify biomarkers using the following free text and MeSH terms: (“clear cell” OR "clear-cell") AND (ovar*) AND (cancer* OR malignan* OR tumour* OR tumor* OR neoplasm* OR carcinoma*) AND (biomarker* OR protein* OR antigen* OR target*) AND (immuno* OR treat* OR diagnosis OR detect*). Inclusion criteria was primary research articles on human adult females including at least 10 clear cell carcinoma patients. Exclusion criteria included reviews; case series and reports paediatrics; animal; cell line; clear cell recurrence; metastasis from another primary cancer and prognostic biomarker studies.

Results: 6,750 articles were identified from searching multiple databases from 1904-2021. Duplicates were removed (n=2076) and all texts were screened against the inclusion and exclusion criteria which identified 24 gene transcripts/proteins and 2 antibodies within 32 articles identifying single or multiple targets.

Conclusions: Current findings suggest there are possible candidates to act as biomarkers and targets for immunotherapy. The biomarkers show a sensitivity and specificity up to 100% in single and multiple targets when differentiating clear cell from other subtypes of epithelial OC. With further analysis this will show the potential of these biomarkers to act as targets for immunotherapy.
OBJECTIVES: Ovarian cancer is one of the highest incidence and mortality gynecological tumors. Most of them will relapse within 24 months. The purpose of this study was to compare the efficacy and safety of doxorubicin liposomes or paclitaxel combined with platinum chemotherapy in the treatment of some platinum-sensitive, recurrent ovarian cancer patients.

METHODS: Ovarian cancer patients who is recurrence in 6-12 months from the last chemotherapy were selected and randomly assigned in a 1:1 ratio to receive paclitaxel or doxorubicin liposome and platinum-based combinations. The primary endpoint is progression-free survival (PFS).

RESULTS: A total of 216 ovarian cancer patients were enrolled, 106 of whom received paclitaxel platinum therapy, 110 patients received doxorubicin platinum therapy. Patients in the platinum-based paclitaxel treatment group had a longer PFS (18.0 vs. 14.0 months, hazard ratio, 0.71, 95% confidence interval [CI], 0.44 to 1.45, P>0.05) compared with those in the doxorubicin-platinum group. The disease control rates of the two groups were 88.6% in the paclitaxel group and 86.36% in the doxorubicin group. In the study, the most adverse reactions of grade 3 or 4 in the doxorubicin platinum treatment group were leukopenia (6.4%) and thrombocytopenia (10.9%). The paclitaxel platinum treatment group were leukopenia (8.5%) and thrombocytopenia (3.8%).

CONCLUSIONS: In the treatment of some platinum-sensitive, recurrent ovarian cancer patients, paclitaxel platinum-based therapy and doxorubicin-platinum therapy have no significant difference in efficacy, and there is no significant difference in adverse reactions. Therefore, in the treatment of platinum-sensitive, recurrent ovarian cancer patients, both options can be used as options. (ClinicalTrials.gov number, NCT04337632)
Objectives: We report results of a phase II, open-label study evaluating the combination of pembrolizumab with carboplatin/paclitaxel in previously untreated advanced ovarian cancer patients (NCT02520154).

Methods: Eligible patients were women with advanced high-grade epithelial non-mucinous ovarian cancer who had received up to 4 cycles of neoadjuvant carboplatin/paclitaxel chemotherapy and planned for interval cytoreduction. Following interval surgery, patients received adjuvant intravenous carboplatin/weekly paclitaxel/pembrolizumab for 3 cycles then maintenance pembrolizumab until progression, toxicity, or maximum of 20 cycles. The primary endpoint was progression-free survival (PFS). Secondary endpoints included feasibility, toxicity, and overall survival (OS).

Results: Twenty-six patients were enrolled with a median follow-up of 26.9 months (range 11.0 – 49.5). Median age was 59 years and predominant histology was high grade serous (88.5%). At interval cytoreductive surgery, complete gross resection (CGR) was achieved in 21 (80.8%); 3 (11.5%) had optimal non-CGR, and 2 (7.7%) had suboptimal cytoreduction. Median PFS was 14.2 months (95% CI 12.4 – 23.0). All patients completed 3 planned cycles of carboplatin/paclitaxel/pembrolizumab. Median number of maintenance cycles was 6 with all 20 cycles completed in 6 patients. Grade 3/4 treatment-related adverse events occurred in 19 (73.1%) patients. Treatment discontinuation due to disease progression occurred in 9 patients (34.6%) and due to immune-related toxicity in 6 patients (28.6%), most commonly attributable to hepatotoxicity (n=3).

Conclusions: Combining pembrolizumab with carboplatin/paclitaxel for advanced ovarian cancer patients in the frontline setting was feasible, tolerable, and resulted in PFS within the historical range for this patient population. OS is immature and translational endpoints are pending.
OBJECTIVES: Studies have highlighted the benefits of combining cytoreductive surgery with HIPEC to improve survival in primary and recurrent EOC. However, data regarding the use of carboplatin-based HIPEC is limited, but seems promising in a few studies. It has lower rates of adverse effects, especially nephrotoxicity, with systemic use compared to cisplatin. In efforts to minimize morbidity, carboplatin is an important alternative to consider compared to standard HIPEC regimen.

METHODS: We retrospectively evaluated patients with advanced EOC who underwent CRS combined with carboplatin-based HIPEC at our center since 2013. Data collected included patients’ demographics, surgical morbidity and outcomes.

RESULTS: We identified 54 patients with a median age of 60 years. There were 48 patients with primary disease and 6 with recurrent EOC. The median peritoneal cancer index was 13 and complete cytoreduction was achieved in 49 patients (91%). Median hospital stay was 14 days and there were 6 admissions to ICU (11%) and 7 readmissions (13%). Severe adverse events occurred in 12 patients (22%) and there was no perioperative or postoperative death. Recurrence was seen in 37 patients (73%) with a median disease-free survival of 13.0 months and overall survival of 26.0 months. Cox multivariate analyses showed that completeness of cytoreduction had a significant impact on DFS. Age, PCI, occurrence of severe complications, and bowel resection did not significantly alter DFS and OS in our cohort.

CONCLUSIONS: Extensive CRS combined with carboplatin-based HIPEC for advanced EOC presents acceptable morbidity and outcomes in our cohort. Larger studies are required to determine long-term oncological outcomes.
LAPAROSCOPIC INTERVAL DEBULKING SURGERY FOR ADVANCED OVARIAN CANCER - SINGLE CENTRE EXPERIENCE

E-POSTER VIEWING

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Objectives: To assess the feasibility and safety of laparoscopic interval debulking surgery for patients with advanced ovarian cancer.

Methods: Retrospective case series of laparoscopic interval debulking surgery for selected patients with advanced ovarian cancer (stages III/ IV) between October 2017 and October 2020 in our unit.

Results: In our series of sixty patients, an Optimal debulking (R<1 cm) was achieved in 55 cases (92%). Conversion to Midline Laparotomy was performed in 2 cases (3%). The mean length of stay was 3.33 days (2-13 days). While the overall complication rate was low, there were 3 cases (5%) of inadvertent transverse colon mesentery injury recognised at the time of omentectomy that necessitated bowel resection. Short term follow-up prognostic outcome is comparable to the reported outcome for laparotomy IDB cases.

Conclusions: Laparoscopic IDB in selected cases is feasible and effective in achieving optimal debulking. However, surgeons should be aware of specific possible complications related to this procedure.
PARP INHIBITORS IN NEWLY DIAGNOSED ADVANCED OVARIAN CANCER: AN ASSESSMENT OF CLINICAL PRACTICES

E-POSTER VIEWING

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Objectives: This study determined the knowledge of clinicians on the evidence for, and application of, PARP inhibitors (PARPi) in newly diagnosed ovarian cancer.

Methods: A 27-question, online, continuing medical education (CME) self-assessment was developed that included demographic, knowledge, confidence and practice-based multiple-choice questions. Activity was launched for clinicians practising outside of the USA in July 2020 and data collected to October 2020.

Results: 104 oncologists, 46 obstetricians/gynaecologists (obs/gyn) and 21 other physicians completed the assessment. Participants were divided evenly between academic and community practice, but only 20% specialized in ovarian cancer. Only 33% were moderately/very confident (across a 5-point Likert scale) in their ability to select an appropriate PARPi maintenance regimen. Knowledge of key trials was low. 56% identified the population of the SOLO 1 trial, 37% patient characteristics, 29% correct PFS outcome and 43% most common AEs. 56% identified the outcome of the PRIMA trial, 33% patient characteristics, 28% efficacy in key subpopulations, and 43% most common G3/4 AEs. 49% identified the outcome of the PAOLA-1 trial, 44% efficacy in key subpopulations, and 44% the AE profile. Only 32% identified the appropriate PARPi maintenance regimen for a patient with HRD-ve/BRCA-ve disease following carboplatin/paclitaxel, whilst 77% identified the appropriate PARPi maintenance strategy following chemotherapy + bevacizumab for BRCA+ve disease. Obs/gyns and other physicians generally performed worse than oncologists in terms of knowledge and confidence.

Conclusions: The knowledge and confidence gaps revealed indicate there is a significant need for education to facilitate optimal application of PARPi maintenance strategies in newly diagnosed ovarian cancer.
AN OVERVIEW OF GYNECOLOGICAL ONCOLOGY CLINICAL QUALITY REGISTRIES WORLDWIDE.

E-POSTER VIEWING

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Objectives: Clinical outcomes have become more important over the past years, Clinical Quality Registries (CQR's) were initiated in order to compare clinical outcomes between hospitals or regions within a country. The aim of this study was to identify CQR’s for gynecological oncology and to summarize their characteristics, processes, and quality indicators (QI) in order to establish whether it is feasible to make an international comparison in the future.

Methods: To identify CQR’s in gynecological oncology a literature search in Pubmed was performed. All papers describing the use of a CQR were selected and analyzed. For the purpose of this paper, the task force or contact person of these registries were approached to participate in order to collect information on registered items, processes, and indicators.

Results: Five nations with CQR’s agreed to collaborate: Australia, Denmark, Italy, the Netherlands and Sweden. Denmark, the Netherlands and Sweden established a nationwide registry, collecting data on multiple tumor types, and reporting various QI’s. Australia and Italy registered and reported on patients with ovarian cancer only. All nations had a different process to report the results to the participating hospitals.

Conclusions: This review of CQR’s on gynecological malignancies shows that different methods and processes exist. Registries serve the same purpose to improve quality of care but vary in reporting for one or more tumor types. In order to compare the care for these patients on an international level, it would be useful to harmonize these registries, set an international standard to measure the quality of care, and select similar indicators.
Evolving Ovarian Cancer Treatment Patterns in the United States from 1982-2018: Results from the Tempus Dataset

E-Poster Viewing

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Objectives: Surgery and platinum-taxane doublet (PTD) chemotherapy are standard treatment for ovarian cancer (OC); adoption of maintenance therapies has been more limited. This analysis describes characteristics of OC patients and real-world treatment patterns.

Methods: The Tempus dataset contains EMR data on U.S. oncology patients. This study included women with a primary diagnosis of OC; women treated with poly-ADP ribose polymerase inhibitors (PARPi), pembrolizumab, or nivolumab were excluded (n=288; final n=3,370). Descriptive statistics were calculated for patient characteristics, surgery/radiation/chemotherapy, and time from diagnosis to surgery.

Results: Median age at diagnosis was 60, 55% of patients were advanced-stage and 36% were ECOG 0/1. 91% had surgery, 13% radiation, and 9% neither. Median time from diagnosis was approximately 7.5 months for most surgeries, but longer for omentectomy (16 months) and bowel resection (10 months). Of patients receiving first-line (1L) chemotherapy (n=2,041), 96% received a platinum (71% PTD), 7% received bevacizumab (bev) + PTD, and 3% received bev maintenance. In second-line (2L), 48% received a platinum, 14% PTD, 6% PTD+bev, 6% bev maintenance, and 39% single-agent therapy. Patterns over time are shown in the
Conclusions: Most OC patients received surgery and 2/3 received chemotherapy. PTD was the predominant 1L regimen, and in 2L platinum was used in nearly half of patients. Bev was the most used maintenance therapy for 2L, and use increased over time. Understanding these historical patterns helps inform stakeholders of the opportunity for PARPi and other advances in OC treatment.
KNOWLEDGE ABOUT ADVANCED OVARIAN CANCER AND MAINTENANCE THERAPY: DOES EXPERIENCE MATTER?

E-POSTER VIEWING

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Objectives: As part of a study to construct a shared-medical decision tool for ovarian cancer maintenance therapy (MT), we developed a knowledge survey to measure patients' understanding of their cancer and treatment. With the recent expansion of MT indications, patients need to decide if MT is right for them. An understanding of potential risks and benefits associated with MT is paramount to making an informed decision. We explored knowledge differences between newly diagnosed and recurrent patients.

Methods: A 32-question survey focused on ovarian cancer (OC) and MT was developed based on interviews with patients and subject matter experts. The survey was modified iteratively using cognitive interviews with patients. Patients with OC with ≥ 3 cycles of chemotherapy and cytoreductive surgery completed the survey by email or phone. No prior background information was given to patients.

Results: Clinico-demographic characteristics are shown in Table 1 (n=87). Sixty percent had recurrent disease. General knowledge about advanced OC was similar between groups. The majority of patients did not understand the purpose of MT or the definition of progression-free survival. The recurrent group showed a similar lack of knowledge in the same questions as the newly diagnosed group, with no statistically significant differences observed (Figure 1).
<table>
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<th>Newly Diagnosed</th>
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<tr>
<td><strong>Race</strong></td>
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<tr>
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<td>74 (85.0%)</td>
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<tr>
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<tr>
<td>Other</td>
<td>3 (8.6%)</td>
<td>6 (11.5%)</td>
<td>9 (10.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>35 (100.0%)</td>
<td>52 (100.0%)</td>
<td>87 (100.0%)</td>
</tr>
<tr>
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<td>11 (21.1%)</td>
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<td>11 (21.1%)</td>
<td>25 (29.0%)</td>
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<td>30 (58.0%)</td>
<td>50 (57.5%)</td>
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<tr>
<td>Total</td>
<td>35 (100.0%)</td>
<td>52 (100.0%)</td>
<td>87 (100.0%)</td>
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<td><strong>Employment</strong></td>
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<td>12 (23.1%)</td>
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</tr>
<tr>
<td>Part-time employed</td>
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<td>1 (2.0%)</td>
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<td>Homemaker</td>
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<td>13 (37.1%)</td>
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<tr>
<td>Total</td>
<td>35 (100.0%)</td>
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<tr>
<td><strong>Annual household income</strong></td>
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<td>8 (23.0%)</td>
<td>2 (4.0%)</td>
<td>10 (11.5%)</td>
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<tr>
<td>$75,000 or more</td>
<td>17 (48.6%)</td>
<td>33 (63.5%)</td>
<td>50 (57.5%)</td>
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<tr>
<td>I prefer not to answer this question</td>
<td>6 (17.1%)</td>
<td>11 (21.1%)</td>
<td>17 (19.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>35 (100.0%)</td>
<td>52 (100.0%)</td>
<td>87 (100.0%)</td>
</tr>
</tbody>
</table>
Conclusions: Our data suggests that knowledge of OC among patients is highly variable. The overall lack of understanding regarding the goal of MT even among patients who have recurred is concerning. These gaps in knowledge suggest an important role for shared decision making to improve patients’ decision making about treatment of advanced OC.
EFFICACY OF PARP INHIBITORS MAINTENANCE IN OLDER PATIENTS WITH OVARIAN CANCER: A META-ANALYSIS.

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Objectives: In recent years, PARP inhibitors have shown to be effective as maintenance treatment in patients with advanced ovarian cancer, both in the newly diagnosed and in the recurrent setting. However, as most ovarian carcinomas develop before 65, older patients are underrepresented in clinical trials. We performed a meta-analysis to assess the efficacy of PARP inhibitors as maintenance therapy in older patients with ovarian cancer.

Methods: We systematically searched the PubMed, EMBASE, and Cochrane databases for randomized clinical trials (RCTs) concerning maintenance with PARP inhibitors in patients with newly diagnosed or recurrent, advanced, ovarian cancer. We extracted trials including hazard ratios (HRs) for progression-free survival (PFS) stratified by patients’ age (cut-off: 65 years).

Results: 7 phase III RCTs were selected. Olaparib, Niraparib, Rucaparib and Veliparib were administered. Among the 4099 treated patients, 1398 (34.1%) were ≥65 (894 receiving PARP inhibitors maintenance and 504 receiving placebo in the control arm). Compared to placebo, maintenance with PARP inhibitors improved PFS in older patients (HR=0.54; 95% CI: 0.44-0.65; P<0.00001). No differences for PFS emerged compared to the young population (HR=0.47; P=0.22).
Conclusions: Our meta-analysis demonstrates that maintenance with PARP inhibitors prolongs PFS compared to placebo after chemotherapy in older patients with ovarian cancer. No OS data are disposable yet. Longer follow-up and data from further studies will increase the power of our analysis.
ASCITES-DERIVED CORTISOL CORRELATES WITH INFLAMMATORY AND IMMUNOSUPPRESSIVE CYTOKINES IN OVARIAN CANCER PATIENTS

E-POSTER VIEWING

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Objectives: Cancer patients with increased stress have worse quality of life and survival. Stress hormones such as cortisol also contribute to suppressed immune function. Stress hormones, immune cells and cytokines are evaluable in the ascites of patients with advanced stage high grade serous epithelial ovarian cancer (HGSOC). We determined the relationship between cortisol and cytokines in ascites from patients with HGSOC.

Methods: Clinicodemographic information and ascites from 66 patients with primary or recurrent HGSOC were collected. Cortisol concentration was measured by ELISA using Parameter™ Cortisol. Milliplex® MAP Human Cytokine/Chemokine Magnetic bead panel was utilized to measure cytokine levels. Significance was determined using linear regression using p<0.05.

Results: Cortisol was positively correlated with IL-7 (slope=0.2782, 95% CI:0.03742-0.5189), which is a known contributor to invasiveness and metastasis of cancer. G-CSF (associated with tumor growth, angiogenesis and poor prognosis) was associated with elevated cortisol levels (slope=3.581, 95% CI:1.203-5.959). Conversely, cortisol was negatively correlated with cytokines that promote immune response. This included FGF-2 (slope=-0.8821, 95% CI:-1.703-(-0.06101)) and IP-10 (slope=-32.44, 95% CI:-60.07-(-4.817)), a chemokine that plays a role in recruiting activated T cells to inflammatory
Conclusions: Our data suggest increased ascites-derived cortisol from patients with HGSOC is associated with higher levels of IL-7 and G-CSF, cytokines that promote tumor growth. Higher levels of ascites-derived cortisol correlated with lower levels of FGF-2 and IP-10, cytokines that enhance immune function. Ascites from HGSOC patients provide a window into how stress hormones impact tumor and immune cells.
TEMPORAL TRENDS OF HEALTHCARE SYSTEM COSTS AND UTILIZATION RELATED TO OVARIAN CANCER DIAGNOSIS IN THE UNITED STATES

E-POSTER VIEWING

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Objectives: To describe healthcare system costs and utilization between symptomatic presentation and ovarian cancer diagnosis in the United States.

Methods: A population-based study of the Surveillance, Epidemiology, and End Results (SEER)-Medicare database was conducted on patients ≥66 years old with stage II-IV epithelial ovarian cancer between 1992-2015 with at least one of the following diagnosis codes in the year before diagnosis: abdominal pain, bloating, difficulty eating, and/or urinary symptoms. The outcomes were cost and type of healthcare system utilization between first symptomatic claim and cancer diagnosis date for any reason. Jonckheere-Terpstra and Cochran-Armitage tests evaluated trends over time.

Results: Among 13,872 women, the most common imaging was CT (67.6%), followed by pelvic ultrasound (49.5%), MRI (4.2%), and PET (1.2%). Between 1992-2015, frequency of ultrasound decreased (p<.001) while CT, MRI, PET, and CA-125 increased (p<.001). In the overall cohort, median cost per month was $13,941 for hospitalizations, $2041 for outpatient visits, and $218 for emergency room (ER) visits. Median monthly total, inpatient, and outpatient costs decreased (p<.001) while ER costs increased over time (p<.001). The number of outpatient visits (p<.001) and frequency of ER visits (p<.001) increased while frequency of hospitalizations (p<.001) decreased over time. Median hospital length of stay decreased from 10 days in 1992 to 5 days in 2015 (p<.001).
**Conclusions:** Healthcare utilization costs between symptomatic presentation and ovarian cancer diagnosis have decreased over time and reflect the trends in fewer and shorter hospitalizations and increased use of ER and outpatient management during the evaluation of symptoms of women with ovarian cancer.
PROGNOSTIC IMPACT OF PD-L1 EXPRESSION IN EPITHELIAL OVARIAN CANCER: A COHORT OF 49 PATIENTS

E-POTTER VIEWING

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Objectives: Role of checkpoint inhibitors in ovarian cancer is still unknown and results from ongoing clinical trials are still awaited. We aim in this study to assess the expression of PD-L1 using the Combined Positive Score (CPS) and to evaluate its impact on the overall survival in a cohort of 49 patients diagnosed with high-grade serous ovarian cancer.

Methods: Medical charts were reviewed of 49 patients with high-grade serous ovarian cancer operated on at the gynecologic oncology department in Hôtel-Dieu de France hospital, Lebanon, between 2015 and January 2020. Immunohistochemical staining was performed for PD-L1 (Agilent Dako, PDL-1 IHC 22C3) and for TP53 (Agilent Biogenex, clone D07, 1:100 dilution) on whole tissue sections from a representative block of formalin-fixed, paraffin-embedded tumor tissue.

Results: 55% of patients presented a positive PD-L1 status. No correlation was found between the PD-L1 status and the stage of the disease. Lymph node status was similar between the two cohorts, positive vs. negative CPS score (p = 0.927). Median follow-up was 36 months (range, 12 – 72 months). Survival rate was similar between the two cohorts, positive vs. negative PD-L1 status (88.9% vs. 72.7% respectively, p = 0.14). No correlation was found between recurrence rate and PD-L1 status (p = 0.184). No correlation was found between PD-L1 status and TP-53 type (wild vs. mutated) (p = 0.154)

Conclusions: PD-L1 status has no impact on the prognosis of patients with high-grade serous ovarian cancer. Also, patients with TP53-mutation do not present increased expression of PD-L1 in comparison to patients with TP53 wild-type.
DRUG SCREENING OF PATIENT-DERIVED ORGANOIDS FROM OVARIAN CANCER CULTURE TO PERSONALIZED THERAPY, AN EXPLORATORY RESEARCH

E-POSTER VIEWING

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Objectives: Organoids are a 3D culture model that can provide the precise genetic information and phenotype, as well as the heterogeneity of the tumor, thus provide powerful tools to model human diseases. The study (CQGOG0201) is an exploratory research to access whether organoids could guide precision treatment for OC patients.

Methods: The CQGOG0201 study is a single-center, prospective, observational clinical trial. The trial design is shown in Figure 1. The inclusion criteria and exclusion criteria are shown in Table 1. Primary endpoint is the similarity between organoids and their corresponding tumor tissue. Secondary endpoint is the reliability of organoids obtained from IDS cases as a model for the patient's response to platinum-based adjuvant chemotherapy.

Figure 1. Study Design
Results: We completed the collection of tumor tissues from 30 different patients, including 22 HGCS patients, 3 LGCS patients, 2MC, 1 EC patients, 2 CC patients, and established 9 organoid lines, derived from 15 different patients with primary tumor tissues. Organoids were derived with a success rate of 60%, in particular from the HGSC, LGSC and MC (Fig 2). OC organoids recapitulate histological features of the tumor tissues from which they were derived. In drug-screening assays, 2 organoids that were derived from HGSC patients with known clinical histories recapitulate patients’ response to platinum-based adjuvant chemotherapy.
Fig 2 Representative images of H&E and IHC of PAX8, CK7 and TP53 from OC Organoids
Conclusions: Organoids have great potential application for research and personalized medicine. Clinical trial information: NCT04768270.
TRENDS OF CHANGE IN CANCER MORBIDITY FOR THE OVARIAN CANCER IN UZBEKISTAN

E-POSTER VIEWING

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Methods: The materials and methods of this study were the main statistical indicators for the Republic for the period 2013–2017 according to the cancer register.

Results: In 2013, in the structure of the incidence rate by Uzbekistan regions the 1st, 2nd and 3rd places were taken by Bukhara region, Tashkent city and Ferghana regions with incidence rates of 2.6, 2.2 and 2.1 per 100 000 populations respectively. At the same time, in 2017, leading positions were taken by Bukhara, Tashkent and Jizakh regions with incidence rates of 3.9, 3.3 and 3.1 per 100 000 population accordingly. In 2013, there were 573 newly diagnosed cases of ovarian cancer in the Republic of Uzbekistan with incidence rate of 1.9, and 268 women died from ovarian cancer at the same year, with mortality rate of 0.9. To compare the same indicators in 2017, it can be concluded that the rate of morbidity and mortality over the past five years had increased by 0.5 and 0.4 respectively. The percentage of patients with stages III–IV in 2013 was 67.9%, and in 2017 this percentage decreased to 53.2%.

Conclusions: As can be seen from the study, over the past 5 years there have been recorded trends in the growth of morbidity and mortality in Uzbekistan. Based on this study, ovarian cancer requires more attention of oncologists in terms of timely diagnosis at the early stages of malignant growth.
Systematic Review and Meta-Analysis of the Survival Impact of Secondary Cytoreductive Surgery for Recurrent Low-Grade Serous Ovarian Carcinoma

E-Poster Viewing

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Objectives: Low-grade serous ovarian cancer (LGSC) is a relatively chemo-resistant disease with limited effective treatment options for patients with recurrence. Secondary cytoreductive surgery (SCS) is commonly offered to women with recurrent LGSC, although the effect of cytoreductive outcomes following SCS on survival is yet to be determined. This systematic review/meta-analysis aims to evaluate the impact of SCS with gross residual disease (GRD) versus SCS with no GRD on overall survival (OS) and progression-free survival (PFS) in recurrent LGSC.

Methods: A comprehensive search of MEDLINE, EMBASE, Cochrane Central, Cochrane Database of Systematic Reviews, and Web of Science was conducted to obtain all studies evaluating SCS with GRD versus no GRD in recurrent LGSC. Meta-analysis was performed on OS and PFS, and assessed using the Cochrane Risk of Bias in Non-Randomized Studies (ROBINS)-1 tool. Forest plots with pooled Hazard Ratios (HR) were generated.

Results: Three retrospective cohort studies evaluating 112 LGSC patients who underwent SCS were included in the meta-analysis. Two studies were meta-analyzed for OS (n=71) and PFS (n=91), respectively. There were 35 (31.2%) participants with no GRD at SCS, and 77 (68.8%) participants left with GRD at SCS. GRD at SCS negatively impacted PFS (HR=3.51, 95% CI=1.72, 7.14), and SCS with no GRD significantly improved OS (HR=0.4, 95% CI=0.23, 0.7).

Conclusions: Optimal SCS with no GRD may prolong OS and PFS in women with recurrent LGSC. The quality of evidence of the included studies is low and demonstrates the need for prospective studies investigating the role of SCS in women with LGSC.
A FIVE YEARS RETROSPECTIVE REVIEW STUDY OF NON-EPITHELIAL OVARIAN CANCERS IN A THERITHERY HOSPITAL IN ETHIOPIA SUB-SHARAN COUNTRY

E-POSTER VIEWING

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Objectives: The objective of this study is to describe the incidence, clinical presentation and histology subtypes and therapeutic interventions offered for NEOC.

Methods: Institution based retrospective chart and pathology report review from; Aug 1 2015- Aug 1 2020. This study was conducted in Saint Paul's Hospital millennium medical college. We reviewed a total of 1357 ovarian pathology reports from the ovary in the five years period and 264 cases of which were non-epithelial ovarian tumors and of these 80 of the cases were malignant non-epithelial ovarian cancer whose pathology was retrieved and phone was accessible for interview. A pre-prepared structured questioner was filled by the principal investigator. The data was analyzed using IBM SPSS statistics version 20 and presented using figures and tables.

Results: The contribution of malignant non-epithelial ovarian cancer is 17.3% of all the ovarian cancers. The mean age for malignant Germ cell tumors is 28.3yrs with the range 1.75yrs to 61 yrs The mean age for sex cord stromal tumors is 44.5yrs with a range of 22yrs to 67 yrs the commonest being hysterectomy, bilateral salpingo-oophrectomy with omental sampling being the commonest procedure done accounting over 40% of the cases. Of those traced 7 of them are died.

Conclusions: This study showed prevalence of NEOC was higher than other studies, the commonest histology type of malignant germ cell tumors was yolk sac tumors. Half of the malignant germ cell tumors have no complete intra peritoneal surgical staging.
VEGF-A INHIBITOR INDUCED TUMOR-ASSOCIATED MACROPHAGE REPROGRAMMING AND PD-L1 OVEREXPRESSION VIA A DUAL ROLE OF IFN-Γ IN OVARIAN CANCER

E-POSTER VIEWING

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Objectives: The beneficial effects of vascular endothelial growth factor A (VEGF-A) inhibitor are only observed in a subset of patients with advanced ovarian cancer. The lack of response of VEGF-A inhibitors is thought to be related with the immunosuppressive microenvironment; however, this is still controversial. A better understanding of the underlying mechanism of VEGF-A inhibitor (Bevacizumab)-mediated the immune escape could benefit the development of therapeutic regimens for patients with ovarian cancer.

Methods: The polarization of tumor-associated macrophages (TAMs), IFN-γ secretion of macrophages and ovarian cancer cells, PD-L1 expression in ovarian cancer cells, and phagocytic function of macrophages after Bevacizumab intervention were examined. In addition, the efficacy of combined Bevacizumab with anti-PD-1 antibody (aPD-1) was evaluated in a murine ovarian cancer model.

Results: We first identified that Bevacizumab stimulated IFN-γ secretion from macrophages and ovarian cancer cells. Moreover, we demonstrated that Bevacizumab upregulated PD-L1 expression in an IFN-γ-PI3K-NF-κB-dependent manner in ovarian cancer. Interestingly, although Bevacizumab elicited antitumor immunity by inducing macrophage polarization to an M1 phenotype via elevated IFN-γ secretion, the phagocytic function of macrophages was suppressed by upregulated PD-1 expression in macrophages. Furthermore, Bevacizumab combined with an aPD-1 significantly decreased the tumor burden and prolonged survival time in mice with ovarian cancer.

Conclusions: Here, we demonstrated a dual role of IFN-γ induced by Bevacizumab in ovarian cancer. Specifically, IFN-γ promoted immune activation in terms of M1 polarization and immune suppression through PD-L1/PD-1 upregulation. The combination of Bevacizumab and aPD-1 improved the local immune status and provided a promising novel therapeutic regimen against ovarian cancer.
PROGESTERONE TRIGGERS CARCINOGENESIS IN A MOUSE MODEL THAT PHENOCOPIES HIGH GRADE SEROUS CARCINOMA HARBORING A GERMLINE BRCA MUTATION.

E-POSTER VIEWING

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Objectives: The purpose of this study is elucidating the role of ovarian hormones in the development of ovarian cancer.

Methods: To evaluate the effects of steroid hormones on HGSC development, upon ovariectomy at 5-6 weeks of age, DKO mice were implanted subcutaneously with a pellet of 17-β estradiol (E2) (0.72 mg/90 days/mouse), progesterone (P4) (25 mg/90 days/mouse), or combined E2 (0.72 mg) & P4 (25 mg). Also, for shorter periods of P4 exposure, ovariectomized DKO mice were treated with a P4 pellet of 2 mg (1 week) or 6 mg (3 weeks). Another set of ovariectomized DKO mice implanted with a placebo served as controls. To examine whether mifepristone (RU486) inhibits HGSC development in DKO mice by blocking PR, DKO mice with intact ovaries were implanted with a mifepristone pellet once at 9 mg/90 days (3 months) or three times at 33.3 mg/60 days. For a control group, DKO mice received a placebo pellet for mifepristone.

Results: We show that ovarian progesterone is a crucial endogenous factor inducing the development of primary tumors progressing to metastatic ovarian cancer in a mouse model of high- grade serous carcinoma (HGSC), the most common and deadliest ovarian cancer type. Blocking progesterone signaling by the pharmacologic inhibitor mifepristone or by genetic deletion of the progesterone receptor (PR) effectively suppressed HGSC development and its peritoneal metastases. Strikingly, mifepristone treatment profoundly improved mouse survival (~18 human years).

Conclusions: Targeting progesterone/PR signaling could offer an effective chemopreventive strategy, particularly in high-risk populations of women carrying a deleterious mutation in the BRCA gene.
BCARE - FUNCTIONALLY ASSESSING TREATMENT RESPONSE IN OVARIAN CANCER PATIENTS

E-POSTER VIEWING

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Objectives: Treatment regimens in oncology frequently become personalized and multimodal. Therefore, reliable biomarkers to predict drug responses are needed. Here, we establish a functional assay reflecting response to DNA damage-based treatment approaches.

Methods: Our Bimodal prediction of ovarian CAncer treatment REsponse (BCARE) score combines irradiation-induced DNA damage with functional assessment of homologous recombination (HR) DNA repair visualized by immunofluorescence detection of $\gamma$H2AX and cyclinA2/RAD51 positive cells. BCARE is quantified by automated image analysis using Image J and R/Bioconductor. Treatment response of cancer cells to PARP inhibition, radiotherapy, and chemotherapy is analyzed by colony formation and MTT cell viability assays.

Results: BCARE reflects the percentage of RAD51/cyclinA2 double positive cells. It significantly correlated with response to various drugs tested in 6 ovarian cancer cell lines: olaparib ($R=0.92$, $p=0.0095$), radiotherapy ($R=0.78$, $p=0.0374$), cisplatin ($R=0.85$, $p=0.0325$), doxorubicin ($R=0.92$, $p=0.0095$), and carboplatin ($R=0.77$, $p=0.0738$). Additionally, we show that the BCARE coincides with the cisplatin-resistant phenotype of A2780 cell line (BCARE A2780 3.3% versus 39% in A2780-cisplatin-resistant cells). The assay currently tests ex vivo patient derived cultures using a retrospective cohort of ovarian cancer patients. Correlations between BCARE scores and patient response to treatment will be investigated.

Conclusions: Our BCARE-Score is capable of identifying dynamic alterations in HR-pathways as indicated by the differences observed in A2780 and cisplatin-resistant subline, which is not assessed by the current clinically applied HR assays. BCARE shows clear potential to be an effective tool in the prediction of primary drug response and more importantly in the detection of developed drug resistance.
Objectives: To evaluate the feasibility and safety of laparoscopically staging patients with previous incomplete staged gynaecological cancers

Methods: Patients without presurgical evidence of metastatic disease were laparoscopically reassessed. The procedure involved para-aortic and pelvic lymph node dissection and omentectomy for ovarian, fallopian tube and endometrial carcinoma; exclusive pelvic lymph node dissection for cervical carcinoma, oophorectomy and omentectomy for borderline tumors. Medical records were reviewed.

Results: We performed 51 laparoscopic restaging surgeries: 14 ovarian cancer, 15 endometrial cancer, 17 borderline ovarian tumors, 4 cervical cancers and one fallopian tube carcinoma. Mean age was 48 years (16-70). In 39 patients the first surgery was performed by laparotomy. The mean body mass index was 28 (20-40). Operative room time was 203 min (70–390) and mean postoperative hospital stay was 2 days. We performed 32 pelvic lymphadenectomies (average 15 lymph nodes), 30 para-aortic lymphadenectomies (8 lymph nodes), 27 omentectomies and 17 hysterectomies. Average estimated blood lost was 85 cc. There was one laparo-conversion for adhesions, one bowel injury, one cardiorespiratory arrest at recovery room and 2 lymphatics cystics. Lymph nodes and omentum were negative for metastasis. There were no patients up staged, in 9 endometrial and 9 ovarian cancers the complete negative restaging allowed us to decide that adjuvant therapy was not necessary. Five patients received adjuvant radiotherapy and 5 chemotherapy.

Conclusions: Laparoscopy is a feasibility technical option to perform restaging of gynaecological malignancies. Decreasing hospital stay, postoperative pain, few blood lost and low morbidity. Laparotomy for adhesions and risk of visceral injury may be anticipated.
CLINICAL AND SURVIVAL OUTCOMES OF MALIGNANT NON-DYSGERMINOMATOUS GERM CELL TUMOR OF OVARY: A SINGLE INSTITUTIONAL EXPERIENCE OF 64 PATIENTS

E-POSTER VIEWING

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Objectives: To evaluate clinicopathological features and survival outcomes of malignant non-dysgerminomatous germ cell tumor (MNDGCT) of the ovary.

Methods: We retrospectively recorded clinicopathological and therapeutic data of 64 patients with MNDGCT of ovary treated at the Salah Azaiez Institute of Tunisia between 1970 and 2012.

Results: The median age was 26 years (range 7-75 years). The most frequent subtype was immature teratoma (n=27, 42.18%) followed by yolk-sac tumor (n=15, 23.43%) and mixed germ cell tumor (n=11, 17.18%). Most of the patients had stage I and II disease (41 cases, 64.1%) while 17 (26.6%) and 6 (9.3%) were staged III and IV disease, respectively. Radical surgery was performed in 23 patients (35.8%) and conservative surgery in 41 patients (64.2%) associated with lymph node dissection in 19 cases. Complete macroscopic resection was obtained in 48 patients (78.68%) and lymph node metastasis was observed in 41.5% of cases. Adjuvant chemotherapy was indicated in cases in 54.68% of cases. After a mean time follow-up of 74 months (7-182 months), complete remission was observed in 47 patients. The 5-year progression-free survival (PFS) was 73.5%. The 5-year overall survival (OS) was 82.23% and was significantly decreased in young patients ≤15 years (49.5% vs 89.4%; p=0.003), advanced stage (94.6% in stage I-II vs 59.8% in stage III-IV; p=0.01) and macroscopic residual disease (88.9% vs 52.9%; p=0.02). No difference in OS was noted following stratification by tumor size ≤ or >20 cm (84.7% vs 74.6%; p=0.44) and conservative or radical surgery (89.8% vs 70%; p=0.34).

Conclusions: Macroscopic residual disease as well as advanced FIGO stage and age are the main prognostic factors in MNDGCT.
CLINICAL AND SURVIVAL OUTCOMES OF PURE DYSGERMINOMA OF OVARY: A SINGLE INSTITUTIONAL EXPERIENCE OF 31 PATIENTS

E-POSTER VIEWING

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Objectives: To evaluate clinicopathological features and survival outcomes of pure dysgerminoma of the ovary

Methods: We retrospectively recorded clinicopathological and therapeutic data of 31 patients with pure dysgerminoma of ovary treated at the Salah Azaiez Institute of Tunisia between 1970 and 2012.

Results: The median age was 22 years (12-60 years). The distribution of patients according FIGO stage was as follow: stage I: 16 (51.6%), stage II: 3 (9.7%), stage III: 11 (35.5%) and stage IV: 1 case. Radical surgery was performed in 11 patients and conservative surgery in 20 patients (64.5%) associated with node picking lymphadenectomy in 7 cases and complete lymphadenectomy in 7 cases. Complete macroscopic resection was obtained in 22 cases (70.96%) and lymph node metastasis was observed in 51.1% of cases. Adjuvant chemotherapy was indicated in 15 cases and adjuvant radiotherapy in 10 cases. After a mean time follow-up of 74 months (7-182 months), complete remission was observed in 26 patients. The 5-year progression-free survival (PFS) was 85.2%. The 5-year overall survival (OS) was 89.5% and was significantly decreased in the advanced stage (100% in stage I-II vs 75% in stage III-IV; p=0.02). There was a significant difference in OS and PFS between complete resection and residual disease groups (100% vs 67.5%; p=0.03 and 88.9 vs 75%; p=0.03, respectively). No difference in OS and PFS was noted following stratification by age ≤or>15 years (p=0.36 and p=0.1), tumor size ≤or>20cm (p=0.27 and p=0.68) and conservative or radical surgery (p=0.87 and p=0.17).

Conclusions: Macroscopic residual disease, as well as advanced FIGO stage, were the main prognostic factors in pure dysgerminoma of the ovary.
REAL-WORLD DATA ANALYSIS OF SECOND-LINE POLY(ADP-RIbose) POLYMERASE INHIBITOR MAINTENANCE THERAPY IN PATIENTS WITH ADVANCED OVARIAN CANCER

E-POSTER VIEWING

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Objectives: Poly(ADP-ribose) polymerase inhibitors (PARPis) have been recommended since 2017 as second-line (2L) maintenance treatment by the NCCN for ovarian cancer (OC) patients with or without BRCA1 or BRCA2 (BRCA) alterations. Here, we assessed PARPi use from real-world data.

Methods: From the iKnowMed electronic health record database of the US Oncology Network (>470 sites), adult females were included if they were diagnosed with advanced OC, received a 2L platinum-containing regimen for advanced OC, and had ≥2 visits between 1 January 2016 and 1 July 2020. Patients were followed until 31 October 2020, last patient record, or death, whichever occurred earliest. A 24-month landmark survival analysis was performed.

Results: Out of 11,494 patients diagnosed with advanced OC, 1051 met the inclusion criteria; 513/1051 (49%) subsequently received any maintenance therapy (Table). The proportion of patients receiving 2L PARPi maintenance increased from 17% in 2018 to 34% in 2019 but decreased to 22% in 2020 (Figure 1). Among BRCA+ patients, 33% (46/140) received 2L PARPi maintenance, while documented BRCA– patients received PARPi maintenance at a significantly lower rate (23%; 155/622; P=0.0192). Survival at 24 months was significantly higher with PARPi maintenance vs active surveillance: 61.2% (95% CI, 52.4%–68.8%) vs 53.0% (95% CI, 47.1%–58.7%; log-rank P=0.0045) (Figure 2).

Conclusions: Our data suggest a significant proportion of eligible patients are not receiving 2L maintenance therapy despite treatment guideline recommendations and apparent survival benefits associated with its use.

<table>
<thead>
<tr>
<th>Patients receiving 2L platinum-based chemotherapy (N=1051)</th>
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<td>n (%)</td>
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Figure 1. Proportion of patients receiving 2L PARPi maintenance or no maintenance (active surveillance)

<table>
<thead>
<tr>
<th>Year</th>
<th>PARP Inhibitor</th>
<th>Active Surveillance</th>
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<tbody>
<tr>
<td>2017</td>
<td>17.2</td>
<td>27.1</td>
</tr>
<tr>
<td>2018</td>
<td>29.3</td>
<td>45.4</td>
</tr>
<tr>
<td>2019</td>
<td>33.8</td>
<td>39.3</td>
</tr>
<tr>
<td>2020</td>
<td>22.3</td>
<td>48.7</td>
</tr>
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n=61  n=96  n=60  n=93  n=74  n=86  n=61  n=133

Figure 2. Overall survival

Overall survival (%)

<table>
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<tr>
<th>Months</th>
<th>PARP Inhibitor</th>
<th>Active Surveillance</th>
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<tr>
<td>0</td>
<td>100</td>
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<tr>
<td>6</td>
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Patients at-risk

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SENTINEL LYMPH NODE IDENTIFICATION IN EARLY STAGE OVARIAN CANCER: IS IT STILL POSSIBLE AFTER PRIOR TUMOR RESECTION?

E-POSTER VIEWING

P. Laven1, R. Kruitwagen2, S. Lambrechts2, T. Van Gorp3, B. Slangen4, P. Zusterzeel5, J. Van Der Pol6
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Objectives: Sentinel lymph node (SLN) detection in ovarian cancer is feasible when tracers are injected before the pathological ovary is resected. This study aims to investigate whether the SLN identification is also feasible in patients whose ovarian tumor has already been resected with injection of the tracer into the ovarian ligaments stumps, i.e. in the event that a frozen section confirms malignancy.

Methods: Patients who underwent laparotomy with frozen section confirming an ovarian malignancy, and those who underwent a second staging laparotomy after prior resection of a malignant ovarian mass, were included. Blue dye and a radioactive isotope were injected in the stumps of the ligamentum ovarium proprium and the ligamentum infundibulo-pelvicum. After an interval of at least 15-minutes, the sentinel node(s) were identified using either the gamma-probe and / or blue dye.

Results: A total of 11 patients were included in the study, the sentinel node (SLN) procedure was completed in all 11 patients. At least one SLN was identified in 3 patients, resulting in a rather low detection rate of 27.3%.

Conclusions: In this study we showed that SLN procedure after (previous) resection of the tumor seems inferior to detect sentinel nodes when compared to injection of the tracer in the ovarian ligaments before tumor resection.
"QUICK" LAPAROSCOPY FOR SUSPECTED ADVANCED OVARIAN CANCER

E-POSTER VIEWING

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Medical University of Graz, Obstetrics And Gynecology, Graz, Austria

Objectives: Primary therapy planning, meaning primary surgery vs. neoadjuvant chemotherapy (NACT), in suspected advanced ovarian cancer is a professional and logistical challenge. Prompt diagnostic laparoscopy in such patients should confirm the diagnosis by frozen section, assess operability and thus, avoid unnecessary laparotomies.

Methods: Retrospective evaluation of 130 patients who presented in 2016-2020 with suspected advanced ovarian cancer (peritoneal carcinomatosis, ascites on average 1,5L).

Results: In 2016-20, 82/130 patients (63%) underwent diagnostic laparoscopy; the others received either primary laparotomy, NACT, palliative chemotherapy, or best supportive care. 47% percent of the 82 patients were triaged to NACT, and 53% to primary surgery. The median time between initial presentation and laparoscopy was almost 8 days, the time from laparoscopy to 1st cycle of NACT was 14 days, and the time from laparoscopy to laparotomy was 15d. The rate of R0 resections in patients with primary surgery after laparoscopy was 84%.

Conclusions: Diagnostic laparoscopy seems to be an efficient measure in the workup and treatment planning of patients with suspected advanced ovarian cancer. The times between first presentation and laparoscopy as well as between laparoscopy and NACT or primary laparotomy need improvement.
INGUINAL METASTASES AS PRESENTING SIGN OF OVARIAN CANCER

E-POSTER VIEWING

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Objectives: Inguinal lymph nodes involvement as first manifestation of ovarian cancer is a rare event and its prognostic value is not well known.

Methods: A retrospective chart review was conducted on ovarian cancer patients treated at the University of Bari, between 2008 and 2020. Pertinent clinical information (age, size, histology, BRCA status, laterality at diagnosis, other distant sites of disease), response to first-line treatment, site of relapse and overall survival were collected for 7 patients.

Results: Median age at diagnosis was 64 years (range 40-81), 3 patients had other sites of distant disease at the time of ovarian cancer diagnosis (spleen, liver, bone, lung). Median size of inguinal lymph node was 24 mm (range 14-36 mm), 4 had right inguinal involvement, 2 left and one bilateral nodes. The patients had primary surgery including groin dissection, whereas 5 patients had neoadjuvant chemotherapy with paclitaxel and carboplatin following biopsy or removal of groin nodes and complete inguinal dissection was performed at interval debulking surgery. Six patients had high grade serous ovarian carcinoma and one had high grade ovarian endometrioid histotype. BRCA status was known for five patients, and only one patient was a BRCA2 mutation carrier. 4 patients experienced a relapse at a median of 15 months (range 6-25) and in no case relapse was at the level of the groins. 3 patients died and 4 are alive without evidence of disease. Median survival was 64 months (range 16-151).

Conclusions: Groin involvement is rare presenting sign of ovarian cancer and this location carries a good prognosis.
THE FOLLOW UP MANAGEMENT OF BORDERLINE OVARIAN TUMOURS: A 10-YEAR EXPERIENCE

E-POSTER VIEWING

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University Hospitals Dorset NHS Foundation Trust, Obstetrics And Gynaecology, Bournemouth, United Kingdom

Objectives: Borderline ovarian tumours (BOT) are a unique category of ovarian tumours. National guidance states regular sonographic follow up is essential after fertility sparing surgery (FSS), whereas, follow up in patients with early disease after BSO is uncertain. Our aim was to audit current practice and determine local recurrence rate.

Methods: A retrospective single centre study over a 10-year period to compare current standard of care to the BGCS and Local Network Guidelines.

Results: 78 patients were diagnosed with BOT during the 10-year period. 9 patients had FSS, the majority were mucinous BOT (77.8%) and stage 1 disease (88.9%). 44.4% have had or plan to have completion surgery and remaining 55.6% had variable sonographic/clinical follow up to a maximum 5 years. 69 patients had non-fertility sparing surgery, the majority were serous BOT (55.1%). 78.2% had stage 1 disease, 44.4% were discharged, 40.7% enrolled in the Borderline Ovarian Trial (annual review and CA125) and the remaining 14.8% had variable follow up. 14.5% had stage 2 or 3 disease, 60% received standardised follow up for 5 years, 30% enrolled in the Trial and 10% discharged. 2 patients (2.6%) experienced a malignant recurrence, 1 serous and 1 mucinous BOT. Both had initial pelvic clearance surgery with full staging.

Conclusions: In line with guidance, all patients who had FSS underwent follow up, and the majority of patients with early stage disease after BSO were appropriately discharged. Overall, 9.2% of patients had variable follow up that requires standardisation. Risk of recurrence is low, however, both cases were malignant.
E-POSTER VIEWING

A. Ennes\(^1\), M. Wagner\(^1\), E. Mayerhoff\(^1\), C. Anton\(^1\), L. Leite\(^2\), L. Testa\(^3\), J. Carvalho\(^1\)

\(^1\)Instituto do Câncer do Estado de São Paulo, Ginecologia E Obstetrícia, Sao Paulo, Brazil, \(^2\)AC Camargo Cancer Center, Oncologia, São Paulo, Brazil, \(^3\)Instituto do Câncer do Estado de São Paulo, Oncologia Clínica, Sao Paulo, Brazil

**Objectives:** Evaluation of ovarian cysts (OCy) are specially challenging in patients with a history of breast cancer (BC). We aimed to characterize a population of BC patients submitted to oophorectomy for OCy and establish risk factors for malignant findings on surgical specimen.

**Methods:** All BC patients treated with oophorectomy for OCy between 2008-2021 at a tertiary hospital, were retrospectively reviewed.

**Results:** 66 patients were eligible. Characteristics are described in Table 1. Most (71.2%) had no cancer/benign lesions in the surgical specimens of the ovaries, 10.6% had ovarian cancer, 15.2% had BC metastasis and 3% had borderline lesions. Between the no cancer/benign/borderline the median IOTA-ADNEX/benign was 92.5% (IQR 62.6-96.6). Between the ovarian cancer the median IOTA-ADNEX/primary-malign was 83.7% (IQR 41-89.1). In the metastatic lesions the median IOTA-ADNEX/secondary-malign was 1.5% (IQR 0.3-12). The following variables were associated with a greater risk of malign ovarian histology: metastatic BC at diagnosis (p=0.01), ascites (p=0.004), elevated CA125 (p=0.01), elevated CA15.3 (p=0.002). Table 1

<table>
<thead>
<tr>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Median age (range)</td>
<td>51(27-76)</td>
</tr>
<tr>
<td>Histology (%)</td>
<td></td>
</tr>
<tr>
<td>Invasive Ductal</td>
<td>57(86.4)</td>
</tr>
<tr>
<td>Invasive Lobular</td>
<td>2(3)</td>
</tr>
<tr>
<td>Ductal in situ</td>
<td>3(4.5)</td>
</tr>
<tr>
<td>Other</td>
<td>4(6)</td>
</tr>
<tr>
<td>Staging (%)</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1(1.6)</td>
</tr>
<tr>
<td>1</td>
<td>10(15.9)</td>
</tr>
<tr>
<td>2</td>
<td>23(36.5)</td>
</tr>
<tr>
<td>3</td>
<td>19(30.2)</td>
</tr>
<tr>
<td>4</td>
<td>10(15.9)</td>
</tr>
<tr>
<td>Family History Breast Cancer(%)</td>
<td>21(31.8)</td>
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<tr>
<td>Family History Ovarian Cancer(%)</td>
<td>6(9.1)</td>
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<tr>
<td>Suspected Hereditary breast-ovarian cancer(%)</td>
<td>6(9.1)</td>
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<tr>
<td>BC subtype(%)</td>
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<tr>
<td>HR+/HER2-</td>
<td>45(68.2)</td>
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<tr>
<td>HER2+</td>
<td>11(16.7)</td>
</tr>
<tr>
<td>TNBC</td>
<td>8(12.1)</td>
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<tr>
<td>median IOTA-ADNEX/benign risk (IQR), N=51</td>
<td>91.2(61-96.6)</td>
</tr>
<tr>
<td></td>
<td>Median (IQR)</td>
</tr>
<tr>
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<td>-----------------------</td>
</tr>
<tr>
<td>Median IOTA-ADNEX/primary malign (IQR), N=51</td>
<td>8.8(3.4-39)</td>
</tr>
<tr>
<td>Median IOTA-ADNEX/secondary malign (IQR), N=51</td>
<td>1.1(0.3-5.6)</td>
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<tr>
<td>Median CA15.3(IQR), N=46</td>
<td>21.4(12.9-37.4)</td>
</tr>
<tr>
<td>Median CA125(IQR, N=62</td>
<td>18.5(11.3-39.3)</td>
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**Ovarian histology(%)**

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>No cancer</td>
<td>15(22.7)</td>
</tr>
<tr>
<td>Benign</td>
<td>32(48.5)</td>
</tr>
<tr>
<td>Borderline</td>
<td>2(3)</td>
</tr>
<tr>
<td>Ovarian cancer</td>
<td>7(10.6)</td>
</tr>
<tr>
<td>BC metastasis</td>
<td>10(15.2)</td>
</tr>
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</table>

**Conclusions:** CA125/CA15.3 are good pre-operative markers, IOTA-ADNEX is a good tool to distinguish bening cysts and OC.
DISPARATE TRENDS IN OVARIAN CANCER IN ASIANS LIVING IN ASIA AND THE UNITED STATES

E-POSTER VIEWING

C.-I. Liao, E. Thayer, A. Moon, D. Wong, A. Chan, A. Milki, A. Francoeur, J. Chan

Objectives: To describe trends in ovarian cancer among native Asians and in the United States.

Methods: Data were obtained from the United States Cancer Statistics (USCS) and Taiwan Cancer Registry of Taiwan Health and Welfare Data Center from 2001 to 2017. SEER*Stat 8.3.9, Joinpoint regression program 4.8.0.1, and Excel were used to calculate incidences and trends.

Results: From 2001 to 2017, ovarian cancer incidence rose in native Asians (Taiwan) at a rate of 2.1% per year (p<0.001) while they fell in US Asians at 1.2% per year (p=0.026). Native Asians had increasing incidences of cancers of all cell types, with the fastest growth seen in rare ovarian tumors such as carcinosarcoma (6.4% per year, p=0.003), clear cell carcinoma (6.2% per year, p<0.001), and sex cord stromal (5.7% per year, p<0.001). Interestingly, although the overall incidence of ovarian cancer decreased in US Asians, the incidence of clear cell carcinoma rose 2.1% per year (p<0.001) in this group. In 2017, the peak age ovarian cancer in native Asians was 55-59 years old, younger than the peak in US Asians at 75-79 years old.

Conclusions: From 2001 to 2017 the ovarian cancer incidence in native Asians rose, driven by increases in rare tumors, while the incidence in Asians living in the US declined, leading to 25% more cancers among native Asians than US Asians.
THE CLINICAL DEMAND FOR PRESSURIZED INTRAPERITONEAL AEROSOL CHEMOTHERAPY IN SOUTH KOREA: AN ELECTRONIC SURVEY-BASED STUDY

E-POSTER VIEWING

E.J. Lee¹, S.J. Park¹, J. Mun², H. Paik², J. Lee², A. Seol², J. Kim², N. Lee³, G.W. Yim⁴, S.-H. Shim⁵, H.S. Kim¹, S.-J. Chang⁶
¹Seoul National University College of Medicine, Obstetrics And Gynecology, Seoul, Korea, Republic of, ²Seoul National University College of Medicine, Department Of Obstetrics And Gynecology, Seoul, Korea, Republic of, ³CHA Gangnam Medical Center, Obstetrics And Gynecology, Seoul, Korea, Republic of, ⁴Dongguk University Ilsan Hospital, Department Of Obstetrics And Gynecology, Goyang, Korea, Republic of, ⁵Konkuk University School of Medicine, Obstetrics And Gynecology, Seoul, Korea, Republic of, ⁶Ajou University School of Medicine, Obstetrics And Gynecology, Suwon, Korea, Republic of

Objectives: Pressurized intraperitoneal aerosol chemotherapy (PIPAC) is effective for treating solid tumors with peritoneal metastasis. However, PIPAC is not a standard treatment globally and is currently only used in the limited areas. Thus, we performed a survey of surgical oncologists related to PIPAC to evaluate the clinical desire for PIPAC in South Korea, one of the many countries where PIPAC has not yet been introduced.

Methods: We performed an online survey of Korean surgical oncologists between November and December 2019. The questionnaire consisted of 20 questions related to PIPAC, which were divided into comprehensive inquiry (5 questions), procedure inquiry (13 questions), and cost inquiry (2 questions).

Results: A total of 164 respondents answered the questionnaire. Among all respondents, 41.7-50% majoring in ovarian cancer, pseudomyxoma peritonei, and malignant mesothelioma preferred PIPAC for the curative treatment of primary diseases, whereas 32.7-33.3% majoring in colorectal and hepatobiliary cancers chose PIPAC for the palliative treatment of recurrent diseases. Moreover, 66.7-95.2% of the respondents considered PIPAC appropriate for the cancers the specialized in. About 70% expected a treatment response of more than 50% through the repeated implementation of PIPAC under general anesthesia. Respondents also considered grade 1 or 2 minor surgical complications an acceptable risk. Finally, respondents considered the reasonable costs to purchase and implement PIPAC once at between 1,000,000-5,000,000 KRW.

Conclusions: Although the treatment scope for applying PIPAC was different among Korean surgical oncologists, most of them expected relatively high tumor response rates with minor toxicities through the repeated implementation of PIPAC.
SURVIVAL IN CASE OF CARDIOPHRENIC LYMPHADENOPATHY IN ADVANCED STAGE EPITHELIAL OVARIAN CANCER PATIENTS WHO UNDERWENT CYTOREDUCTIVE SURGERY; A SYSTEMATIC REVIEW AND META-ANALYSIS

E-POSTER VIEWING

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Objectives: Favorable survival outcomes for patients with advanced stage epithelial ovarian cancer (ASEOC) is associated with complete cytoreduction. In this meta-analysis we evaluate the therapeutic role of cardiophrenic lymph nodes (CPLNs) resection ASEOC who have undergone cytoreductive surgery.

Methods: Embase, Medline, Web of science, Cochrane Library and Google scholar were searched for articles published in English from their inception to November 2020. Meta-analysis was conducted to determine the prognostic impact of surgical outcome, postoperative complications and survival.

Results: Fifteen relevant articles, 727 patients with CPLNs adenopathy and 981 patients without CPLNs adenopathy, were analyzed. Higher percentage of ascites, intra and extra abdominal metastases was observed in CPLNs adenopathy group. The mean size of pre-operative CPLNs was 9.1± 3.75mm. Eighty-two percent of enlarged CPLN were histological confirmed. No difference in surgical outcome and perioperative complication was observed between both groups. Meta-analysis showed that patients with CPLNs adenopathy had a significantly increased risk of disease recurrence (OR 4.56, 95% CI 1.98-10.51, P<0.001) and dying from disease (OR 2.96, 95% CI 2.08- 4.22, p<0.001) in comparison to those without CPLNs adenopathy.

Conclusions: Patients with CPLNs adenopathy had higher tumor burden intra and extra-abdominally and decreased survival compared to patients without CPLNs adenopathy. There is not enough available data to confirm the therapeutic role of CPLNs resection. Therefore, a randomized controlled trial should be conducted to demonstrate the benefit of CPLNs resection in cytoreductive surgery.
PROGNOSTIC IMPLICATIONS OF HEMODYNAMIC INSTABILITY DURING OVARIAN CANCER SURGERY

E-POSTER VIEWING

J. Kim¹, S.I. Kim¹, A. Seol¹, H.S. Kim¹, H.H. Chung¹, J.-W. Kim¹, N.H. Park¹, Y.-S. Song¹, M. Lee¹,²
¹Seoul National University College of Medicine, Department Of Obstetrics And Gynecology, Seoul, Korea, Republic of, ²Seoul National University Hospital, Department Of Obstetrics And Gynecology, Seoul, Korea, Republic of

Objectives: To evaluate the impact of intraoperative hypotension and hemodynamic instability on survival outcomes in patients with high-grade serous ovarian carcinoma (HGSOC).

Methods: We retrospectively identified patients with HGSOC, who underwent primary or interval debulking surgery between August 2013 and December 2019. We collected anesthesia-related variables, including the arterial blood pressure measurements (at 1-min interval) during surgery of patients. The cumulative duration of mean arterial blood pressure (MAP) readings under 65 mmHg and two performance measurements (median performance error [MDPE] and wobble) were calculated. We investigated associations between the factors indicating hemodynamic instability and prognosis.

Results: In total, 338 patients were included. Based on the cumulative duration of MAP under 65 mmHg, we divided patients into two groups: ≥30 min and <30 min. The progression-free survival (PFS) was worse in the ≥30 min group (n=107) than the <30 min group (n=231) (median, 18.2 vs. 23.7 months; P=0.014). In multivariate analysis adjusting for confounders, a duration of ≥30 min of MAP under 65 mmHg was identified as an independent poor prognostic factor for PFS (adjusted HR, 1.376; 95% CI, 1.035-1.830; P=0.028). Shorter PFS was observed in the group with a MDPE <4.0% (adjusted HR, 1.351; 95% CI, 1.024-1.783; P=0.033) and a wobble ≥7.5% (adjusted HR, 1.445; 95% CI, 1.100-1.899; P=0.008). However, no differences were observed in overall survival.

Conclusions: The three intraoperative variables for hemodynamic instability, cumulative duration of MAP <65 mmHg, MDPE, and wobble, might be novel prognostic biomarkers for disease recurrence in patients with HGSOC.
INCOMPLETE CYCLES OF CHEMOTHERAPY USING WEEKLY GEMCITABINE AFFECTING PROGNOSIS OF PLATINUM-RESISTANT OVARIAN CANCER

E-POSTER VIEWING

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¹Seoul National University College of Medicine, Department Of Obstetrics And Gynecology, Seoul, Korea, Republic of, ²Seoul National University College of Medicine, Obstetrics And Gynecology, Seoul, Korea, Republic of

Objectives: To evaluate the risk of incomplete cycles of weekly gemcitabine on survival for patients with platinum-resistant ovarian cancer (PROC).

Methods: We collected patients with PROC who received weekly gemcitabine (1000mg/m²; D1, D8 every 3 weeks or D1, D8, D15 every 4 weeks) between 2006-2018. We investigated rates of completed cycles, skipped cycles, dose reduction (DR) and prophylactic granulocyte colony-stimulating factor (G-CSF) usage, tumor response and factors affecting progression-free survival (PFS) and overall survival (OS).

Results: A total of 101 patients with PROC received weekly gemcitabine. 58(57.4%) completed scheduled cycles without skip and 86 (85.1%) completed more than 80% of scheduled cycles. DR and the use of G-CSF were observed in 34(33.7%) and 25 patients (24.8%), respectively. Weekly gemcitabine was skipped because of grade3 or more hematologic toxicity(31.7%). Complete response, partial response, stable disease and progressive disease were identified in 1(1%), 12 (11.9%), 26 (25.7%) and 61 (60.4%). In terms of survival, the completion rate of scheduled cycles≥80% was a factor for better OS (median OS, the completion rate of scheduled cycles≥80% vs. <80%, 39.23 months vs. 8.97 months, p=0.011), but not for better PFS (median PFS, the completion rate of scheduled cycles≥80% vs. <80%, 2.89 months vs. 2.43 months, p=0.238). Use of G-CSF was factor for better PFS and OS (median PFS, G-CSF group vs. non-G-CSF group, 2.53 month vs. 2.07 month, p=0.023; median OS, 39.23 months vs. 14.72 months, p=0.011)

Conclusions: Incompletion of scheduled cycles of weekly gemcitabine may be associated with prognosis, and especially, the completion rate of scheduled cycles<80% may not improve survival in patients with PROC.
SURVIVAL IMPACT OF INTERNAL MAMMARY OR SUPRACLAVICULAR LYMPHADENECTOMY ON STAGE IVB OVARIAN CANCER WITH SUPRADIAPHRAGMATIC LYMPH NODE METASTASIS

E-POSTER VIEWING

S.J. Park¹, M. Lee², H.H. Chung², J.-W. Kim¹, N.H. Park², Y.-S. Song², S. Park³, H.S. Kim⁴
¹Seoul National University College of Medicine, Obstetrics And Gynecology, Seoul, Korea, Republic of, ²Seoul National University College of Medicine, Department Of Obstetrics And Gynecology, Seoul, Korea, Republic of, ³Seoul National University Hospital, Department Of Thoracic And Cardiovascular Surgery, Seoul, Korea, Republic of, ⁴Seoul National University Hospital, Department Of Obstetrics And Gynecology, Seoul, Korea, Republic of

Objectives: To evaluate the survival impact of extensive lymphadenectomy as part of debulking surgery in stage IVB ovarian cancer with supradiaphragmatic lymph node metastasis.

Methods: We retrospectively enrolled patients with stage IVB ovarian cancer who had 5 mm or larger lymph nodes in the supradiaphragmatic area including cardiophrenic, internal mammary and supraclavicular lymph nodes on computed tomography (CT) between January 2010 and January 2020, which were resectable evaluated by thoracic surgeon. Optimal debulking surgery (ODS) was defined as residual disease less than 5mm in both abdominal and thoracic cavities, and suboptimal debulking surgery (SDS) was defined as residual disease more than 5mm in abdominal or thoracic cavities.

Results: A total of 121 patients underwent primary debulking surgery (PDS, n=68) and interval debulking surgery after neoadjuvant chemotherapy (IDS, n=53). Patients who underwent ODS showed better progression-free survival (PFS) than those who underwent SDS during PDS (median, 23.7 vs. 14.1 mons; p=0.035) despite no difference of PFS between ODS and SDS in those treated with IDS. Moreover, internal mammary or supraclavicular lymphadenectomy, bevacizumab administration and abdominal optimal cytoreduction were favorable factors for PFS in patients who underwent PDS (adjusted hazard ratios, 0.169, 0.185, 0.154; 95% confidence intervals, 0.059-0.484, 0.061-0.557, 0.043-0.550; p=0.001, 0.003, 0.004) despite no factors affecting PFS in those treated with IDS.

Conclusions: Internal mammary or supraclavicular lymphadenectomy for ODS during PDS may have the potential to improve PFS in patients with stage IVB ovarian cancer with supradiaphragmatic lymph node metastasis.
PLATINUM-SENSITIVE OR RESISTANT RELAPSED OVARIAN CANCER: WHICH PREDICTIVE FACTORS?

E-POSTER VIEWING

Y. Berrazaga¹, N. Mejri¹, H. Rachdi¹, M. Ferjaoui², R. Arfaoui³, N. Daoud¹, H. Boussen¹
¹Abdrahman Mami hospital medical oncology department Tunisia, Medical Oncology, Ariana, Tunisia, ²maternity and neonatal center of Tunis, B, tunis, Tunisia, ³Tunis military hospital, Department Of Gynecology And Obstetrics, Tunis, Tunisia

Objectives: The platinum-free interval (PFI) in epithelial ovarian cancer is a major factor that guides the management and predicts prognosis of the disease. We aimed to study predictive factors which impact PFI in epithelial ovarian cancer in Tunisia.

Methods: We conducted a retrospective monocentric study including 60 Tunisian patients with relapsed epithelial ovarian cancer between October 2012 and December 2018. Clinico-pathological data, treatment and survival data were collected from medical records. Predictive factors were identified by logistic regression following the Cox regression model.

Results: The median age at first diagnosis was 59 years [28-85 years]. Relapsed ovarian cancers were platinum-sensitive in 65% (n=39) and resistant in 35% (n=21) of cases. Overall 2-year survival was 87% in the sensitive relapse group versus 11% in the resistant group (p<0.001). Age, Body mass index, histologic type, grade and timing of initial surgery didn’t impact significantly the interval of relapse. However, short platinum-free interval (< 6 months) was correlated with: advanced stage at diagnosis (IIA to IV) (Odds ratio, OR:1.67, 95% Confidence interval, CI [1.34-2.09]) and incomplete staging at the initial surgery (OR: 3.4, 95% CI [1.07-10.84]).

Conclusions: The interval of relapse is correlated with the extension of the disease and/or with the quality of surgery. Patients should be referred to expert centers.
OVERALL SURVIVAL PROGNOSTIC FACTORS IN RECURRENT EPITHELIAL OVARIAN CANCER IN TUNISIA

E-POSTER VIEWING

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Objectives: Epithelial ovarian cancers relapse in the majority of cases. We aimed to analyze overall survival prognostic factors in recurrent epithelial ovarian cancer in Tunisia.

Methods: We conducted a retrospective monocentric study including 60 Tunisian patients with relapsed epithelial ovarian cancer between October 2012 and December 2018. Clinico-pathological Data, treatment and survival data were collected from medical records. The Kaplan-Meier method was used to calculate overall survival (OS) and Cox regression analysis was performed to define the effects of risk factors on survival.

Results: The median age at diagnosis was 59 years [28-85 years]. Recurrent ovarian cancer were platinum sensitive in 35% (n=21), partially sensitive in 30% (n=18) and platinum-resistant in 35% (n=21) of cases. Surgery of the first recurrence was performed for 9 patients (15%). Fifty-three (88%) patients received at least one line of chemotherapy in the recurrence setting. The median number of received cycles was one [0-6]. Overall survivals at 1 year, 2 years and 5 years were respectively 83,3%, 62,1%, and 37,3%. Median overall survival was 32 months. Prognostic factors which were associated with better OS were early initial stage (I-IIA) (p=0.012), complete initial staging (p=0.001), platinum- sensitive relapse (p=0.001) and R0 resection of the relapse (p=0.001). Age, grade, relapse’s site didn’t impact significantly overall survival.

Conclusions: Overall survival of recurrent ovarian cancer remains poor. Further studies in order to promote early detection are needed. Quality of surgery constitutes a major impact factor.
SOX4 DRIVES OVARIAN CANCER STEMNESS VIA TRANSCRIPTIONALLY ACTIVATING HDAC1

E-POSTER VIEWING

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Objectives: The objective of this study is to explore the role of SOX4 in ovarian cancer stem cells (OCSCs) and elucidate the underlying mechanisms.

Methods: Ovarian cancer cell lines and primary cells were used in this study. Lentivirus system was used for genetic manipulation. Sphere-forming activity was examined by sphere formation assay. limiting dilution assay was employed to determine the frequency of sphere-forming cell. The mRNA and protein levels were determined by qRT-PCR and western blot, respectively. The effect of SOX4 on the transcriptional activity of HDAC1 promoter was tested by luciferase assay and their direct binding was determined by Chromatin immunoprecipitation (ChIP) assay. The protein levels of surface markers were examined by flowcytometry.

Results: SOX4 overexpression significantly increased the sphere-forming activities, the frequency of sphere-forming cells and the expression levels of OCSCs markers in OCSCs; SOX4 depletion led to opposite results. SOX4 directly bound to the HDAC1 promoter and increased the transcriptional activities of HDAC1 promoter and there are four SOX4-biding sites in HDAC1 promotor. HDAC1 predicts poor prognosis of ovarian cancer and positively regulates OCSCs stemness. HDAC1 ablation abolished the effect of SOX4 on OCSCs stemness.

Conclusions: The results in this study demonstrated a novel mechanism that SOX4 promotes ovarian cancer stemness by transcriptionally activating HDAC1. This finding suggests that HDAC1 inhibitor could be an effective therapeutic agent for eradicating human OCSCs driven by aberrant SOX4 upregulation.
PARP1 SUPPORTS OVARIAN CANCER STEMNESS BY UBIQUITINATION OF NUCLEAR YAP

E-POSTER VIEWING

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Objectives: The objective of this study is to improve our understanding about PARP1 in ovarian cancer stem cells (OCSCs), which would be helpful for extension of the potential of PARP inhibitors as anti-cancer drugs.

Methods: SK-OV3, primary ovarian cancer cells and xenograft mice were used in the study. Genetic manipulation was performed by lentivirus systems. The stemness of OCSCs was examined by determination of sphere-forming capacities, the frequency of sphere-forming and tumor-initiating cells and the expression levels of OCSCs markers. Immunoprecipitation assay was used for determination of the binding between PARP1 and nuclear YAP. The post-translational modification of YAP was examined by western blot.

Results: PARP1 positively regulates the stemness of OCSCs; treatment with PARP1 inhibitors also suppressed the stemness of OCSCs. PARP1 enhanced YAP activity reflected by upregulation of the mRNA levels of YAP target genes and the protein level of nuclear YAP. PARP1 enhanced the stabilization of YAP in nucleus and the ubiquitination of nuclear YAP was involved in this process. The positive correlation between PARP1 and nuclear YAP was found in both cell-based and mice models. Knockdown of YAP abolished the effect of PARP1 on OCSCs stemness.

Conclusions: PARP1 promotes the stemness of OCSCs and stabilization of nuclear YAP is the underlying mechanism. This finding is useful for extension the clinical use of PARP1 inhibitors for eradicating human OCSCs.
IMPACT OF RESIDUAL TUMOR SIZE BY COMPUTED TOMOGRAPHY AFTER PRIMARY OPTIMAL CYTOREDUCTION ON PROGNOSIS OF ADVANCED OVARIAN CANCER

E-POSTER VIEWING

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Objectives: To evaluate the prognostic significance of residual tumor size on computed tomography (CT) after upfront surgery for advanced ovarian cancer (AOC).

Methods: We collected data of patients with stage III-IV high-grade serous carcinoma of the ovary (HGSC) who underwent optimal cytoreduction between 2013 and 2018. They took CT between upfront surgery and adjuvant chemotherapy. We evaluated surgical and radiological residual tumor size after upfront surgery, which was divided into R0 (no residual lesion) and R1 (residual tumor <1 cm).

Results: A total of 106 patients received surgical R0 (n=73, 68.9%) and R1 (n=33, 31.1%). Among all patients, 66 (62.3%) and 40 (37.7%) showed radiologic R0 and R1, respectively. In 73 patients with surgical R0, 56 (76.7%) and 17 (23.3%) showed radiologic R0 and R1, whereas 10 (30.3%) and 23 (69.7%) were observed in 33 with surgical R1, respectively. In terms of survival, both surgical R0 and radiological R0 showed better progression-free survival (PFS; 26 vs. 16 mons; 33 vs. 15 mons; p <0.05), whereas no difference in overall survival based on residual tumor size. In multivariate analysis, surgical R0 was the only factor that improved PFS (adjusted HR, 0.45; 95% CI, 0.21-0.98). On the other hand, radiologic R0 didn’t reach statistical significance (adjusted HR, 0.58; 95% CI, 0.14-1.03).

Conclusions: Although patients with radiologic R0 showed better PFS in univariate analysis, there was no significance in multivariate analysis. Therefore, surgical R0 was more important factor to predict the prognosis of disease than radiologic R0 in AOC patients with optimal cytoreduction.
DEVELOPMENT OF A NOMOGRAM TO PREDICT THE FEASIBILITY OF MINIMALLY INVASIVE INTERVAL DEBULKING SURGERY IN PATIENTS WITH ADVANCED OVARIAN CANCER: A LARGE MONOCENTRIC COHORT STUDY.

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Objectives: Currently, no clear guidance defining the ideal candidate for minimally invasive interval debulking surgery (MI-IDS) exists. This study aimed to identify predictive factors of minimally invasive approach feasibility in advanced ovarian cancer (AOC) patients who were candidates to IDS after neoadjuvant chemotherapy (NACT).

Methods: This was a single institution, retrospective study. Perioperative variables were used to predict the likelihood of MI-IDS using multivariable models. A nomogram was developed, and internal validation was performed using the bootstrapping correction technique.

Results: Between 2014 and 2020, 108 (28.4%) and 272 (71.6%) patients underwent IDS by minimally invasive and open approach, respectively. Surgeon’s expertise (OR:6.27, 95% CI:3.25-12.08, p=<0.001), absence of omental cake (OR: 8.56, 95% CI: 4.22-17.33, p=<0.001), <2 peritoneal sites involvement (OR:3.11, 95% CI:1.45-6.65, p=0.003) and complete serological response (OR:2.23, 95% CI:1.21-4.11, p=0.010) appeared to be significantly correlated with MI-IDS feasibility at multivariate analysis.

<table>
<thead>
<tr>
<th>Variables</th>
<th>OR (95% CI)</th>
<th>P-value</th>
<th>OR (95% CI)</th>
<th>P-value</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
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<tr>
<td>≤75</td>
<td>3.63 (1.80-7.32)</td>
<td>&lt;0.001</td>
<td>1.49 (0.60-3.71)</td>
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<tr>
<td>BMI</td>
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<tr>
<td>≤50</td>
<td>0.96 (0.56-1.67)</td>
<td>0.904</td>
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<tr>
<td>≥50</td>
<td></td>
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<tr>
<td>BRCA mutation</td>
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<td></td>
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<tr>
<td>Wild-type</td>
<td>1.17 (0.63-2.16)</td>
<td>0.616</td>
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<tr>
<td>CCI</td>
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<tr>
<td>≤3</td>
<td>1.16 (0.72-1.87)</td>
<td>0.524</td>
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<td>&gt;3</td>
<td></td>
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<tr>
<td>CA125 response</td>
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<tr>
<td>CR</td>
<td>1.38 (1.14-3.01)</td>
<td>0.012</td>
<td>2.23 (1.21-4.11)</td>
<td>0.010</td>
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<tr>
<td>PRSD</td>
<td></td>
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<tr>
<td>MIS experience</td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td>3.76 (2.28-6.19)</td>
<td>&lt;0.001</td>
<td>6.27 (2.52-12.08)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
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<tr>
<td>Omental cake</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>No</td>
<td>11.23 (6.35-19.86)</td>
<td>&lt;0.001</td>
<td>8.56 (4.22-17.33)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>Peritoneal sites involvement</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>≤2</td>
<td>5.04 (2.58-9.69)</td>
<td>&lt;0.001</td>
<td>3.11 (1.45-6.65)</td>
<td>0.003</td>
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<td>&gt;2</td>
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A nomogram was built to visualize the effect of perioperative variables on the estimated probability of MI-IDS in patients with a clinical response after NACT. We used the four significant perioperative variables
Conclusions: A nomogram might represent a useful tool to choose the best surgical approach in patients with AOC undergoing IDS.
FULL SYSTEMATIC LYMPHADENECTOMY FOR APPARENT EARLY STAGE OVARIAN CANCER: IMPACT ON SPECIFIC LYMPHATIC MORBIDITY

E-POSTER VIEWING

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Objectives: To evaluate the rate of lymphatic-related morbidity among patients undergoing surgical staging for apparent early-stage ovarian cancer (EOC) and to report the specific patients’ lymphatic complications.

Methods: Data of consecutive patients who underwent surgical staging for EOC between 01/2002 and 12/2018 were analyzed. A self-reported validated 13-item lymphedema screening questionnaire was sent to evaluate specific lymphatic complications. Patients were stratified by the performance retroperitoneal staging into two groups: fully pelvic and aortic lymphadenectomy performed (LND) vs. no retroperitoneal staging (NO-LND). Patients who had conservative treatment were included in the study. The analysis focused only on women who answered the specific questionnaire. Patients lost at follow-up and those who reported peripheral vascular disease at the time of surgery were excluded.

Results: During the study period 140 patients were treated; according to the inclusion/exclusion criteria 107 represented our study population. Baseline characteristics such as age, BMI, Charlson Comorbidity Index (CCI) and surgical approach did not significantly differ between the groups. Patients in LND group (compared to NO-LND) had a higher rate of specific lymphatic complications (26.6% vs. 0%, p <0.01). The performance of lymphadenectomy significantly impacted the subjective lymphatic-related morbidity (score >5).

<table>
<thead>
<tr>
<th></th>
<th>LND</th>
<th>NO-LND</th>
<th>p-value</th>
</tr>
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<tbody>
<tr>
<td>Age</td>
<td>54 (13-76)</td>
<td>51.5 (32-78)</td>
<td>0.47</td>
</tr>
<tr>
<td>BMI</td>
<td>25 (17.1-41.1)</td>
<td>26.8 (17.5-40)</td>
<td>0.26</td>
</tr>
<tr>
<td>CCI 3-4</td>
<td>16 (20.2%)</td>
<td>11 (39.3%)</td>
<td>0.40</td>
</tr>
<tr>
<td>LPS surgical approach</td>
<td>64 (81%)</td>
<td>22 (78.6%)</td>
<td>0.77</td>
</tr>
<tr>
<td>Lymphatic complication</td>
<td>21 (26.6%)</td>
<td>0</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Lymphedema Median score</td>
<td>2 (1-52)</td>
<td>0 (0-4)</td>
<td>0.01</td>
</tr>
<tr>
<td>Lymphedema score &gt; 5</td>
<td>26 (32.9%)</td>
<td>0</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Conclusions: Our study confirms a high correlation between the performance of LND and specific lymphatic morbidity in patients undergoing surgical staging for EOC. The dedicated 13-item screening questionnaire might be a useful tool to categorize patients’ perception of lymphatic-related complications, including lower extremity lymphedema.
MESONEPHRIC-LIKE MULLERIAN ADENOCARCINOMA OF THE OVARY

E-POSTER VIEWING

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Objectives: INTRODUCTION: Mesonephric-like Mullerian adenocarcinomas of the ovaries are extremely rare gynecological malignancies. Their embryological and histological origin remains debatable. The more prevalent tumorigenic theories support either development from Mesonephric duct remnants of the female genital tract, or development from Mullerian lesions that undergo Mesonephric differentiation.

Methods: Case-report of a patient with ovarian Mesonephric-like Mullerian adenocarcinoma.

Results: CASE REPORT: 64 years old female patient with medical history of hypothyroidism and dyslipidemia. During annual gynecological US-screening examination, a solid formation (4cm diameter) was found on the left ovary. An ensuing MRI tomography diagnosed a solid ovarian mass. Further staging with CTs and PET-CT scan excluded distant neoplasmatic dissemination. Subsequently, surgical total hysterectomy was performed. After histological evaluation, the analysis concluded to low-grade Mesonephric-like Mullerian adenocarcinoma of left ovary, adjacent to multiple foci of endometriosis. Due to tumor rarity, the histological results were re-checked and verified by multiple histology experts. The patient received adjuvant chemotherapy with 6 circles of Carboplatin/paclitaxel. Treatment was completed without significant side-effects, except for mild nausea and hand-foot syndrome. Follow-up examinations showed complete disease-remission. Currently, the patient is regularly monitored with scheduled-periodic assessments, without any sign of recurrence. Moreover molecular analysis revealed heterozygous somatic KRAS mutation NM_033360.4:c.35G>A:p.(Gly12Asp), and heterozygous genomic PMS2 mutation NM_000535.7:c.2559C>G p.(Ile853Met)

Conclusions: CONCLUSION: Mesonephric-like Mullerian adenocarcinomas of ovaries are extremely rare tumors (<15 literature reports in Pubmed, Scopus). The most prevalent theory of tumorigenesis, involves cancer development from Mullerian lesions (eg foci of endometriosis) that undergo Mesonephric differentiation. Further research is necessary to illuminate the neoplastic nature of these lesions.
IMPLEMENTATION AND FEASIBILITY OF PROPHYLACTIC BILATERAL SALPINGECTOMY AT BENIGN, MINIMALLY INVASIVE (VAGINAL AND LAPAROSCOPIC) HYSTERECTOMY IN STYRIA (AUSTRIA)

E-POSTER VIEWING

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Objectives: Numerous societies, including the Austrian Society of Obstetrics & Gynecology (OEGGG) in 2015, have recommended prophylactic bilateral salpingectomy (PBS) at the time of benign gynecologic surgery with the intent of ovarian cancer risk reduction. We evaluated implementation and feasibility of PBS at benign, minimally invasive hysterectomy in public hospitals in the Austrian province of Styria in 2014 vs. 2018 (before and after the official recommendation in 2015).

Methods: We reviewed surgical consent forms and operative notes of patients undergoing vaginal or laparoscopic hysterectomy for benign indications in Styria in 2014 and 2018. Ethics approval was obtained.

Results: 1256 benign, minimally invasive hysterectomies were identified (580 in 2014, 676 in 2018). 68% of patients were consented for PBS in 2014 and 94% in 2018 (P<0.05). The PBS rate in consented patients was 88% in 2014 and 83% in 2018 (n.s.). In 2018 PBS was completed more often at laparoscopic than at vaginal hysterectomy (95% vs. 74%, P<0.05). Age and parity were the major influencing factors for success of PBS.

Conclusions: PBS at minimally invasive hysterectomy was widely performed in Styria even before the official recommendation in 2015, and increased thereafter to 83% overall in 2018. PBS was accomplished somewhat more often at laparoscopic than at vaginal hysterectomy.
EPV222 / #603

RADIOLOGICAL RESPONSE TO NEOADJUVANT CHEMOTHERAPY AS INDICATOR OF OPTIMAL CYTOREDUCTION IN ADVANCED OVARIAN CANCER

E-POSTER VIEWING

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Objectives: The extent of tumor cytoreduction (residual tumor volume) is the most important prognostic factor in advanced ovarian cancer (AOC). Neoadjuvant chemotherapy (NACT) followed by interval debulking surgery (IDS) is an option in cases where optimal cytoreduction is not possible in upfront surgery. Despite that NACT did not raise the survival rate, it still showed increased cytoreduction rate, decreased surgical morbidity and good progression-free interval. The purpose of this study is to determine the role of imaging in the prediction of the extent of cytoreduction after NACT.

Methods: The 37 patients with AOC were included in the study. They were operated in our center after the administration of NACT. Evaluation of the response to NACT was done with CT/ MRI after 3-4 cycles of NACT.

Results: NACT was administered in 3 or 4 cycles of Paclitaxel/Carboplatin protocol. Patients were diagnosed in FIGO stage III (29; 78,4%) or IV (8; 21,6%). Cytological (26; 70,3%) or histopathological (9; 29,7%) confirmation of malignancy was done prior chemotherapy. According to imaging, 32 subjects (86,5%) achieved a partial response (PR) to chemotherapy, 4 of them (11,8%) obtained complete response (CR) and one retained stable disease (2,7%). Out of those subjects with PR, 19 (59,4%) had optimal debulking, while 13 (40,6%) had a suboptimal debulking procedure. All 4 of the patients with CR had complete debulking, while one with SD had suboptimal debulking.

Conclusions: Imaging evaluation of response to NACT is a valid method to assess surgical resectability and select patients appropriate for complete cytoreduction.
THE DIAGNOSTIC ACCURACY OF HUMAN EPIDIDYMIS PROTEIN 4 (HE4) FOR DISCRIMINATING BETWEEN BENIGN AND MALIGNANT PELVIC MASSES: A SYSTEMATIC REVIEW AND META-ANALYSIS

E-POSTER VIEWING

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1Netherlands Cancer Institute, Gynecology, Amsterdam, Netherlands, 2Amsterdam University Medical Center, Clinical Epidemiology, Biostatistics And Bioinformatics, Amsterdam, Netherlands, 3Netherlands Cancer Institute, Laboratory Medicine, Amsterdam, Netherlands, 4Netherlands Cancer Institute, Scientific Information Service, Amsterdam, Netherlands

Objectives: There is an unmet need to improve accurate detection of malignancy in patients with pelvic masses. Our objective was to obtain summary estimates of HE4 accuracy for diagnosing malignancy and to compare performance with CA125, in different clinical settings.

Methods: We searched PubMed, Ovid and Scopus using terms for 'pelvic masses' and 'HE4', to identify studies that evaluated HE4 for diagnosing malignant ovarian masses. Screening, data extraction and quality assessment were done independently by two authors. We performed meta-analysis of HE4 and CA125 accuracies using a random-effects bivariate logit-normal model.

Results: In the 17 eligible studies, OC prevalence ranged from 15% to 71%. All studies seemed to have recruited patients in specialized settings. A meta-analysis of 7 HE4-studies resulted in a mean sensitivity and specificity (95% CI) of 79.4% (74.1%-83.8%) and 84.1% (79.6%-87.8%), for cut-off values of 67-72 pmol/L. Based on 8 studies, the mean sensitivity and specificity of CA125 was 81.4% (74.6%-86.2%) and 56.8% (47.9%-65.4%), respectively, at a cut-off of 35U/mL. Given a 40% OC prevalence, the positive predictive value (PPV) for HE4 was 76.9% (71.9%-81.2%) versus 55.6% (50.2%-60.9%) for CA125. At a 15% prevalence, the negative predictive value (NPV) was 95.8% (95% CI: 94.4%-96.7%) and 94.4% (95% CI: 92.3%-96.0), respectively.

Conclusions: HE4 had higher specificity and similar sensitivity compared to CA125. At high prevalence in specialized settings, PPV is higher for HE4. At low prevalence in general settings, NPV of HE4 is similar to CA125. Prevalence and setting are important variables that should always be reported in biomarker research.
RADIOThERAPY FOR PLATINUM-RESISTANT (PR) OVARIAN CANCER: SHOULD THIS BE RECONSIDERED AS A STANDARD TREATMENT OPTION?

E-POSTER VIEWING

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The Royal Marsden NHS Foundation Trust, Gynaecology Unit, London, United Kingdom

Objectives: Radiotherapy for recurrent ovarian cancer has traditionally had a limited role due to toxicity, but recent advances enable more targeted treatments. The aims were to evaluate patterns of disease in PR ovarian cancer and investigate feasibility of radiotherapy to treat abdomino-pelvic disease.

Methods: Gynaecology oncology clinic lists were retrospectively reviewed to identify 50 patients with PR ovarian cancer. Tumour location on imaging at time-point of platinum-resistance was mapped with cumulative incidences by quadrant. Three groups were defined: RT_Feasible - pelvis and lymph nodes; RT_Not Feasible - liver parenchymal metastases, gross ascites, bowel obstruction; RT_Uncertain including peritoneal disease. A dosimetric study was undertaken on ten consecutive RT-Uncertain patients producing IMRT plans delivering 30Gy/10 fractions with pre-defined normal structure dose constraints.

Results: From 399 patients attending Nov 2019-Feb 2020, 88 (22%) had PR disease, with 63% confined to abdomen-pelvis. Disease was typically multi-focal with involvement of 2 or more quadrants in 84%, and 88% having upper abdominal disease. Group allocation was RT_Feasible 22%, RT_NotFeasible 18% and RT_Uncertain 60%. There was median 5 (range 2-9) separate tumour volumes with total volume median 13.6 cm³ (range 6.5-400.3 cm³) resulting in planning target volumes median 458.6 cm³ (243-3077). IMRT plans encompassed tumour volumes while meeting all normal structure tolerances in 50% cases, with all plans failing for planning volumes >1000cm³.

Conclusions: PR ovarian cancer is often widespread, but radiotherapy was feasible for 52% cases with abdomino-pelvic disease. RT could be integrated into novel treatment strategies for these patients who currently have limited options.
SAFETY OF A NEW CLOSED CO2 PERITONEAL RECIRCULATION SYSTEM (PRS)
HYPERTERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) AFTER INTERVAL DEBULKING
SURGERY (IDS) IN ADVANCED OVARIAN CANCER (AOC) PATIENTS

E-POSTER VIEWING

F. Murgia¹, V. Carone¹, L. Leone¹, L. Laera², F. Lombardi³, I. Brunetti³, G. Surico², F. Legge¹,⁴
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²General Regional Hospital “F. Miulli”, Medical Oncology, Acquaviva delle Fonti, Italy,
³General Regional Hospital “F. Miulli”, Department Of Anesthesiology And Intensive Care Medicine, Acquaviva delle Fonti,
Italy, ⁴General Regional Hospital "F. Miulli", Obstetrics And Gynecology, Acquaviva delle Fonti, Italy

Objectives: The availability of new devices aimed at improving fluid distribution with a CO2 Peritoneal
Recirculation System (PRS-1.0 Combat) may be useful to further improve the clinical benefit recently
showed by hypertermic intraperitoneal chemotherapy (HIPEC) after interval debulking surgery (IDS)
in advanced ovarian cancer (AOC) patients. This study aimed at assessing the feasibility and perioperative
outcomes of the CO2 PRS HIPEC after IDS.

Methods: Over the study period 24 patients were prospectively enrolled. Patients underwent 3
neoadjuvant cycles of carboplatin AUC5 + paclitaxel 175 mg/ m2 and IDS with absent residual disease.
Sodium thiosulfate (9 g/m2) was administered before CO2 PRS HIPEC with cisplatin (75 mg/m2,
temperature 42°C, for 60 minutes).

Results: Almost one third of patients (37.5%) underwent ultraradical surgery with 12.5% bowel
resections. Median blood loss was 500 (100-1200) mL and mean operative time 407.5 minutes. Median
(range) intensive care unit stay and time-to-discharge were 0 (0-10) and 6 (4-17) days, respectively. We
registered 3/24 (12.5%) early serious adverse events including one acute respiratory failure and two
acute kidney injuries (only one of these retained a mild chronic renal failure); one patient was readmitted
within 30 days after discharge because of a dehiscence of the vaginal vault. No late adverse events were
reported. Median time-to-chemotherapy was 33 days (range 22- 51).

Conclusions: The CO2 PRS may improve the safety profile of HIPEC in the setting of IDS for AOC
patients probably because of the more tailored drug distribution.
HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY WITH CO2 RECIRCULATION SYSTEM (PRS) AFTER INTERVAL DEBULKING SURGERY IN ADVANCED OVARIAN CANCER (AOC): PRELIMINARY EFFICACY RESULTS FROM A PHASE II STUDY.

E-POSTER VIEWING

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Objectives: The addition of HIPEC to IDS in AOC has recently showed advantages in prolonging both disease-free and overall survival in AOC patients responding to neoadjuvant chemotherapy. We investigated the pattern of recurrence in a preliminary series of AOC patients treated by HIPEC with a new CO2 PRS after IDS.

Methods: Twenty patients were prospectively enrolled during the study period. All patients underwent 3 cycles of neoadjuvant chemotherapy with carboplatin AUC5 + paclitaxel 175 mg/m² and achieved complete cytoreduction at the time of IDS. HIPEC with cisplatin (75 mg/m², temperature 42°C, for 60 minutes) was administered with a closed CO2 PRS.

Results: Seven out of twenty (35%) patients underwent ultraradical surgical procedures and 3 (15%) bowel resection. After a median follow-up of 21 months (range 7-28) we registered 9 recurrences with a median time-to-recurrence of 9 months (range 5-21). Interestingly 7/9 (77.8%) recurrences were nodal while only one patient had peritoneal relapse (5%) and one more recurred with pleural disease. Only 2 patients died from relapsed disease.

Conclusions: Our preliminary efficacy data showed that peritoneal recurrence in AOC may be potentially reduced by the implementation of HIPEC with the CO2 PRS, probably due to a better drug distribution in the peritoneal cavity. This is of critical importance given that pattern of recurrence as carcinomatosis is undoubtely associated with unfavourable outcome.
EPV227 / #79

OVARIAN CANCER INCIDENCE AFTER BILATERAL SALPINGO-OOPHORECTOMY IN WOMEN WITH HISTOLOGICAL PROVEN ENDOMETRIOSIS OR ADENOMYOSIS.

E-POSTER VIEWING

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Objectives: Endometriosis is associated with an increased ovarian cancer incidence. Surgical treatment of endometriosis might reduce this risk. Therefore, we assessed the ovarian cancer incidence in women with endometriosis after bilateral salpingo-oophorectomy (BSO).

Methods: All women with histological proven endometriosis between 1990 and 2015 in the Netherlands were identified. Women with a BSO without ovarian cancer at time of surgery were selected as cases (n=14,410). We selected two control cohorts; 1) women with histological proven endometriosis without BSO or with ovarian cancer at time of BSO (n=115,323), and 2) women with a benign dermal nevus (n=132,654). Histological diagnoses of ovarian or extra-ovarian cancers were retrieved. Incidence rate ratios (IRR) were estimated for (extra) ovarian cancer.

Results: We identified 13 (0.09%) extra-ovarian cancers in the BSO cohort and 2,036 (1.8%) and 471 (0.4%) ovarian cancers in the endometriosis and nevus cohort, respectively. We found an age-adjusted IRR of 0.02 (95%CI 0.01-0.04) when the BSO cohort was compared with the endometriosis cohort and an age-adjusted IRR of 0.20 (95%CI 0.11-0.37) when comparing the BSO to the nevus cohort (table1). Median age at cancer diagnosis was 61 (IQR 56-74) in the BSO cohort, 55 (IQR 48-63) in the endometriosis cohort and 58 years (IQR 51-65) in the nevus cohort (both p<0.05).

Conclusions: We found a significantly reduced (extra-)ovarian cancer incidence in women with endometriosis and a BSO when compared to both controls with endometriosis without BSO, and controls without histological proven endometriosis.
INCREASED INCIDENCE OF OVARIAN CANCER IN BOTH ENDOMETRIOSIS AND ADENOMYOSIS.

E-POSTER VIEWING

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Objectives: Recently we conducted a study in which we found an increased association of ovarian cancer in women with endometriosis. Analyses showed that the cohort included both women with endometriosis externa and adenomyosis. Therefore, in the present study we assessed the association between endometriosis and/or adenomyosis and ovarian cancer.

Methods: We identified all women with histologically proven endometriosis (51,544 women) and/or adenomyosis (85,015 women) from the Dutch pathology database (1990-2015) and matched them with women with a benign dermal nevus (132,654 women). Histology results for ovarian cancer were retrieved. We estimated crude and age-adjusted incidence rate ratios (IRR) for ovarian cancer.

Results: We found 1,017 (2.0%), 1,284 (1.5%) and 471 (0.4%) ovarian cancer cases in the endometriosis, adenomyosis and nevus cohort, respectively. The age-adjusted IRRs were 19.75 (95%CI 16.70-23.35) in the endometriosis cohort and 5.93 (95%CI 4.91-7.16) in the adenomyosis cohort (table 1). The highest IRRs were found for endometrioid and clear cell ovarian cancer subtypes (table 1). Excluding the first year of follow-up did not result in a significant IRR for ovarian cancer overall but resulted in a statistically significant IRRs for clear cell and endometrioid ovarian cancer (table 1).

Table 1 Observed number of ovarian cancers, estimated incidence rate per 100,000 person-years, crude incidence rate ratios and age-adjusted incidence rate ratios of ovarian cancers of women with endometriosis or adenomyosis compared with women with a benign dermal nevus, per ovarian cancer subtype and overall.

<table>
<thead>
<tr>
<th>Subtype</th>
<th>ON</th>
<th>Crude IRR (95%CI)</th>
<th>Age-adjusted IRR (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear cell</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endometriosis</td>
<td>38</td>
<td>3.14 (2.54-3.83)</td>
<td>11.68 (9.23-14.82)</td>
</tr>
<tr>
<td>Adenomyosis</td>
<td>34</td>
<td>1.07 (0.86-1.32)</td>
<td>3.41 (2.82-4.20)</td>
</tr>
<tr>
<td>Nevis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endometrioid</td>
<td>244</td>
<td>1.77 (1.59-1.96)</td>
<td>7.39 (6.04-8.98)</td>
</tr>
<tr>
<td>Adenomyosis</td>
<td>102</td>
<td>1.01 (0.85-1.20)</td>
<td>4.09 (3.25-5.01)</td>
</tr>
<tr>
<td>Nevis</td>
<td>49</td>
<td>1.37 (1.14-1.63)</td>
<td>4.95 (4.13-5.98)</td>
</tr>
<tr>
<td>Serous</td>
<td>223</td>
<td>2.32 (1.94-2.76)</td>
<td>8.82 (7.14-10.83)</td>
</tr>
<tr>
<td>Nevis</td>
<td>24</td>
<td>1.20 (0.86-1.63)</td>
<td>4.68 (3.53-6.07)</td>
</tr>
<tr>
<td>Mucinous</td>
<td>41</td>
<td>1.00 (0.77-1.29)</td>
<td>3.94 (3.05-5.01)</td>
</tr>
<tr>
<td>Nevis</td>
<td>10</td>
<td>1.12 (0.78-1.58)</td>
<td>4.28 (3.20-5.76)</td>
</tr>
<tr>
<td>Adenosarcoma</td>
<td>21</td>
<td>1.36 (1.04-1.76)</td>
<td>5.24 (4.18-6.57)</td>
</tr>
<tr>
<td>Nevis</td>
<td>5</td>
<td>1.22 (0.70-2.15)</td>
<td>3.99 (2.30-6.86)</td>
</tr>
</tbody>
</table>

Conclusions: We found an increased ovarian cancer incidence in both histological proven endometriosis and adenomyosis. This increased incidence was largest for endometriosis. Excluding the first year of
follow-up resulted in an increased incidence for endometrioid ovarian cancer in both cohorts and clear cell ovarian cancer in the endometriosis cohort.
EPV229 / #611

“GERIATRIC PATIENTS WITH GYNECOLOGICAL CANCER; TREATMENT OPTIONS”

E-POSTER VIEWING

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Objectives: Geriatric population, namely people aged 80 or older, is going to see the greatest growth over the next years. The standard treatment cannot be implemented for all the geriatric women with gynecological cancer and it depends on multiple factors such as physiological organ function as well as comorbidities. The aim of this study is to examine the status of treatment strategies among our cohort of geriatric patients.

Methods: A retrospective analysis of geriatric patients with gynecologic cancer who were treated in our department (Department of Gynecologic Oncology, Metaxa Cancer Hospital, Greece) between January 2008 and January 2020 was conducted.

Results: 165 geriatric patients were included in our study with the vast majority being between 80 and 90 years old. The highest number of patients consisted of individuals with vulvar cancer- 53 cases (32.1%). The corpus uteri cancer (endometrial and uterine sarcomas) group follows right after the vulvar cancer group with 52 cases (31.5%). Ovarian cancer was diagnosed in 31 patients (18.8%) and cervical cancer in 29 patients (17.6%). Different treatment modalities, depending on the ECOG performance status scale and the FIFE (Frailty Index For Elders) score as well as the tumor stage (FIGO Classification) and the tumor grade of differentiation, are being presented.

Conclusions: A more individualized treatment strategy according to a comprehensive geriatric assessment is suggested for geriatric patients with gynecological cancer.
SEXUAL ORIENTATION AND GENDER IDENTITY REPORTING IN ONCOLOGY PATIENTS

E-POSTER VIEWING

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Objectives: Sexual and gender minority (SGM) patients faces unique health care disparities in cancer care. This study is aimed to evaluate the rate of sexual orientation and gender identity (SOGI) data collection at a cancer center.

Methods: Between 9/2019-8/2020, patients with newly diagnosed leukemia, melanoma, lung, breast, gastrointestinal, gynecologic, prostate, or testicular cancers were identified. Data were collected via retrospective chart review: legal sex, age, sexual orientation, gender identity, and cancer diagnosis. Appropriate statistical analyses were applied.

Results: 387 new patient visits were identified. The median age was 65 years (range 0-98), evenly broken down by cancer type. For this patient cohort, 12% and 16% had SO and GI data reported, respectively. There was no significant difference between cancer type when reporting SOGI, however SOGI was reported for 20% of breast cancer patients, while for patients with gastrointestinal cancer, SO was reported for 6% of patients and GI for 10% (p=0.94). There was no significant difference in reporting SOGI based on legal sex (SO: Female 12.5%, Male 11%; p=0.75; GI: Female 16.5%, GI 14.1%, p=0.52) or age (SO: <45 12%, > or = 46 12%, p=1.00; GI <45y 14%, > or = 46 16%, p=0.65).

Conclusions: This study demonstrated that at one major cancer center, collection of SOGI data for newly diagnosed cancer patients is done at an alarmingly low rate. We found no difference in rates of SOGI collection based on cancer type, age, or legal sex. This study demonstrates the importance of encouraging SOGI collection for all patients and across all providers.
QUALITY OF LIFE AFTER TREATMENT FOR GRANULOSA CELL TUMOR

E-POSTER VIEWING

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Objectives: Ovarian granulosa cell tumor is a rare malignancy accounting for <5% of ovarian cancers and are most commonly found in young adults. Due to its rarity, many institutions have a low number of patients to query or survey. By using social media, many specific populations can easily be accessed and surveyed.

Methods: Women 18 and older who are members of the Granulosa Cell Tumor Research Foundation Facebook group were given the opportunity to take the Granulosa Cell Quality of Life Assessment Survey. The survey was completely anonymous, and participants had the opportunity to respond to questions regarding their disease and their quality of life after treatment using the FACT-O (version4).

Results: A total of 160 woman 18 or older participated in the survey. Only 28 participants desired pregnancy at time of diagnosis and of those participants only 7 sought a reproduction endocrinologist regarding future fertility prior to surgery or chemotherapy. Regarding the quality of life assessment 46% of participants report that after treatment they were not satisfied with their sex life and 33% not being interested in sex at all.

Conclusions: Using social media provides a window to reach many populations throughout the world with unique diagnoses. Using this technique of surveying patient’s provided important subjective data that can be used to improve patient’s quality of life after treatment. The survey identified the needs of Granulosa Cell Tumor patients as fertility counseling prior to treatment and attention to their sexual health after treatment.
RELATIONAL AGENTS IN CERVICAL CANCER EDUCATION: A PILOT STUDY TO DETERMINE ACCEPTABILITY AND IMPACT OF INTERACTIVE EDUCATION ON VACCINE ADVOCACY

E-POSTER VIEWING

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Objectives: Despite current efforts, human papilloma virus (HPV) vaccination rates remain low. We propose the use of a Relational Agent (RA, image 1), as a novel interactive tool, to encourage patients to act as advocates for HPV vaccination. This pilot study assesses the acceptability of RA-based intervention and its impact on survivor intention to discuss vaccination. Image 1: Screenshot of RA

Methods: Thirty patients with cervical cancer or dysplasia were recruited between 11/2020 and 2/2021 at Karmanos Cancer Institute. The control group (n=15) received an educational brochure and the intervention group (n=15) engaged in a virtual discussion with the RA. Participants completed surveys assessing attitudes toward the RA, intention to discuss HPV vaccination with family, HPV knowledge, and attitudes toward HPV vaccination before and after reviewing the RA.

Results: When measured by responses of satisfied or very satisfied; 86% thought the RA was easy to talk to and liked talking with the RA, while 80% found it trustworthy. Participants receiving the RA
intervention demonstrated stronger intention to discuss HPV vaccination with family compared to control (figure 1). Figure 1:

**Conclusions:** These results demonstrate that simulated healthcare providers such as RA’s are an acceptable educational tool that could be adapted for diverse populations in both high and low resource settings. Additionally, the RA may increase intention to discuss HPV vaccination, indicating potential to increase advocacy for HPV vaccination by cervical cancer survivors globally.
EPV233 / #102

COMPARISON OF LOCALIZED AND INTRAVENOUS ANALGESIA TREATMENT IN WOMEN UNDERGOING L.L.E.T.Z UNDER GENERAL ANESTHESIA.

E-POSTER VIEWING

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Objectives: Conization is currently performed under general anesthesia with IV analgesia or without anesthesia, with local analgesia injected to the cervix. Woelber & co compared the incidence and intensity of pain after conization under general/local anesthesia and found no significant differences. No study has compared the effect of analgesia administered via IV or local route. This study aim to determine pain and bleeding rate when undergoing conization, depending on route of analgesia.

Methods: A prospective blind-control study comparing 30 women undergoing cervical conization under general anesthesia in our hospital between 2019-2020. 15 women (A) were administered intravenous analgesia, and 15 women (B) were administered local analgesia injection to cervix. Chi-Square test was used to find the group differences.

Results: From 30 patients recruited, 14 left in group A and 15 in group B. No demographics differences were found. Extra analgesia in the 24 hours post-Op was found in 14.3% (A) and 28.6% (B) (p-value <0.05). Most reported no pain in the first hour after conization, with the pick of pain appearing 4-8 (A) and 8-12 (B) hours after conization. Amount of intra-op bleeding was <100 ml in 21.4% (A) and 80% (B) (p-value=0.003). Post-conization bleeding was <100 ml in 42.9% (A) and 71.4% (B) with no statistical significance. One patient from group B needed hemostasis intervention 3 weeks after conization.

Conclusions: Conization of the cervix under local analgesia is as effective in pain prevention as general analgesia and reduce the amount of bleeding during and possibly after the operation. More research is needed to conclude the preferred route of analgesia.
OUTCOME AFTER LOOP ELECTROSCUTICAL EXCISION PROCEDURE FOR CERVICAL HIGH-GRADE SQUAMOUS INTRAEPITHELIAL LESION

E-POSTER VIEWING

Queen Mary Hospital, O&G, Hong Kong SAR, Hong Kong PRC

Objectives: The dilemma in treating cervical high-grade squamous intraepithelial lesion (HSIL) is how to achieve complete excision of HSIL to minimize the risk of cervical cancer while sparing the anatomy of the cervix and its ability to function during pregnancy. The optimal management for positive margins after excisional treatment is still controversial. This study was conducted to determine the clinical and histologic predictors of residual/recurrent cervical HSIL and assess the outcome of women with positive margin for HSIL.

Methods: This was a retrospective cohort study included 386 women who had excisional treatment for HSIL during 1st January 2012 to 31st December 2015 in Queen Mary Hospital (QMH).

Results: 212 (54.9%) had negative margins and 155 (40.2%) had positive margins. The rate of residual/recurrent HSIL was 14.6% in positive margins and 3.7% in negative margins. Significantly more women with positive margins had residual/recurrent HSIL compared to negative margins (74.1% vs 25.9%, p=0.001). This was significantly associated with age ≥40 years, positive margins and endocervical glandular involvement. Positive margins had significantly associated with higher rate of subsequent abnormal cervical smear (48.2% vs 28.9%, p<0.001), requiring further colposcopy (32.1% vs 14.4%, p<0.001) and further treatment for SIL (7.5% vs 4.8%, p<0.001) compared to negative margin.

Conclusions: Most women (85%) with positive margin went without residual/recurrent HSIL, of which the option of close surveillance with cytology is reasonable. Repeat excision may be considered in selected women with positive margin, endocervical glandular involvement and those who are older or unable to comply with follow-up.
OUTCOMES FOLLOWING REFERRAL TO COLPOSCOPY WITH A HIGH-GRADE SMEAR IN WOMEN AGED 50 YEARS AND ABOVE

E-POSTER VIEWING

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Objectives: Interpretation of smears is a challenge in older women owing to atrophic changes. Colposcopy can be difficult and views are often unsatisfactory. Approximately 60% of cervical cancers occur in women aged 45 plus; evidence shows a second peak of high-risk HPV in postmenopausal women. This study aims to establish whether high-grade smear cytology correlates with colposcopic and histological findings in women aged 50 or above and review the employed subsequent management.

Methods: A retrospective study was conducted of all women aged 50 years and above, referred to Queen’s Hospital colposcopy unit due to high-grade smear between 2016-2019. An electronic data search was undertaken to establish colposcopy findings, histology of biopsy, LLETZ, or further surgical intervention plus results following tests of cure. Data was analysed using Microsoft Excel.

Results: Smear cytology for the 99 women referred demonstrated 1 suspicious of glandular neoplasia, 50 of severe, and 48 of moderate dyskaryosis. 11 patients were excluded due to incomplete data. Colposcopic views were unclear for 27(31%) patients. 82(93%) patients underwent LLETZ. 3 squamous cell carcinomas and 1 adenocarcinoma were detected. High-grade histology was seen in 54 samples (23% CINII and 38% CINIII), low-grade histology in 11(13% CINI), 11% had no abnormality and 10% displayed other benign changes. 10 patients went on to have a total hysterectomy and bilateral salpingo-oophorectomy.

Conclusions: A 5% incidence of cancer and 61% high-grade histology was found in this cohort, with 11% undergoing radical surgical intervention. This demonstrates the need for robust cervical screening programmes, particularly in conflicting smear and colposcopy findings.
CAN MIDWIVES EFFICIENTLY PERFORM CERVICAL CANCER SCREENING?

E-POSTER VIEWING

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1Mohamed Taher Al-Maamouri Hospital, General Surgery Department, Nabeul, Tunisia, 2Family Planning Center of Nabeul, Women And Children Health Department, Nabeul, Tunisia

Objectives: In Tunisia, cervical cancer is the third cancer in women affecting 250 to 300 women/year. Unfortunately, patients are still diagnosed in an advanced stage. Midwives hold a capital role in cervical cancer screening since they are the first line of our national screening program. We aim through this work to prove their efficiency in reducing the incidence of invasive cervical cancer.

Methods: Data were collected from registries of the Family Planning Center of Nabeul, Tunisia, from January 2015 to December 2019.

Results: From January 2015 to December 2019, 3745 PAP smears were performed (the mean number was 740 PAP smears per year). For 2801 women (73.6%), it was the first time they had a PAP smear, and for 944 women (26.4%), it was the second time. Time to response was 5.5 weeks (range 3 to 8.6). Normal cytology represented 74.74%. Inadequate PAP smear represented only 2.1%. The inflammatory cytology was rated 20.5%. Atypical squamous cells of undetermined significance (ASC-US) represented 0.55% of all specimens. Low-grade squamous intraepithelial lesions (LSIL) were 0.94%. High-grade squamous intraepithelial lesions (HSIL) represented 0.90%.

Conclusions: These data showed that midwives could correctly perform PAP smear, thereby confirming their substantial role in cervical cancer screening.
Objectives: Imiquimod could be offered as a non-surgical treatment alternative to LLETZ in treatment of high-grade CIN, for women who wish to avoid surgery. Short term effectiveness of imiquimod is 60-70%. In the current study, we present the two-year follow-up results after successful initial imiquimod treatment, compared to LLETZ treatment.

Methods: We performed a multi-center, non-randomized trial, in which women with a histological diagnosis of CIN 2/3 were treated with either imiquimod during 16 weeks or underwent LLETZ. All women who had initial successful treatment were included in further analysis. Follow-up consisted of regular pap smears according to Dutch guidelines during two years. Successful treatment was defined as no histologic CIN 2/3 diagnosis during follow-up.

Results: A total of 84 women were included in the analysis (27 from the imiquimod group and 57 from the LLETZ group). CIN2/3 was diagnosed in one woman (2%) in LLETZ group and two women in the imiquimod group (7%), all underwent additional LLETZ treatment (p=0.26). For both entire groups, HPV status at 2 year follow-up was similar. CIN grade at inclusion, HPV status at short term follow-up, age, parity and smoking were not identified as factors associated with successful
Conclusions: Disease recurrence of high-grade CIN two years after successful treatment with imiquimod is infrequent and is not statistically different from LLETZ treatment. This indicates a lasting effectiveness of imiquimod treatment.

<table>
<thead>
<tr>
<th></th>
<th>Imiquimod N=27 N (%)</th>
<th>LLETZ N=57 N (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Successful treatment at two year follow-up</strong></td>
<td>25 (93)</td>
<td>56 (98)</td>
<td>P=0.26</td>
</tr>
<tr>
<td><strong>LLETZ treatment during two year follow-up</strong></td>
<td>2 (7)</td>
<td>1 (2)</td>
<td></td>
</tr>
<tr>
<td><strong>CIN diagnosis</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>- CIN 2</td>
<td>2 (100)</td>
<td>0</td>
<td>P=0.33</td>
</tr>
<tr>
<td>- CIN 3</td>
<td>0</td>
<td>1 (100)</td>
<td></td>
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<tr>
<td><strong>HPV positive at two year follow-up</strong></td>
<td>6/19 (32)</td>
<td>13/41 (32)</td>
<td>P=0.99</td>
</tr>
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</table>
IMPACT OF LYMPHADENECTOMY AND INTRAOPERATIVE TUMOR RUPTURE ON SURVIVAL IN EARLY STAGE MUCINOUS OVARIAN CANCERS

E-POSTER VIEWING

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Objectives: The aim of the study was to investigate the prognostic significance of lymphadenectomy and intraoperative tumor rupture in patients with apparent stage I mucinous ovarian carcinoma (MOC).

Methods: We conducted a retrospective cohort study of MOCs diagnosed between 1999-2019 at two tertiary cancer centers. Pathology was reviewed to rule out metastasis from gastrointestinal tract. Clinicopathologic details, five-year overall survival (OS) and recurrence free survival (RFS) were examined. Cox proportional hazard models were used to determine the association of lymphadenectomy and intraoperative rupture on survival.

Results: Of 149 with apparent stage I disease, 48 (32%) had pelvic and/or para-aortic lymphadenectomy, but only 1 patient with grade 2 disease was upstaged due to positive pelvic lymph nodes. Intraoperative rupture was documented in 52 (35%); these were more likely to have initial surgery performed by a non-gynecologic oncologist (48% vs. 11%; p<0.001). There were 20 recurrences in the cohort (13%; 9 grade 1, 6 grade 2, 4 grade 3), with the vast majority peritoneal (95%). On multivariable analysis, after adjusting for age, final stage, and use of adjuvant chemotherapy, there was no significant association between intraoperative rupture with OS (HR 2.2 (0.6-8.0), p=0.25) or RFS (HR 1.3 (0.5-3.3), p=0.63) or lymphadenectomy with OS (HR 0.9 (0.3-2.8), p=0.90) or RFS (HR 1.2 (0.5-3.0), p=0.73).

Conclusions: In apparent stage I MOC, systematic lymphadenectomy has low utility, as few patients are upstaged and recurrence typically occurs in the peritoneum. Furthermore, intraoperative rupture does not independently confer a worse survival.
EVALUATION OF THE IMPACT OF POSTOPERATIVE ADJUVANT THERAPY ON SURVIVAL AND RECURRENT PATTERNS IN STAGE I-IV UTERINE CARCINOSARCOMA

E-POSTER VIEWING

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Objectives: To evaluate differences in survival and recurrence patterns in stage I-IV uterine carcinosarcoma (UCS) patients treated with surgery followed by adjuvant chemotherapy (CT), radiation (RT) or both (chemoRT).

Methods: A multicenter retrospective analysis of patients with surgically staged UCS receiving adjuvant therapy from 2000 to 2019 was conducted. Sites of recurrence were analyzed by adjuvant treatment modality using Pearson's X²-test. PFS and OS were calculated using Kaplan-Meier estimates. Multivariate analysis (MVA) was performed using Cox proportional hazards model.

Results: Of 176 evaluable patients, 27% had stage I, 14% stage II, 37% stage III and 22% stage IV disease. Among them, 33% received CT 17% received RT, and 50% received chemoRT. Stage I recurred less frequently (64%) vs. II (83%), III (85%) and IV (90%) (p<0.001). Patients receiving CT were more likely to recur in the pelvis vs. RT-containing regimens (p=0.06) and abdominal recurrences were more common with RT-alone (p=0.07). Stage I demonstrated improved PFS and OS relative to all other stages (p<0.01). Patients receiving chemoRT experienced superior PFS (p=0.01) and OS (p=0.05) vs. single modality therapy. Stage III derived the greatest improvement in PFS and OS from chemoRT (p<0.01). On MVA, only stage (p<0.01) and receipt of chemoRT (p=0.04) independently predicted survival.
Conclusions: The majority of UCS patients recur in 2-3 years despite aggressive adjuvant therapy. Stage I disease demonstrated improved survival compared to other stages regardless of adjuvant treatment modality. ChemoRT was associated with improved survival and better distant and local disease control. Stage III disease derived the most significant benefit from chemoRT.

Figure 1: Overall Survival (OS) Based on Kaplan-Meier Estimates
A: OS based on FIGO Stage; B: OS of all stages based on the type of adjuvant therapy; C: OS of Stage III disease based on the type of adjuvant therapy
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PELVIC CASTLEMAN´S DISEASE: A CASE REPORT

E-POSTER VIEWING

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Objectives: Castleman´s disease is an extremely rare benign lymphoproliferative disorder usually presenting in the mediastinum, abdomen or neck and less common located at axilla, pelvis and pancreas. Commonly asymptomatic, patients are presented with a large mass noted on physical examination or imaging studies and are often misdiagnosed as an adnexal mass. There are only few cases of pelvic Castleman´s disease reported in the literature. We present a case of Castleman´s disease located in the pelvic cavity specifically in the retropubic space.

Methods: A 56 year-old asymptomatic woman was referred to our service with a 5cm-sized pelvic mass detected during a Computed Tomography Scan. Pelvic ultrasound reported an anechoic rounded 5x4x4cm-sized mass with increased flow around the lesion and significant posterior acoustic enhancement.

Results: Exploration of the pelvic cavity revealed a circumscribed and well-delineated 8cm-sized mass located in the space of Retzius with dense fibrous adhesions and rich periphery vascularity. Microscopic examination demonstrated large follicles dispersed in a mass of lymphoid tissue. Follicles show marked vascular proliferation and hyalinization of their abnormal germinal centers with a concentric layer of lymphocytes on the periphery of the follicles, which gives an appearance of onion skin. Patient recovered without complications. Five months after surgery no signs of recurrence are reported.

Conclusions: Castleman´s disease is a very rare lymphoproliferative condition. Complete surgical resection has good prognosis and a low rate of relapse. Despite the low incidence of this disease must be consider as a differential diagnosis of pelvic mass so we can offer our patient a correct treatment and surveillance.
TUMOR SIZE AS A PROGNOSTIC FACTOR FOR MESONEPHRIC AND MESONEPHRIC-LIKE ADENOCARCINOMA OF THE ENDOMETRIUM: A RARE CASE SERIES OF 72 PATIENTS

E-POSTER VIEWING

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Objectives: Mesonephric adenocarcinoma (MA) or mesonephric-like adenocarcinoma (MLA) is a rare tumor of the endometrium arising from regressed mesonephric duct. However, there is still a lack of evidence about their prognostic factors because of the rarity. Thus, we investigated prognostic factors of MA or MLA through the analysis of rare case series by using published reports.

Methods: This study is a secondary analysis utilizing published literature. Through extensive search using PubMed, EmBase and the Cochrane database, 65 patients with either MA or MLA were identified between years 1995 and 2020. A total of 72 patients were finally included after adding seven patients diagnosed with MA or MLA in our institute between 2000 and 2020. We evaluated clinicopathologic characteristics of all patients, and investigated prognostic factors affecting progression-free survival (PFS).

Results: Patients with early-stage disease (n=41) had longer mean PFS than those with advanced-stage disease (n=31) (39 vs 14 months, p<0.01). Moreover, patients with tumor size ≤5 cm (n=16) had longer mean PFS than those with tumor size >5 cm (n=15; 49 vs 13 months; p<0.01). Univariate analyses revealed that advanced-stage disease, tumor size >5 cm and no systemic chemotherapy were factor affecting PFS (hazard ratios [HRs], 3.27, 5.88, 4.34; 95% confidence interval [CIs] 1.56-6.84, 1.26-27.33, 1.74-10.85. Finally, tumor size >5 cm was the only prognostic factor of worse PFS in multivariate analyses (HR 5.49; 95% CI 1.15-26.18).

Conclusions: Tumor size >5 cm may be associated with worse PFS of MA or MLA of the endometrium.
OUTCOMES OF LATERALLY EXTENDED ENDOPELVIC RESECTION IN PELVIC SIDEWALL SARCOMA: A SINGLE-INSTITUTION EXPERIENCE

E-POSTER VIEWING

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Objectives: This study aims to review tolerability and efficacy of laterally extended endopelvic resection (LEER) in patients with pelvic sidewall sarcoma.

Methods: We retrospectively reviewed medical records of patients with pelvic sidewall sarcoma who underwent LEER between 2015 and to Mar. 2021. We collected data on clinicopathologic characteristics, surgery, perioperative management, and outcomes.

Results: A total of eight patients were enrolled. Patients had advanced or recurrent leiomyosarcoma, carcinosarcoma, low-grade endometrial stromal sarcoma (ESS), synovial sarcoma, and undifferentiated sarcoma. Urinary obstruction (87.5%) was the most common presentation before the surgery. Complete resection (R0) was achieved five (62.5%) patients. Median Operative time was 6 (range, 3-22) hours. Transfusion was performed in six patients (75%) with median of 2.5 pack of RBC. Four patients needed postoperative intensive care for median of two days (range, 0-8) but there was no operation-associated mortality or severe life-threatening morbidity. Median pelvic control duration was 6 (range, 3-64) months, although disease progression was observed in other extrapelvic areas where preoperatively assessed to be broadly distributed and impossible to be completely resected. Interestingly, one patients with progression disease (PD) showed 16 months of pelvic control duration. One patient showed no recurrence after the surgery (10%) and another patient showed stable disease (SD, 10%). Median OS after LEER was 6 (6-65) months.

Conclusions: LEER is feasible for surgical control of the pelvic sidewall tumor with acceptable complications.
SURGICAL AND ADJUVANT TREATMENTS FOR UTERINE PECOMA

E-POSTER VIEWING

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Objectives: Perivascular epitheliod cell tumors (PEComas) are rare mesenchymal neoplasms. Uterine PEComa is extremely rare and only limited evidence is still available.

Methods: Charts of consecutive patients who had treatment (between 01/01/2010 and 12/31/2020) for newly diagnosed uterine PEComas were retrieved. Five-year outcomes were assessed using Kaplan-Meier and Cox hazard models.

Results: Data of 23 patients with newly diagnosed PEComas were analyzed. Mean (SD) patients’ age was 52 (14) years. Twenty-two patients had a surgical cytoreductive attempt. In one case surgery was not performed due to the presence of an extra-abdominal spread. Overall, seven (30%) patients had disease outside the uterus at the time of surgery. Complete cytoreduction (no macroscopic residual tumor) was achieved in 19 patients. Eleven (48%) patients had adjuvant treatments, consisting in anthracycline-based chemotherapy (n=4), gemcitabine-based chemotherapy (n=2), mTOR inhibitors (n=4) and hormonal treatment (n=1). Median (range) follow-up as 23 (2, 99) months. Eleven (48%) recurrences occurred with a mean (SD) progression free-survival of 14 (11) months. After a median (range) follow-up of 23 (2-99) months, nine (39%) patients died of disease. Residual tumor at surgery was the only factor correlating with the risk of developing recurrent disease (p=0.023) and worse overall survival (p=0.014). In our small series, stage of disease and adjuvant therapy administration had no impact on survival outcomes.

Conclusions: Uterine PEComa represents a rare and aggressive entity. Molecular/genomic profiling of the disease is necessary to predict response to treatment. Further collaborative investigations are warranted to assess the role of various prognostic factors and evaluate the most effective surgical and medical treatment modalities.
MALIGNANCIES IN TRANSPLANT PATIENTS: AN ATYPICAL PRESENTATION AND COURSE OF OVARIAN CARCINOMA - A CASE REPORT

E-POSTER VIEWING

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Objectives: Donor-transmitted malignancies are rare due to the strict selection criteria for donors. Diagnosis is challenging because they often have an atypical presentation and a poor response to treatment.

Methods: We present the case of a woman who was diagnosed with a donor-transmitted carcinoma after kidney transplantation.

Results: Two years after kidney transplantation, a 61-year-old woman was diagnosed with a FIGO stage IIIB Mullerian ovarian cancer. Treatment with neo-adjuvant chemotherapy was started and complicated due to the use of immunosuppressants. An interval-debulking procedure showed poor response to chemotherapy and an optimal debulking could not be achieved. Pathology revealed a high grade tumor with immunohistochemistry suggestive for lung carcinoma. However, a PET-CT did not indicate any pulmonary disease. Due to the atypical presentation, immunohistochemistry results and untraceable primary tumor additional genetic DNA profiling was performed to further investigate the origin. A Y-chromosome specific marker revealed that the tumor originated from the donor-transplant. The oncological treatment and immunosuppressants were discontinued. The kidney transplant was surgically removed and hemodialysis was initiated. The body’s own immune response led to a clinical, biochemical and radiological complete response and patient has no evidence of disease after 1 year of follow-up.

Conclusions: This case report illustrates the diagnostic and therapeutic challenges of cancer in transplant-patients. We suggest that DNA profiling should be standard procedure in transplant patients presenting with metastatic disease. Although donor-transmitted malignancies are a very rare finding, awareness is critical since it can have life-saving clinical implications.
INCREASING INCIDENCE OF OVARIAN AND UTERINE CARCINOSARCOMA: A UNITED STATES CANCER STATISTICS STUDY

E-POSTER VIEWING

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Objectives: To identify trends in the incidence of ovarian and uterine carcinosarcoma.

Methods: Data were obtained from the United States Cancer Statistics (USCS) Public Use Databases from 2001 to 2017. SEER*Stat 8.3.9, Joinpoint regression program 4.8.0.1, and Excel were used to calculate the incidence and trends. The age-adjusted incidence was calculated by WHO 2000 standard population.

Results: In 2017, the incidence of ovarian and uterine carcinosarcoma was 0.25 and 1.03 per 100,000 women, respectively. Of all carcinosarcomas, the incidence was highest in Blacks at 2.7 followed by 1.1 and 0.82 in Whites and Hispanics, respectively. Over the last 17 years, the annual incidence of carcinosarcoma has increased across all races, however for Black and Hispanic women that rate is increasing 2.5 times compared to Whites. More specifically, the percent increase was 3.7% per year for Blacks, 4% for Hispanics, and 1.5% for Whites. Black women in the 70-74 age group had the highest incidence of uterine carcinosarcoma at 21.6 / 100,000; while 60-64 year old Black women had the greatest percent increase of uterine carcinosarcoma at 3.3% per year.

Conclusions: The incidence of ovarian and uterine carcinosarcoma is increasing across all races, but most notably for older Black women.
THE GENDER IMBALANCE IN GYNECOLOGIC ONCOLOGY AUTHORSHIP AND EDITORIAL BOARDS

E-POSTER VIEWING

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**Objectives:** Despite increased participation of women in Medicine in recent decades, there remains gender disparity in Academic Medicine. Our objective was to examine gender diversity in authorship and editorial boards of 2 prominent peer-reviewed Gynecologic Oncology journals.

**Methods:** We performed a bibliometric analysis of original articles published in Gynecologic Oncology (GO) and International Journal of Gynecologic Cancer (IJGC), comparing 2016-2020 to two decades prior (1996). First names and photographs from institutional websites were used to identify subjective gender. Gender distribution was compared using chi-square tests.

**Results:** We included 3022 original articles between 2006-2020, and 201 in 1996. Gender was identified for 93% of first and 94.5% of senior(last) authors. Trends of gender representation in authorship and editorial boards over time are presented in the graphs below. Men were overrepresented as senior authors across both study periods: 93% in 1996, and 58% in 2016-2020. Over time, representation of women as senior authors increased (7% in 1996, 42% in 2016-2020, \(p<0.00001\)). This trend was also observed in first authorship (9% in 1996, 57% in 2016-2020, \(p<0.00001\)). Men continued to comprise the majority of editorial board members (86% in 1996, 59% in 2020).

**Conclusions:** There is an encouraging trend in female authorship, likely reflective of increased representation in the workforce. Nevertheless, gender disparity persists. This underlines an opportunity for the academic publishing community to participate in advocacy and decisive action to close the “gender gap”. The impact of the COVID-19 pandemic on this publication gap is being assessed by our group.
RACIAL DISPARITIES IN OVARIAN CANCER SURVIVAL IN THE UNITED STATES DESPITE ADHERENCE TO NATIONAL GUIDELINE CARE

E-POSTER VIEWING

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Objectives: To assess the relationship between race, receipt of National Comprehensive Cancer Network guideline adherent care (AC), and overall survival in a population of White and Black ovarian cancer (OC) patients in the United States.

Methods: We used data for ovarian cancer patients diagnosed 2011-2019 in Flatiron Health, a longitudinal database spanning >265 cancer clinics and >2M US patients. We defined AC as surgery and ≥6 cycles of platinum/taxane doublet chemotherapy, with variation based on NCCN guidelines in effect at diagnosis. We modeled overall survival as a function of AC, race, and clinical and demographic factors using Cox regression.

Results: Of 2,138 patients (median: 67 years; range 20-84), 1974 (92%) were White and 164 (8%) were Black. Only 45.3% and 45.7% of White and Black patients received AC. In multivariate analysis, AC in the overall population (HR 0.557, p<0.001) was associated with improved survival, while age (HR 1.028, p<0.001), stage IV at diagnosis (HR 1.471, p<0.001), and living in the Southern/Midwestern US (HR 1.366 and 1.342, respectively, p=0.002 and p=0.013) were associated with worsened survival. AC predicted improved survival for White patients (HR 0.540, p<0.001) but not for Black patients (HR 0.819, p=0.369).

Conclusions: Adherent care (AC) predicted improved survival for White patients with OC, but not their Black counterparts. It is unclear whether differences result from the small number of Black patients in our sample, or from racial differences in the individual components of AC. The relationship between race, AC, and survival should be further investigated.
A THEMATIC ANALYSIS OF KNOWLEDGE AND MISINFORMATION AMONG CERVICAL CANCER RADIOTHERAPY PATIENTS AT A TERTIARY HOSPITAL IN SOUTH AFRICA

E-POSTER VIEWING

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Objectives: The high prevalence and burden of cervical cancer in developing countries has spurred on much research into preventing and screening for the disease. However, little research has focussed on the experience of living with the disease and undergoing treatment for it in South Africa. In this study we aim to report on the knowledge, misinformation, stigma and disclosure hesitancy among women receiving curative treatment for cervical cancer at a tertiary hospital in South Africa

Methods: Inclusion criteria included being between the ages of 18 and 50 years and having undergone curative treatment for invasive cervical cancer, which resolved no more than 18 months prior to interviewing them. We conducted semi-structured interviews. Interviews were audio-recorded, transcribed, and analysed using thematic analysis.

Results: Fifteen women between the ages of 28 to 49 years old participated in the study. We describe these 15 participants' knowledge and understanding of cervical cancer, their experience of misinformation and stigma and a hesitancy to disclose their illness to others. Participants reported that they knew very little about cervical cancer, its causes, symptoms, diagnosis, and treatment. Women reported that they encountered misinformation and that in some cases this led to delays in diagnosis. One prominent negative perception that they encountered was the association of cervical cancer with promiscuity. Overall, participants seemed hesitant to disclose their diagnosis with others.

Conclusions: We highlight the central role that communication can play in increasing knowledge, reducing stigma and misinformation, and facilitating disclosure among women with cervical cancer. We include recommendations for healthcare practitioners and researchers.
RACIAL DISPARITIES IN THE COMPLETION OF THE HPV VACCINATION SERIES IN WOMEN IN THE UNITED STATES – A 9-YEAR STUDY

E-POSTER VIEWING

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Objectives: To identify disparities and trends in HPV vaccination status and trends across races.

Methods: HPV vaccination rates were evaluated using the Behavioral Risk Factor Surveillance System (BRFSS). Joinpoint regression program 4.8.0.1 was used to calculate the trend (average annual percent change, AAPC).

Results: In all patients, there was an increase in 3-dose vaccination from 2008 to 2016 (3.6% annual percent change (APC), p=0.042). There was also an increase in APC of 19.4% between 2008 and 2010 (p=0.046). When examining only those between 18-24 years of age, there was an APC of 26% (p=0.037). From 2010 to 2016, there was no significant APC in all age groups assessed. In 2008, 27.78% of Blacks, 25% of Hispanics, 48.78% of Whites, and 42.86% of Asians had received 3 vaccine doses. In 18 to 24 year old Black patients, there was an APC of 77.3% from 2008 to 2010 (p=0.027), followed by a -7.4% APC (p=0.053) from 2010 to 2016. Hispanic patients also showed a significant increase in vaccine completion; a 43.9% APC took place from 2008 to 2010 (p=0.040) among 18-24-year-old patients, and a 39.7% in APC took place in the total Hispanic population (p=0.033).

Conclusions: The majority of the increase in 3-dose vaccination that took place across all races from 2008 to 2016 took place in the first 3 years of that time period. Black and Hispanic patients were least likely to have 3 doses of the HPV vaccine in 2008, but experienced the greatest increases in rates of vaccine completion between 2008 and 2010.
ASSOCIATIONS OF HEALTHCARE AFFORDABILITY WITH GUIDELINE-ADHERENT SURGERY AMONG WHITE, BLACK, AND HISPANIC OVARIAN CANCER PATIENTS: A U.S NATIONAL CANCER DATABASE ANALYSIS

E-POSTER VIEWING

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Objectives: Black and Hispanic ovarian cancer (OC) patients are less likely to receive guideline-adherent and timely cancer care. We aimed to evaluate the associations between healthcare affordability (HA) and receipt of high-quality surgery and time to surgery among OC patients by race.

Methods: Data from the 2016 NCDB on Non-Hispanic White (NHW), Non-Hispanic Black (NHB), and Hispanic OC patients diagnosed in 2004-2016 was analyzed. Measures of HA included area-level income and insurance status. Multinomial logistic regression was used to estimate the odds of receiving high-quality surgery compared with low-quality or no surgery. Multivariable linear regression was used to analyze differences in time, in days, from diagnosis to surgery.

Results: The cohort included 113,702 patients: 86% NHW, 8% NHB and 6% Hispanic. Compared to private insurance, uninsured and Medicaid patients were more likely to receive no surgery (uninsured: aOR 2.55; 95% CI 2.28-2.85 and Medicaid: aOR 2.05; 95% CI 1.86-2.26). Lower income patients were more likely to receive low-quality surgery (aOR 1.20; 95% CI 1.13-1.27) or no surgery (aOR 1.42; 95% CI 1.31-1.53) relative to higher income patients. These associations were strongest among uninsured Hispanic and lowest income NHB patients. Relative to private insurance, Medicaid patients were more likely to have longer time to surgery (b 6.09; 95% CI 4.17-8.02). This association was strongest among NHB and Hispanic Medicaid patients.

Conclusions: Low healthcare affordability is associated with lack of high-quality and timely surgery especially among NHB and Hispanic patients, indicating the need for interventions promoting equitable access to guideline-adherent care for all OC patients.
ASSOCIATIONS OF HEALTHCARE AFFORDABILITY WITH UTILIZATION OF SUPPORTIVE CARE MEDICATION AMONG WHITE, BLACK, AND HISPANIC OVARIAN CANCER PATIENTS

E-POSTER VIEWING

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Objectives: Black cancer survivors report higher rates of depression, pain, and fatigue compared to other races/ethnicities. We sought to evaluate the association between healthcare affordability (HA) and supportive care (SC) medication utilization among ovarian cancer (OC) patients by race.

Methods: Data for Non-Hispanic White (NHW), Non-Hispanic Black (NHB), and Hispanic OC patients diagnosed in 2008-2015 in the SEER-Medicare database was analyzed. Factor analysis was used to determine a composite score for HA. SC medication utilization included receipt of antidepressants, psychostimulants, and analgesics. Multivariable log-binomial regression was used to evaluate associations between race/ethnicity, affordability, and SC medication use in the 6 months following OC diagnosis with adjustment for patient clinical characteristics. Sub-group analyses were performed evaluating these associations among late-stage (stage III-IV) patients.

Results: The cohort included 3,697 patients: 86% NHW, 6% NHB, and 8% Hispanic. In adjusted models, patients with lower affordability scores were less likely to receive antidepressants compared to those with higher affordability scores (all stage: aOR 0.84; 95% CI 0.73-0.96 and late-stage: aOR 0.85; 95% CI 0.72-0.99). Additionally, NHB were less likely to receive antidepressants compared to NHW patients (all stage: aOR 0.46; 95% CI 0.33-0.63 and late-stage: aOR 0.36; 95% CI 0.24-0.56). There was no association between affordability and psychostimulant or analgesic utilization.

Conclusions: Low healthcare affordability is associated with lower utilization of antidepressants among OC patients, and NHB patients are less likely to receive antidepressants. This indicates the need for interventions targeting more affordable and equitable access to these supportive care medications.
EPV252 / #67

SENTINEL NODE MAPPING IN ENDOMETRIAL CANCER USING HYSTEROscopes. INJECTION OF INDOCYANINE GREEN AND NEAR-INFRARED FLUORESCENCE IMAGING

E-POSTER VIEWING

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Objectives: To report on the performance of hysteroscopic injection of indocyanine green (ICG) for sentinel lymph node mapping (SNM) in endometrial cancer

Methods: This is a retrospective cohort study of consecutive endometrial cancer patients who had SNM via hysteroscopic injection of IGC between 2013 and 2017. Detection rate, accuracy, and oncologic outcomes were evaluated

Results: Charts of 52 patients were evaluated. At least one sentinel node was detected in 95% of patients. Bilateral pelvic mapping was found in 74% of cases. In 45% of cases, SLNs mapped in both pelvic and para-aortic nodes, and four cases (8%) in the para-aortic area, only. In three patients (6%) sentinel nodes were found in aberrant (parametrial/presacral) areas. Seven (13.5%) patients were diagnosed with nodal involvement. Low volume disease was observed in four (8%) patients (2 with isolated tumor cells and 2 with micrometastasis). After a median (range) follow-up of 34.7 (10, 61) months, five (9.6%) patients developed recurrences: two abdominal/distant, one vaginal, and one nodal (in the para-aortic area in a patient diagnosed with endometrioid G1 endometrial cancer and isolated tumor cells in a pelvic node). No patient died of disease.

Conclusions: Hysteroscopic injection of ICG ensures delineation of lymphatic drainage from the tumor area, thus achieving accurate detection of sentinel nodes. Further evidence is warranted to assess the role of hysteroscopic injection in identifying extrapelvic sentinel nodes.
TWO CASES OF OBTURATOR NERVE COMPLETE TRANSECTION DURING LAPAROSCOPIC PELVIC LYMPH NODE DISSECTION FOR ENDOMETRIAL CANCER

E-POSTER VIEWING

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Objectives: For early-stage endometrial cancer, laparoscopic surgery is well established in many countries. In Japan, the procedure is covered by insurance from 2014. Since then, laparoscopic surgeries for gynecological cancers have been performed by not only gynecolo-oncologists but also laparoscopic qualified gynecologists. To review the safety of our cases, this IRB-approved study was performed.

Methods: Operative cases of endometrial cancer were reviewed retrospectively.

Results: Out of 94 stage I endometrial cancer cases who underwent laparoscopic surgery, total laparoscopic modified radical hysterectomy + laparoscopic pelvic lymphadenectomy was performed for 22 patients. Median operative duration was 238 minutes, and median blood loss was 100mL. We experienced two cases of obturator nerve complete transection. Both of the surgeons were laparoscopic board certificated. In both cases, right obturator nerve was cut near to the branch of internal iliac vein. Surgical video can be revisited for one patient. The nerve covered with lymphatic tissue was dragged out medially under the internal iliac branch, and cut misinterpreted as a lymphatic trunk. For both, although nerve correction was done during surgery by suturing, rehabilitation was necessary. For open surgery, we have never experienced obturator nerve injury during the pelvic lymphadenectomy in the same period.

Conclusions: Obturator nerve injury during pelvic surgery is possibly frequent in laparoscopic surgery.
Objectives: Accumulating evidence correlates myocardial injury after noncardiac surgery (MINS), even when asymptomatic, with increased cardiac and non-cardiac morbidity and mortality. There is no literature on MINS specific to Gynecologic Oncology. We sought to evaluate the incidence and risk factors of MINS in patients aged ≥70.

Methods: Elective laparotomies between 01/2016-09/2020 for patients aged ≥70 at a tertiary hospital in ON, Canada, were reviewed using prospectively-collected National Surgical Quality Improvement Program (NSQIP) data. MINS was defined as peak serum high-sensitivity troponin-T concentration ≥0.04ng/mL within 30 days postoperatively. Logistic regression analysis was performed.

Results: In this cohort of 258 patients, of 242 (93.8%) who underwent postoperative troponin screening, 40 (16.5%) experienced MINS without exhibiting ischemic symptoms or ECG changes. The diagnosis of MINS led to a change in cardiovascular medications for 35 patients (87.5%). On univariate analysis, Revised Cardiac Risk Index (RCRI) of 3-5 (p=0.002), history of coronary artery disease (p=0.003) or insulin-dependent diabetes (p=0.006), preoperative use of antiplatelets (p=0.009), beta-blockers (p=0.02), ACE-inhibitors (ACEI) or angiotensin-receptor blockers (ARB) (p=0.020) and frailty as defined by the NSQIP modified frailty index-5 (p=0.02), were associated with greater risk of MINS. Factors reflecting surgical complexity including surgical complexity score, operative duration, blood loss and advanced oncologic stage, were not predictive. Multivariable analysis using backward selection procedure identified elevated RCRI and preoperative ACE/ARB as significant risk factors (OR 5.93, 95%CI 1.52-23.31, p=0.01 and OR 2.3, 95%CI 1.18-5.06, p=0.02).

Conclusions: One in 6 patients in our cohort experienced asymptomatic MINS, irrespective of surgical complexity. MINS may be underdiagnosed after Gynecologic Oncology surgery in the absence of systematic troponin screening. Our analysis highlights a possible opportunity to optimize cardiac risk factors and potentially reduce morbidity and mortality.
Objectives: Doublet chemotherapy (paclitaxel plus either platinum or topotecan) with bevacizumab (if eligible) is recommended for first-line treatment of recurrent/metastatic cervical cancer (r/mCC; Tewari 2014). In the second-line setting, there are limited data for available treatment options. Tisotumab vedotin (TV) is an investigational antibody-drug conjugate directed to tissue factor. In the phase 2 pivotal trial (innovaTV 204/ENGOT-cx6/GOG-3023) in r/mCC patients with disease progression on or after chemotherapy, TV demonstrated clinically meaningful and durable activity (objective response rate [ORR]: 24%; median duration of response [DOR]: 8.3 months) with a manageable and tolerable safety profile. Most adverse events associated with TV were mild to moderate. These findings support further investigation of TV in patients with r/mCC who progress on first-line treatment.

Methods: innovaTV 301/ENGOT-cx12/GOG-3057 (NCT04697628) is a global, randomized, open-label, phase 3 trial evaluating efficacy and safety of TV in patients with previously treated r/mCC. Eligible patients are ≥18 years, have r/mCC, and have progressed after 1-2 prior lines of therapy (either standard care systemic chemotherapy doublet or platinum-based therapy with bevacizumab, if eligible). Approximately 482 patients will be randomized 1:1 to receive 21-day cycles of TV (2.0 mg/kg IV once every 3 weeks) or investigator’s choice of chemotherapy: topotecan, vinorelbine, gemcitabine, irinotecan, or pemetrexed. The primary endpoint is overall survival. Key secondary endpoints are progression-free survival, ORR, time to response, DOR, safety, and quality of life outcomes. The study is enrolling and will have sites in the USA, Europe, Japan, Latin America, Taiwan, Singapore, and South Korea.
**Results:** Not applicable.

**Conclusions:** Not applicable.
PREOPERATIVE FRAILTY ASSESSMENT IN PATIENTS UNDERGOING GYNECOLOGIC ONCOLOGY SURGERY: A SYSTEMATIC REVIEW

E-POSTER VIEWING

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Objectives: The aim of the present article was to discuss currently available evidence on the impact of frailty assessment on adverse postoperative outcomes and survival in patients undergoing surgery for gynecological cancer.

Methods: Systematic search of Medline (PubMed) and Embase databases until September 30, 2020. Key inclusion criteria were: (1) randomized or observational studies; (2) patients undergoing non-emergent surgery for gynecological malignancies; (3) preoperative frailty assessment.

Results: Through the process of evidence acquisition, twelve studies including 85,672 patients were selected and six tools were evaluable: 30-item frailty index, 40-item frailty index, modified frailty index (mFI), John Hopkins Adjusted Clinical Groups index, Fried frailty criteria, Driver's tool. The prevalence of frailty varied roughly from 6.1% to 60% across different series included. The mFI was the most adopted and predictive instrument. Pooled results underlined that frail patients were more likely to develop 30-day postoperative complications (OR, 4.16; 95% CI, 1.49-11.65; p=0.007), non-home discharge (OR, 4.41; 95% CI, 4.09-4.76; p<0.001), ICU admission (OR:3.99; 95% CI, 3.76-4.24; p<0.001) than the non-frail counterpart. Additionally, frail patients experienced worse oncologic outcomes (disease-free and overall survivals) than non-frail patients.

Conclusions: The present systematic review demonstrated that preoperative frailty assessment among gynecologic oncology patients is essential to predict adverse outcomes and tailor a personalized treatment. The mFI appeared as the most used and feasible tool in daily practice, suggesting that tailored therapeutic strategies should be considered for patients with 3 or more frailty-defining items.
SURGICAL SITE INFILTRATION VERSUS TRANSVERSUS ABDOMINIS PLANE BLOCK OF LIPOSOMAL BUPIVACAINE AFTER MIDLINE VERTICAL LAPAROTOMY FOR GYNECOLOGIC MALIGNANCY: A PROSPECTIVE RANDOMIZED CONTROLLED TRIAL

E-POSTER VIEWING

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Objectives: Surgical site infiltration (SSI) and transversus abdominis plane (TAP) block are postoperative analgesic techniques. Liposomal bupivacaine may prolong analgesic effects. We hypothesize that surgical site infiltration of liposomal bupivacaine will reduce opioid consumption in the 48-hour postoperative period compared to TAP block.

Methods: A single blind randomized controlled trial comparing surgical site infiltration of liposomal bupivacaine versus TAP block with liposomal bupivacaine after midline vertical laparotomy in patients with suspected or known gynecologic malignancy. Negative binomial regression was used to estimate the differences in total morphine milligram equivalent (MME) use between groups. Multivariable linear regression of pain scores on visual analog scale 0-10 was used at each time interval (2, 6, 12, 24, and 48 hours postoperatively) while controlling for medication use and age.

Results: Of 43 patients, 22 received SSI and 21 received TAP block. Mean age was 57.8 (SD = 11.50). There were no significant differences in demographics, incision length, surgery duration or pathology between groups. After controlling for age and BMI, there was not a statistically significant difference in total MME between the treatment groups (β = -0.17, 95% CI = -0.77, 0.43, p = 0.59). There were no statistically significant differences in pain scores (both resting and exertion) at all time points after controlling for age and pain medication utilization.

Conclusions: Surgical site infiltration of liposomal bupivacaine did not reduce opioid use and did not decrease pain scores within 48 hours after surgery compared to TAP block after midline vertical laparotomy for gynecologic cancer.
IMPROVING THE RATES OF SAME DAY DISCHARGE IN ROBOTIC SURGERY PATIENTS - A GYNECOLOGIC ONCOLOGY QUALITY IMPROVEMENT PROJECT

E-POSTER VIEWING

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Objectives: In appropriately selected gynecologic oncology (GO) patients, robotic or laparoscopic surgery is a preferred approach (faster recovery, fewer complications, shorter hospital stay). Furthermore, same day discharge (SDD) is safe and effective in these patients. Evidence suggests no increased rates of readmission, or complications for SDD compared with overnight observation. We pursued a Quality Improvement (QI) project aimed at increasing our rate of SDD by 50% by June 2021 in GO robotic surgery patients.

Methods: This QI initiative is based upon the Institute for Healthcare Improvement’s Model for Improvement. The study is an interrupted time series study. Baseline data assessment determined the rate of SDD and potential root causes for failed SDD. For each intervention (addressing a root cause), Plan-Do-Study-Act cycles were conducted. Outcome, process, and balancing measures were collected prospectively.

Results: Four simple interventions were selected for implementation: 1) setting SDD as the default discharge plan, 2) providing a physician discharge order on the patient chart, 3) removing the foley catheter in the OR, 4) developing comprehensive standardized perioperative patient education materials. The rate of SDD was improved from 28.8% (baseline) to 69.4% following the changes. There was no increased 30-day rate of readmission (0% SDD vs 1.3% all robotic cases) or presentation to the emergency department (1.9% SDD vs 3.8% all robotic cases) following implementation of the interventions.

Conclusions: Local rates of SDD can be improved with simple interventions targeting disposition planning, foley catheter removal and managing patient expectations. These interventions may be easily applicable to other GO programs.
PATIENT OUTCOMES AND ADHERENCE TO AN ENHANCED RECOVERY PATHWAY FOR OPEN GYNECOLOGIC ONCOLOGY SURGERY: A 5-YEAR SINGLE CENTER EXPERIENCE

E-POSTER VIEWING

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Objectives: This study evaluates compliance with Enhanced Recovery After Surgery (ERAS) protocol for open gynecologic oncologic surgery at a tertiary center and relationship between levels of compliance and perioperative outcomes.

Methods: Our retrospective cohort study included 1879 patients between November 2014 and December 2020. Two groups were identified based on compliance level (<80% versus ≥80%). Our primary outcomes were 30-day readmission, reoperation, length of stay, and postoperative complications. We also assessed compliance with each ERAS item over time (P1: 2014-2016, P2: 2017-2018, P3: 2019-2020) categorizing patients according to date of surgery. Values were compared between P3 and P1. Multivariable logistic regression analyses were performed to evaluate associations between high compliance and perioperative outcomes.

Results: Overall compliance was 74% (95% CI 71.9-78.2). Compliance with ERAS >80% was associated with lower Clavien-Dindo grades II (OR 0.74, 95%CI 0.59-0.93), III (OR 0.55, 95%CI 0.33-0.93), and V (OR 0.08, 95%CI 0.01-0.60) complication rates, readmission rates (OR 0.61; 95%CI 0.43-0.88) and shorter length of stay (OR 0.59; 95%CI 0.47-0.75). Preoperatively, there was increased adherence to counseling (50%, p=0.01), optimization (21%, p=0.02), and carbohydrate-loading (74%, p=0.02). Intraoperatively, use of short-acting anesthetics and adherence to avoiding abdominal drainage (7%, p=0.04) increased. Compliance with goal directed fluid therapy (16%, p=0.04) and normothermia (8%, p=0.03) decreased. Postoperatively, there was increased compliance with avoiding saltwater overload (8%, p=0.02) and multimodal analgesia (5%, p=0.02).

Conclusions: Compliance (>80%) with ERAS is associated with lower complication rates, 30-day readmissions, and shorter length of stay without impacting reoperation rates and postoperative opioid use.
SCHWANNOMA OF THE PUDENDAL NERVE – ANATOMICAL CONSIDERATIONS IN THE APPROACH TO SURGICAL MANAGEMENT OF THIS RARE PATHOLOGY

E-POSTER VIEWING

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Objectives: Schwannomas are uncommon, benign, indolent, nerve sheath tumours with low malignant potential; commonly affecting the nerves of the head, neck, mediastinum and extremities. Two pudendal cases have been reported. Their deep, complex location challenges resection - via the ischiorectal fossa in our case.

Methods: A 24-year-old female reported an enlarging left perineal mass over eight years; associated with numbness and sexual dysfunction. This was 7x5cm on examination, distal to Alcock’s canal, with no vaginal, rectal or anal sphincter involvement. It was defined and mildly FDG-avid on imaging. Biopsies confirmed schwannoma. She reports no neurological deficit or evidence of recurrence following resection.
Alcock's canal is directly accessed via the ischiorectal fossa with minimal pelvic muscle and ligament disruption. The pudendal nerve arises from the S2-4 sacral nerve and travels forward laterally in the pelvis within this obturator internus fascial sheath. It has both motor and sensory functions. The ischiorectal fossa is a pyramidal space lateral to the anal canal and below the pelvic diaphragm. It
contains the internal pudendal and inferior rectal vessels and

**Conclusions:** Pudendal nerve schwannomas are rare, arising from a single non-functioning sensory fascicle. Following preoperative imaging, this approach is safe and effective to achieve complete surgical
resection, avoiding relapse. Other risk factors include incontinence and sensory deficit. The procedure requires an in depth knowledge of the pelvic anatomical spaces, their contents and boundaries.
E-POSTER VIEWING

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Objectives: To evaluate whether a consultant “buddy” operating approach improves on intra-operative and post-operative outcomes in patients undergoing total laparoscopic hysterectomy (TLH) for endometrial cancer who are extremely and morbidly obese.

Methods: A prospectively selected cohort of 25 patients with a BMI 47-70 undergoing TLH was divided into two groups according to whether the first assistant to the Gynae-Oncology consultant was a registrar, or a consultant (“buddy operating”). Anaesthetic time, operating time, intraoperative estimated blood loss (EBL), requirement for high dependency unit (HDU) bed and length of stay (LOS) were compared.

Results: Average “buddy” operating time was significantly shorter compared to the registrar-assistant group (01:31h vs 01:59h respectively; p<0.001); a similar trend was seen with the average total anaesthetic time (02:48h vs 03:23h respectively; p<0.001). EBL was less in the “buddy operating” group (39 mls) vs registrar-assistant group (169 mls; p<0.001). Post-operatively, LOS was shorter in the “buddy operating” group as compared to the registrar-assistant, though not significantly so (1.13 vs 1.59 days; p=0.109). 2 of the total patients (8%) required a one-night stay in HDU for observation due to their co-morbidities, both in the registrar-assistant group. Mean BMI, age, ASA and comorbidities were similar in the two groups.

Conclusions: In patients with a significantly raised BMI, TLHs by two consultants vs consultant and registrar are associated with better intra and post-operative outcomes, including reduced overall anaesthetic time, operating time, and EBL. There is an association with a reduced length of overall hospital stay, though this was not significant.
FUNCTIONAL NEOVAGINA FORMATION USING VERTICAL RECTUS ABDOMINIS MUSCULOCUTANEOUS (VRAM) FLAP FOLLOWING PELVIC EXENTERATION

E-POSTER VIEWING

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Objectives: Cervical cancer is common in younger women, with risks of surgery for advanced disease including altered body image and psychosexual dysfunction. This specialist technique highlights multidisciplinary management whilst minimising complications.

Methods: A 42-year-old female with a stage 1B2 lymph node positive cervical adenocarcinoma managed with primary chemoradiotherapy underwent total pelvic infракlevator exenteration for recurrence; with vulval sparing and VRAM reconstruction of the pelvic floor, perineum and neovagina formation.

Results: Following preoperative marking and perforating vessel Doppler identification of the anterior abdominal wall; the anterior rectus sheath was preserved to the medial row and exenteration procedure completed with staggered urostomy and ileostomy. The VRAM (including skin, subcutaneous tissue, sheath and muscle) was then completed along the lateral aspect with preservation of the rectus abdominus insertion pedicle including inferior epigastric artery. The flap was rotated to the perineum with tubing of the neovagina and de-epithelization for pelvic floor reconstruction. The abdomen was closed with a vicryl mesh insert.
Conclusions: VRAM flap provides a reliable blood supply and viable tissue from a non-irradiated site with acceptable scarring. This reduces issues with empty pelvic syndrome and allows for ligation of the internal iliac artery. The patient made an uneventful recovery with retained sensation of the remaining vulva and flap. She continues under surveillance and vaginal mechanical dilation regime. We emphasise preservation of appearance and function in achieving patient satisfaction.
INITIAL EXPERIENCE WITH THE ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOL IN GYNECOLOGY AT A TERTIARY ACADEMIC MEDICAL CENTER

E-POSTER VIEWING

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Objectives: The aim of this study was to describe the early experience with ERAS protocols for gynecologic surgeries at an urban academic tertiary medical center.

Methods: The target population was the women who underwent various types of gynecologic surgeries for both benign and malignant diseases between October 2020 and January 2021. Two separate analyses were performed: a case-matched analysis between ERAS vs. non-ERAS cohorts and a retrospective cohort comparative analysis between ERAS vs. historical non-ERAS comparison groups.

Results: A total of 200 patients were evaluated (122 patients in the ERAS group vs. 78 patients in the non-ERAS group). Fasting times were significantly shorter in the ERAS cohort group (26.3 vs. 40.1 hours for solid food, 6.9 vs. 15.4 hours for clear liquid in the ERAS group vs. non-ERAS group, both p-values < 0.01). The use of opioid analgesia was also significantly lower (0.3 vs. 1.8 vials in the ERAS group vs. non-ERAS group, p-value <0.01), whereas NSAIDs and acetaminophen use was more frequent in the ERAS group. The patients in the ERAS group reported less post-operative pain, feelings of hunger and thirst, and greater amount of exercise. The length of hospital stay did not differ between the two groups. These benefits of the ERAS protocols were more significant in the patients who underwent laparotomic surgeries than those who underwent laparoscopic surgeries. Similar patterns of the results were observed from the historical comparison analysis.

Conclusions: The ERAS protocols improved post-operative recovery after various gynecologic surgeries.
DOES NEGATIVE PRESSURE WOUND THERAPY REDUCE SURGICAL SITE INFECTION IN ENDOMETRIAL CANCER PATIENTS UNDERGOING LAPAROTOMY? A MULTICENTRE RETROSPECTIVE COHORT STUDY.

E-POSTER VIEWING

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Objectives: To establish the rate of surgical site infection in patients with endometrial carcinoma undergoing laparotomy using standard surgical dressings compared to those using negative wound pressure therapy (NPWT).

Methods: Retrospective cohort analysis of 398 patients who underwent a laparotomy for endometrial carcinoma between 2013-2014 and 2018-2019 across three hospitals in New Zealand, to compare the effect of introduction of NPWT. SSI, wound dehiscence and return to theatre were compared between standard dressings and NPWT using logistic regression, controlled for grade of tumour, age, BMI, smoking status, diabetes and previous surgery.

Results: There were 352 patients in the standard dressing group and 42 patients in the NPWT group with baseline difference in the smoking status and age. The mean age was 60 (range 25-91). The mean BMI was 37 (range 15-74). NPWT did not decrease the SSI rate (p=0.641) and return to theatre (0.226), but decreased the wound dehiscence rate (p=0.021, OR 2.773). Higher BMI was found to increase the SSI rate (p=0.001, OR 1.415).

Conclusions: The results of this study suggest that negative pressure wound therapy does not decrease SSI rate, but decreases the wound dehiscence rate. Further randomised control trials in gynaecological oncology patients undergoing laparotomy are needed, especially for higher risk groups, such as obese patients.
STRATEGIES TO MINIMISE MAJOR BLOOD LOSS IN PELVIC SURGERY - PELVIC VASCULATURE INTERVENTIONS

E-POSTER VIEWING

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Objectives: Intraoperative blood loss is a major contributing factor to morbidity and mortality in pelvic surgery. Therefore, the maintenance of haemostatic control is a crucial safety component.

Methods: We performed a systematic review of the literature to identify current strategies to reduce blood loss in complex pelvic surgery.

Results: This article reviews the current intra-operative strategies used to reduce bleeding. We discuss the surgical techniques for identifying the major pelvic arteries relevant to surgery. Once identified, various materials and equipment can be used to temporarily or permanently occlude these vessels with the aim of maintaining homeostasis. We review in which situations each option is best suited and the most appropriate apparatus for each approach. Correct surgical planning must also be determined to provide good visualisation of the pelvic field. Importantly, consideration must be given to the vascularity and size of the lesion, which can vary greatly depending on the pathology. This will further impact on planning and dictate visualisation and securing of key vascular structures prior to manipulation of the lesion.
**Conclusions:** In summary, adequate identification, access and manipulation of the appropriate vasculature is essential for prevention and management of major blood loss in pelvic surgery. Temporary and permanent occlusion of pelvic arteries has been used in practice for some time to manage haemostasis, yet further information is required to provide a definitive time interval as currently this area of research remains overlooked.
ACS NSQIP - PERSONALISED RISK PREDICTION TOOL FOR POSTOPERATIVE COMPLICATIONS IN GYNAEONCOLOGY SURGERY?

E-POSTER VIEWING

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Objectives: The objective of our study was to explore the validity of ACS NSQIP (American College of Surgeons National Surgical Quality Improvement Program), a validated web-based tool based on 21 preoperative risk factors to predict 8 post-operative outcomes, in gynaecology for perioperative prediction of postoperative complications. Despite the informed consent process, patients’ understanding of complications is often limited, making it difficult to call the decision informed, so estimating the risk of postoperative complications is important for shared decision making.

Methods: A retrospective multicentre cohort study evaluated 1552 patients who underwent surgery. Data collection undertaken through dedicated database and notes. Data collated on 764 patients undergoing robotic, 248 laparoscopic and 540 open surgery for gynaecological malignancy. Following data lock with the actual post-op event/complication, ACS NSQIP used to count predictive scores. Data analysis evaluating ACS-NSQIP validity and relevance in gynaecology patients and its ability to predict postoperative complications performed.

Results: ACS-NSQIP was found to best predict mortality (AUC-0.900), it was most accurate for prediction of complications as follows: discharge to rehabilitation (AUC-0.866), cardiac complications (AUC-0.844), sepsis (AUC-0.795), pneumonia (AUC-0.779), VTE (AUC-0.715), return to theatre (AUC-0.715), surgical site infection (AUC-0.684), readmission (AUC-0.680), renal failure (AUC-0.665). Poor result in the prediction of UTI (AUC-0.561) was noted.

Conclusions: ACS-NSQIP risk calculator appears to predict major complications and post-operative mortality making it useful as an informed consent tool. Preliminary data suggests that further validation is required to fully evaluate if the risk scores may be used to inform patients pre-operatively of their risk of complications and is currently undertaken.
APPLICABILITY OF PRE-OPERATIVE PATIENT REPORTED DUKE ACTIVITY SCALE INDEX (DASI) IN PREDICTION OF POSTOPERATIVE COMPLICATIONS IN GYNAECOLOGICAL ONCOLOGY

E-POSTER VIEWING

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Objectives: Increase in the incidence of gynaecological cancers has resulted in increased operations, specifically in patients with multiple comorbidities. This is often associated with higher rates of postoperative mortality and morbidity and presents a challenge with an unmet need for an accurate, personalised risk prediction. DASI is a self-reported 12 item scale questionnaire based around commonly performed activities of daily living. This study investigates the accuracy of DASI in preoperative prediction of postoperative outcomes in gynaecology.

Methods: A retrospective cohort study of 330 patients who had undergone an operative treatment. All patients had completed the DASI questionnaire prior to their consultation. Actual postoperative 30 day complications and the length of stay recorded. DASI was then compared with the occurrence of postoperative complications.

Results: 181 patients underwent robotic procedure, 37 - laparoscopic and 112 - open surgery. Our results showed that the higher DASI score the less likely patients were to have postoperative complications. This result was statistically significant with odds ratio of 0.974 and confidence interval between 0.958 and 0.991. We were also able to demonstrate that for every 10 points further up the DASI score a patient was 0.768 times less likely to have a postoperative complication. Hence general morbidity prediction of DASI score has been found to statistically significantly predict postoperative complications (AUC-0.700).

Conclusions: Our study has shown that DASI score is a useful predictive tool of perioperative estimation of postoperative complications in gynaecology. Further analysis with a larger sample size and a multicentre prospective study is currently underway to validate the findings.
ROLE OF ROBOTIC SURGERY FOR INTERVAL DEBULKING OF OVARIAN CANCER AFTER NEOADJUVANT CHEMOTHERAPY

E-POSTER VIEWING

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Objectives: Compared with primary debulking surgery, treating ovarian cancer with neoadjuvant chemotherapy (NAC) followed by interval debulking surgery (IDS) results in similar outcomes, while showing significantly less surgical morbidity. To further reduce surgical morbidity, surgeons have followed NAC with minimally invasive Robotic (R-IDS).

Methods: This single institution, retrospective study evaluated patients having R-IDS after NAC for newly diagnosed advanced stage (III or IV) ovarian cancers between 2006-2016. Outcomes were compared between these 16 Robotic IDS and 16 matched-cases of traditional Open laparotomy (O-IDS).

Results: One conversion from planned R-IDS to O-IDS due to inability to adequately ventilate. Age for R-IDS was 57 (48-91) vs 66 (48-83) for O-IDS. Surgical data for R-IDS versus O-IDS showed: optimal cytoreduction 14/16 (87%) vs 15/16 (94%), intra-op blood transfusions 0/16 vs 4/16 (25%), operative time (136 min, 75-250) vs (206 min, 128-356), and blood loss 98 (25-250) vs 250 (50-600), length of stay 28 hours (21–216) vs 99 hours (67-247). Post-operatively for R-IDS there were no major complications, and no ICU admissions, while O-IDS had 5 wound complications, 1 pneumonia. Thirteen of R-IDS had comprehensive follow-up data allowing analysis of progression-free survival, which ranged from 4 to 32 months, with a median PFS 15 months, and 7/13 (54%) died of disease.

Conclusions: The use of NAC before IDS has become more prevalent since publication of trials showing similar oncologic outcome to primary debulking with less morbidity. Our series supports feasibility of using a R-IDS to minimize surgical morbidity, while maintaining oncologic outcome.
PREOPERATIVE ANEMIA IN GYNECOLOGIC ONCOLOGY PATIENTS: ARE WE OPTIMIZING OUR PATIENTS?

E-POSTER VIEWING

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Objectives: Preoperative anemia is one of the most prevalent yet preventable negative prognostic factors in newly diagnosed gynecologic oncology patients. However, it is often inadequately diagnosed and treated. The aim of this study was to evaluate the prevalence of preoperative anemia in gynecologic oncology patients and characterize types of anemia in this population.

Methods: This was a prospective cohort study of all consecutive women consented for gynecologic oncology surgery at Sunnybrook Health Sciences Centre between November 1, 2020-February 1, 2021. CBC, ferritin and iron indices were measured within 10 days of consent(range, 0-10 days). Anemia was defined as Hb <120g/L, absolute iron-deficiency as ferritin <30ng/mL, absolute iron-deficiency in inflammatory setting as ferritin 30-100ng/mL with transferrin saturation(TSAT)<20%, low iron stores as ferritin <100ng/mL with TSAT >20% and functional iron-deficiency as ferritin <300ug/L with TSAT <20%.

Results: 133 patients were included. Anemia occurred in 32%(n=43) of patients. It affected 56% of patients with ovarian cancer, 37% with endometrial cancer, 5% with cervical cancer and 6% with vulvar cancer. The overall mean Hb level was 126g/L(range,71-152g/L). The overall prevalence of mild(110-119g/L), moderate(80-109g/L) and severe(<80g/L) anemia were 42%, 47% and 12% respectively. Functional iron-deficiency anemia was the most common cause of anemia(33%), followed by absolute iron-deficiency(21%). 8%(n=10) had received neoadjuvant chemotherapy.

Conclusions: One third of patients undergoing gynecologic oncology surgery had anemia. Populations of focus should include ovarian and endometrial cancer patients, due to high rate of preoperative moderate to severe anemia and potential for improvement. This represents an opportunity for patient-safety initiatives.
OPTIMIZING THE SCREENING AND MANAGEMENT OF PREOPERATIVE ANEMIA PRIOR TO GYNECOLOGIC ONCOLOGY SURGERY (OPRA): A QUALITY IMPROVEMENT INITIATIVE

E-POSTER VIEWING

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Objectives: Preoperative anemia is an established negative prognostic factor in gynecologic oncology patients. However, it is often undetected and inadequately treated. The aim of this quality-improvement initiative was to increase the treatment rate of preoperative anemia in gynecologic oncology patients undergoing surgery at a large tertiary centre.

Methods: This was a time-series study between October 1, 2019-April 1, 2021. All gynecologic oncology patients consented for surgery at our institution were included. From October to December 2020, three interventions were implemented: a tracking system for patients consented for surgery, standardized screening for preoperative anemia, and automatic referral to patient blood management program(PBMP). The primary outcome was the treatment rate of patients with anemia receiving intravenous iron or erythropoiesis-stimulating agent prior to surgery. Secondary outcomes were perioperative blood transfusion rate, postoperative nadir hemoglobin(Hb) level and length of stay(LOS). Process measures included screening and PBMP referral rates. Balancing measures included treatment complications and patient satisfaction.

Results: Of the 151 pre-intervention and 229 post-intervention patients, 32%(n=121) had anemia. After intervention, screening rates and PBMP referral rates increased from 2% to 82%(p<0.00001) and 9% to 80%(p<0.00001), respectively. The treatment rate increased from 7% to 31%(p<0.009). The transfusion rate decreased from 20% to 12%(p=0.027). The postoperative nadir Hb level increased from 92 to 96g/L(p=0.049). There was no difference in LOS across all surgeries. No treatment associated complications were reported. The median patient satisfaction score was 4.5 on a five-point Likert scale.

Conclusions: Optimizing treatment of preoperative anemia in gynecologic oncology patients significantly decreased transfusion rate, without affecting LOS.
EFFECT OF SURGICAL MODALITY ON THE OCCURRENCE OF VAGINAL VAULT DEHISCENCE

E-POSTER VIEWING

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Objectives: This study aimed to analyze the incidence and risk factors of vault dehiscence after hysterectomy with respect to the mode of operation and the time to occurrence.

Methods: We conducted a retrospective study including 6,530 patients who underwent hysterectomy at Severance Hospital between July 2013 and February 2019. We then analyzed the characteristics of 53 cases of vaginal vault dehiscence based on the mode of hysterectomy and the time to occurrence.

Results: Among 6,530 hysterectomy cases, 53 cases of vault dehiscence (0.81%) were found, with 41 occurring after total abdominal hysterectomy (TAH) (0.46%) and 12 occurring after minimally invasive hysterectomy (MIH) (1.05%) (p=0.009). The incidence of dehiscence after MIH was statistically higher in benign diseases. In contrast, a malignant disease was associated with a higher risk of dehiscence after TAH (p=0.011). The time to occurrence, based on the 8-weeks cutoff, varied significantly based on the menopausal status; early-onset dehiscence occurred more frequently in premenopausal compared to postmenopausal women (93.1% vs. 33.3%, respectively; p=0.031). Surgical repair was more frequently required in cases of late-onset dehiscence than in early-onset dehiscence (95.8% vs. 51.7%, respectively; p<0.001).

Conclusions: Our results were consistent with the concept that the occurrence of vaginal vault dehiscence may be correlated with the method of surgery. Patient-specific factors, such as menopausal status, uterine weight, and cause of operation, may influence the timing and severity. Thus, personalized counseling may help reduce vaginal vault dehiscence.
<table>
<thead>
<tr>
<th></th>
<th>TAH + MIH (n=53)</th>
<th>TAH group (n=12)</th>
<th>MIH group (n=41)</th>
<th>p-value $^1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yr) $^2$</td>
<td>46.6 ± 7.2</td>
<td>47.0 ± 7.6</td>
<td>46.5 ± 7.2</td>
<td>0.847</td>
</tr>
<tr>
<td>Menopausal status $^4$  (n, %)</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Premenopause</td>
<td>43 (81.1)</td>
<td>10 (83.3)</td>
<td>33 (80.5)</td>
<td>0.825</td>
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<tr>
<td>Postmenopause</td>
<td>10 (18.9)</td>
<td>2 (16.7)</td>
<td>8 (19.5)</td>
<td></td>
</tr>
<tr>
<td>BMI (kg/m$^2$) $^2$</td>
<td>22.5 ± 4.0</td>
<td>22.4 ± 4.3</td>
<td>22.5 ± 3.9</td>
<td>0.959</td>
</tr>
<tr>
<td>Diagnosis $^5$ (n, %)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benign</td>
<td>34 (64.2)</td>
<td>4 (33.3)</td>
<td>30 (73.2)</td>
<td>0.011</td>
</tr>
<tr>
<td>Malignant</td>
<td>19 (35.8)</td>
<td>8 (66.7)</td>
<td>11 (26.8)</td>
<td></td>
</tr>
<tr>
<td>Parity $^2$</td>
<td>1.8 ± 0.9</td>
<td>2.1 ± 1.3</td>
<td>1.7 ± 0.8</td>
<td>0.254</td>
</tr>
<tr>
<td>Initial Hb (g/dL) $^2$</td>
<td>11.8 ± 1.8</td>
<td>11.7 ± 1.9</td>
<td>11.8 ± 1.8</td>
<td>0.867</td>
</tr>
<tr>
<td>Uterine weight (g) $^2$</td>
<td>243.6 ± 497.3</td>
<td>144.7 ± 94.0</td>
<td>273.8 ± 564.4</td>
<td>0.457</td>
</tr>
<tr>
<td>Chemotherapy $^3$ (n, %)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td>48 (90.6)</td>
<td>9 (75.0)</td>
<td>39 (95.1)</td>
<td>0.036</td>
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<tr>
<td>Yes</td>
<td>5 (9.4)</td>
<td>3 (25.0)</td>
<td>2 (4.9)</td>
<td></td>
</tr>
</tbody>
</table>

Continuous variables are presented as mean ± standard deviation.

MIH, minimally invasive hysterectomy; TAH, total abdominal hysterectomy; BMI, body mass index; Hb, hemoglobin

$^1$p-value was obtained by comparing TAH and MIH group only
TABLE 2 Comparison between early and late occurrence in patients with vaginal vault dehiscence

<table>
<thead>
<tr>
<th>Baseline cohort characteristics</th>
<th>Early occurrence &lt; 8 weeks</th>
<th>Late occurrence ≥ 8 weeks</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yr)</td>
<td>45.3 ± 1.3</td>
<td>48.3 ± 1.5</td>
<td>0.130</td>
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<tr>
<td>Menopausal status</td>
<td></td>
<td></td>
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<tr>
<td>Premenopause</td>
<td>27 (93.1)</td>
<td>16 (66.7)</td>
<td>0.031</td>
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<tr>
<td>Postmenopause</td>
<td>2 (6.9)</td>
<td>8 (33.3)</td>
<td></td>
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<tr>
<td>BMI (kg/m²)</td>
<td>23.2 ± 0.8</td>
<td>21.6 ± 0.6</td>
<td>0.123</td>
</tr>
<tr>
<td>Uterine weight (g)</td>
<td>322.3 ± 645.2</td>
<td>137.3 ± 91.2</td>
<td>0.211</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Benign</td>
<td>18 (62.1)</td>
<td>16 (66.7)</td>
<td>0.728</td>
</tr>
<tr>
<td>Malignant</td>
<td>11 (37.9)</td>
<td>8 (33.3)</td>
<td></td>
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<tr>
<td>Chemotherapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>26 (89.7)</td>
<td>22 (81.7)</td>
<td>1.000</td>
</tr>
<tr>
<td>Yes</td>
<td>3 (10.3)</td>
<td>2 (8.3)</td>
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<tr>
<td>Mode of hysterectomy</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Minimally invasive surgery</td>
<td>21 (72.4)</td>
<td>20 (83.3)</td>
<td>0.344</td>
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<tr>
<td>Open</td>
<td>8 (27.6)</td>
<td>4 (16.7)</td>
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<tr>
<td>Management after vaginal vault dehiscence</td>
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<tr>
<td>Surgical repair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15 (51.7)</td>
<td>23 (95.8)</td>
<td>0.000</td>
</tr>
<tr>
<td>No</td>
<td>14 (48.3)</td>
<td>1 (4.2)</td>
<td></td>
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<tr>
<td>Method of dehiscence repair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimally invasive surgery</td>
<td>2 (6.9)</td>
<td>13 (54.2)</td>
<td>0.000</td>
</tr>
<tr>
<td>Open</td>
<td>1 (3.4)</td>
<td>1 (4.2)</td>
<td></td>
</tr>
<tr>
<td>Vaginal</td>
<td>12 (41.4)</td>
<td>9 (37.5)</td>
<td></td>
</tr>
<tr>
<td>Embolization</td>
<td>1 (3.4)</td>
<td>0 (0.0)</td>
<td></td>
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<tr>
<td>Conservative</td>
<td>13 (44.8)</td>
<td>1 (4.2)</td>
<td></td>
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<tr>
<td>Hospitalized days after dehiscence (day)</td>
<td>7.1 ± 5.2</td>
<td>4.9 ± 2.6</td>
<td>0.149</td>
</tr>
</tbody>
</table>

Continuous variables are presented as mean ± standard deviation.

BMI, body mass index; MIS, minimally invasive surgery.

*Surgical repair includes Minimally invasive surgery, Open and vaginal approach for repair.
SCALP COOLING FOR REDUCING ALOPECIA IN GYNECOLOGY ONCOLOGY PATIENTS TREATED WITH DOSE-DENSE CHEMOTHERAPY: A PILOT PROJECT

E-POSTER VIEWING

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Objectives: To determine the efficacy of scalp cooling for the prevention of chemotherapy-induced alopecia specifically in the gynecology oncology patient population.

Methods: This prospective pilot study included patients diagnosed with a gynecological malignancy that received DigniCap™ scalp cooling. Patients were divided into two groups based on chemotherapy regimen: Carboplatin with area under the curve (AUC) 5-6 every three weeks and (1) conventional Paclitaxel 175 mg/m² every three weeks or (2) Paclitaxel 80 mg/m² weekly. A 1-10 visual analogue scale (1- no hair loss, 10- complete hair loss) was used to assess degree of hair loss by patients themselves and by a certified dermatologist using photographs. Changes in quality of life and body image were measured using the European Organization for Research and Treatment of Cancer quality of life questionnaire version 3 (EORTC QLQ-C30) and the Body Image Scale (BIS) for cancer patients.

Results: Hair preservation occurred with use of a scalp cooling device for patients receiving weekly Paclitaxel (n=20), but not conventional every three weeks Paclitaxel (n=8). Ten of 15 patients (66.7%) in the dose-dense group lost less than 50% of their hair based on self-assessment and 14 of 16 (87.5%) based on dermatologist assessment. No patient in this group acquired a wig. The quality of life (QoL) scoring had a trend towards worse QoL in the dose-dense group with a trend towards better BIS scores.

Conclusions: Scalp cooling may allow for hair preservation in gynecology oncology patients receiving carboplatin AUC 5-6 and weekly paclitaxel 80 mg/m² combination chemotherapy.
AUDIT OF COMPLICATIONS IN GYNAECOLOGICAL ONCO-SURGERIES AT A TERTIARY CARE HOSPITAL IN SOUTH INDIA

E-POSTER VIEWING

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Objectives: Complications are an inherent part of surgical procedures, more so in onco-surgeries given the radicality of the procedures. Negative outcomes must be audited and classified to find more specific targets for quality improvement. Our primary objective was to study the complications of gynecological onco-surgeries graded according to the Clavien-Dindo grading system. The secondary objective was to evaluate the association between perioperative risk factors and complications of gynecological onco-surgeries.

Methods: A cohort of 157 patients who underwent onco-surgeries in a tertiary care center in South India was studied from August 2017 to May 2019. Patients diagnosed with benign lesions by histopathology post-operatively and patients who are not willing to participate in the study were excluded. Post-operative complications were noted and graded according to the Clavien-Dindo grading system.

Results: Among a cohort of 157 patients who underwent gynecological onco-surgeries, a complication rate of around 41.1% is observed. Majority of these complications were grade 1 (n=43, 27.3%), grade 2 (n=34, 21.6%) or grade 3A (n=27, 17.2%). Severe complications, i.e.,>Grade 3b, were observed in around 8.2% of the study patients. Vulvar cancer patients had the highest complication rate of around 80% (all grade 3B complications). Among the intra-operative characteristics, only the complexity of the surgery showed statistical association with postoperative complications (p=0.04).

Conclusions: Higher grade of complications according to the Clavien-Dindo grading system was significantly associated with duration of hospital stay.
MALIGNANCY-ASSOCIATED BOWEL OBSTRUCTION: OUTCOMES & EVALUATION OF THE HENRY SCORE

E-POSTER VIEWING

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Objectives: Malignant bowel obstruction (MBO) represents a devastating sequelae of gynecologic cancer. The Henry Score was developed to predict 30-day mortality and identify candidates for surgical management of MBO. The initial study only included 25% gynecologic patients, and this score has never been validated in a gynecologic cohort. Our objectives were to 1) assess survival and 2) evaluate predictive utility of the Henry Score for gynecologic patients.

Methods: Retrospective review was performed on gynecologic cancer patients admitted with MBO to a single institution between 2016 and 2018.

Results: A total of 80 MBO-related admissions were analyzed. 36.25% of patients underwent procedural intervention (surgery (6.25%), stenting (5.0%), or gastrostomy tube (21.3%)). Median length of stay was 5 days (Range 1-46). 30-day readmission rate was 40.0%. Mortality at 1, 3 and 6 months from first MBO admission was 20.4%, 46.3% and 64.8%, respectively. Median survival after first admission was 69.5 days (100 days in the surgical cohort (Range 65-208); 87 days in the non-surgical cohort (Range 1-248)). Mean Henry Score on admission was 2.5 (±1.06). When comparing “high” Henry scores (4 to 5) vs.“low” scores (0 to 1), high scores were associated with increased hospice admission (46.2% vs. 8.3%) and 30-day mortality (38.5% vs. 0%). Likelihood of procedural intervention and length of stay did not correlate with score.

Conclusions: Gynecologic cancer patients with MBO have high rates of readmission and mortality. The Henry Score may have utility in this setting and inform counseling regarding outcomes. Further validation of the Henry Score in this population is warranted.
PHOTOBIOMODULATION FOR RADIODERMATITIS PREVENTION IN BREAST CANCER: RESULTS FROM A DOUBLE BLIND RANDOMIZED CONTROLLED TRIAL (PHOTODERMIS TRIAL)

E-POSTER VIEWING

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1Universidade do Vale do Itajaí, Physical Therapy, Itajaí, Brazil, 2CORB Radioterapia, Radiotherapy, Balneario Camboriu, Brazil, 3Baylor College of Medicine, Radiation Oncology, Houston, United States of America, 4Oncofisio Institute, Physical Therapy, São Paulo, Brazil, 5AC Camargo Cancer Center, Gynecologic Oncology, Sao Paulo, Brazil

Objectives: Photobiomodulation (PBM) has been described as an adjunct method for skin recovery, though clinical studies in radiodermatitis are scarce. Our aim was to evaluate the impact of PBM in reducing the incidence of radiodermatitis in breast cancer.

Methods: A single center randomized double-blind controlled trial (NCT04059809) was carried out and included women who underwent conservative surgery or mastectomy, without immediate breast reconstruction and treated with 3D radiotherapy. Patients were randomly assigned (1:1) to receive usual skin care ± red PBM (660nm) with energy of 3 Joules every 2cm along the breast or plastron. Radiodermatitis were blindly classified by 2 professionals and blinded for the patient.

Results: A total of 110 cases were predefined as the study sample size. The recruitment stopped after the interim analysis at 48 cases (26 women in PBM group and 22 in control). Median age was 51.5 years (range,29-78), median total radiation dose of 50.4Gy (range,42-55)% and 36(75%) cases had conservative surgery. The clinical and pathological variables did not differ between groups. Total of 16 (33.3%) cases had radiodermatitis in the breast/plastron and 42 (87.5%) outside the breast/plastron area. Radiodermatitis in the breast/plastron was significantly lower in PBM group compared to control [11.5% vs. 59.1%; HR 0.090 (95%CI:0.021-0.39); p=0.001]. However, there was no difference in radiodermatitis rates outside the breast/plastron site (not involved with PBM) for the PBM group compared to the control group [HR1.21 (95%CI:0.21-6.7); p=0.82].

Conclusions: Our results suggest that PBM in women with breast cancer treated by adjuvant radiation significantly reduces the risk of radiodermatitis
SURGICAL MENOPAUSE: EFFECT OF ESTROGEN-PROGESTERONE AND TESTOSTERONE REPLACEMENT THERAPY ON PSYCHOLOGICAL WELL-BEING AND SEXUAL FUNCTIONING: A SYSTEMATIC LITERATURE REVIEW

E-POSTER VIEWING

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Objectives: Background: Besides experiencing vasomotor symptoms, women after surgical menopause report moderate to severe psychological and sexual symptoms. Objective: To meta-analyze the effect of estrogen, estrogen-progesterone and testosterone replacement therapy on psychological well-being and sexual functioning in women after surgical menopause.

Methods: Search strategy: Medline/Pubmed, EMBASE and PsychInfo were systematically searched until November 2020. Selection criteria: Randomized controlled trials (RCTs) investigating the effect of systemic hormone replacement therapy (HRT) on psychological well-being and sexual functioning in surgically menopausal women were eligible for inclusion. Data collection and analysis: Two independent authors performed study selection, risk of bias assessment and data extraction. Standardized mean differences (SMDs) of the primary outcomes were calculated.

Results: Twelve studies were included that investigated the effect of HRT on short (≤12 weeks) or medium term (13-26 weeks). Estrogen-progesterone had a beneficial effect on depressed mood (SMD -0.87, 95%CI:-1.30 to -0.45). Testosterone had a beneficial effect on overall sexual functioning (SMD 0.38, 95%CI 0.11-0.65) and sexual desire (SMD 0.38, 95%CI 0.19-0.56).

Conclusions: and implications: Estrogen-progesterone may beneficially affect psychological symptoms after surgical menopause. Testosterone seems to improve sexual desire and overall sexual functioning. As the nature of the studies highly varied and bias could not be excluded, the results of our meta-analysis should be interpreted with great caution. Independent randomized controlled clinical trials investigating the effects of estrogen-progesterone and testosterone on psychological and sexual symptoms after surgical menopause are highly mandatory.
A CROSS-SECTIONAL, NON-INTERVENTIONAL, MULTICENTRIC STUDY TO DETERMINE THE PREVALENCE OF HOMOLOGOUS RECOMBINATION DEFICIENCY AMONG WOMEN WITH NEWLY DIAGNOSED, HIGH-GRADE, SEROUS OR ENDOMETRIOID OVARIAN CANCER

E-POSTER VIEWING

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1AstraZeneca, Medical, San Jose – Cost Rica, United Kingdom, 2Kasr El Ainy School of Medicine – Cairo University, Medical Oncology, Cairo, Egypt, 3N.N. Blokhin National Medical Research Center of Oncology, Medical Oncology, Moscow, Russian Federation, 4Kaohsiung Chang Gung Memorial Hospital, Gynecology, Kaohsiung City, Taiwan, 5China Medical University Hospital, Gynecology, Taichung, Taiwan, 6Kaohsiung Veterans General Hospital, Gynecology, Kaohsiung City, Taiwan, 7National Taiwan University Hospital, Gynecology, Taipei City, Taiwan, 8Chang Gung Memorial Hospital-Linkou, Gynecology, Taoyuan City, Taiwan

Objectives: Background Homologous recombination deficiency (HRD) is common in women with newly diagnosed high-grade serous ovarian and other morphologically related cancers. Exploiting the prevalence of HRD positive status can help optimize the use of targeted therapies in these patients and improve survival. Due to limited statistics, the study is aimed to determine global as well as country-specific (Egypt, Lebanon, Malaysia, Russia, Singapore, Taiwan, Saudi Arabia, Turkey, and United Arab Emirates) data on the prevalence of HRD positive patients using locally developed tests and commercial kits.

Methods: Method Study design and population: This cross-sectional, non-interventional, multicentre observational study will enroll a minimum of 405 women (≥ 18 years) with high-grade serous or endometrioid ovarian, primary peritoneal, and/or fallopian tube cancer having histopathology report and formalin-fixed paraffin-embedded (FFPE) tumour tissue block(s). FFPE tissue blocks will be used for HRD status and BRCA mutation testing. Objective: Primary endpoints include prevalence of patients with positive HRD status. Secondary endpoints include 1) Region- and country-specific prevalence of the patients with a) positive HRD status, b) positive tBRCA1m/tBRCA2m; 2) risk factors associated with these patients. Exploratory endpoints include clinical characteristics of overall patient population and by geographical regions. Statistical analysis: Analyses will be performed using full analysis set (FAS). Logistic regression analysis will be used to identify the potential risk factors.

Results: Trail in progress.

Conclusions: Importance The study will generate reliable evidence on prevalence of HRD positive patients and help health care professionals to understand the clinical and genetic characteristic of the disease in various countries guiding optimal treatment.
A RANDOMIZED CONTROLLED PHASE II CLINICAL TRIAL OF APATINIB PLUS CHEMOTHERAPY IN THE FIRST-LINE (1L) TREATMENT OF IVB STAGE, RECURRENT OR PERSISTENT CERVICAL CANCER

E-POSTER VIEWING

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Objectives: This study evaluates the efficacy and safety of apatinib combined with chemotherapy in cervical cancer.

Methods: In this open-label phase II study, eligible patients were randomized (1:1) to receive treatment: Arm A) oral apatinib 375 mg once daily + intravenous paclitaxel (P) and cisplatin (DDP) or carboplatin (carb); Arm B) intravenous P and DDP or carb. Chemotherapy was administered for 4-6 cycles followed by apatinib. The primary endpoint was PFS assessed by RECIST1.1, and secondary endpoints included OS, ORR, DCR, DOR, and safety/tolerability.

Results: 61 patients were randomized to Arm A (n = 31) and Arm B (n = 30). Until March 30, 2021, the median follow-up was 10.7 months (range 1.73-32.23). Compared with patients in Arm B, patients in Arm A showed a higher PFS (13.6 vs. 5.2 months, HR, 0.455; 95% CI 0.239-0.865; P = 0.014), ORR (58.10% vs. 23.3%), and DCR (80.60% vs. 53.3%). Treatment-related AEs (TRAEs) occurred in 87% (A) and 40% (B); Grade ≥3 TRAEs occurred in 77% (A) and 30% (B), respectively. The most commonly reported grade ≥3 AEs were hematologic in nature (eg, neutropenia) and consistent with known chemotherapy AEs. Serious TRAEs were reported in 8 patients (22.6% [A]; 3.3% [B]); TRAE leading to death was reported in 1 patient in Arm A.

Conclusions: As 1L treatment of IVB stage, recurrent or persistent cervical cancer, the addition of apatinib to chemotherapy significantly improved PFS and showed a higher ORR and DCR than chemotherapy alone. No new safety issues were identified with the addition of apatinib to chemotherapy.
EPIK-O/ENGOT-OV61: A PHASE 3, RANDOMIZED STUDY OF ALPELISIB + OLAPARIB IN
PATIENTS WITH NO GERMLINE BRCA MUTATION DETECTED, PLATINUM-RESISTANT OR -
REFRACTORY, HIGH-GRADE SEROUS OVARIAN CANCER

E-POSTER VIEWING

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Objectives: High-grade serous ovarian cancer (HGSOC) represents most epithelial ovarian cancers. Whilst initially responding to platinum-based therapy, ~75% of patients develop resistance, conferring poor prognosis. Homologous recombination repair proficiency is associated with platinum resistance and limited response to PARP inhibitors. PI3K pathway inhibition downregulates BRCA expression, abrogating homologous recombination repair proficiency, and may lead to (re)sensitization to PARP inhibitors. As alpelisib (PI3Kα inhibitor) + olaparib (PARP inhibitor) demonstrated preliminary synergism in platinum-resistant/refractory, BRCA-wild-type, recurrent HGSOC in a phase 1b study, the EPIK-O study is further evaluating this combination.

Methods: EPIK-O/ENGOT-OV61 (NCT04729387) is a phase 3, randomized (1:1), open-label, active-controlled trial evaluating the efficacy and safety of alpelisib + olaparib versus single-agent chemotherapy in patients (N=358) with no germline BRCA mutation, platinum-resistant/refractory HGSOC. Adult women with platinum-resistant/refractory, histologically confirmed HGSOC, high-grade endometrioid ovarian, fallopian tube, or primary peritoneal cancer, with no germline BRCA1/2 mutation, are included; patients must have received 1-3 prior systemic therapies. In Arm 1, patients receive alpelisib 200 mg orally OD + olaparib 200 mg orally BID; in Arm 2, patients receive paclitaxel 80 mg/m\textsuperscript{2} IV weekly or pegylated liposomal doxorubicin 40-50 mg/m\textsuperscript{2} IV Q28D (investigator’s choice). The primary endpoint is progression-free survival per radiologic tumor assessment (RECIST 1.1) by a blinded independent review committee. Key secondary endpoint is overall survival. Other secondary endpoints include overall response rate, clinical benefit rate, safety, and quality of life.

Results: Enrollment is planned in 28 countries; completion of data collection for the primary endpoint is anticipated in 2023.

Conclusions: Not applicable.
A BIZARRE CASE OF ECTOPIC MOLAR PREGNANCY IN BROAD LIGAMENT PROGRESSING TO GTN

E-POSTER VIEWING

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Objectives: Molar pregnancy occurring at an ectopic site is a rare phenomenon. Such cases are mostly found either in fallopian tubes, uterine cornua or in the ovaries. Only one case of broad ligament molar pregnancy has been reported in literature so far and ours being the first case of a broad ligament ectopic molar pregnancy progressing to GTN. This case report is being presented with the objective of raising the awareness of molar pregnancies occurring at ectopic sites and highlighting the importance of follow-up for such rare cases.

Methods: A suspected case of ruptured right tubal ectopic pregnancy presented to emergency with suspiciously high beta HCG level of 85000 mIU/ ml. Intraoperatively a distinct mass, separate from uterus and fallopian tube measuring around 8 cms was seen between the leaves of broad ligament. Right salpingo-ophorectomy with excision of broad ligament and right pelvic peritoneum was done. On final histopathology, a diagnosis of broad ligament ectopic complete molar gestation was made.

Results: Because of high initial beta HCG levels, large size of ectopic molar mass and fear of losing the patient to follow-up, prophylactic chemotherapy with single agent methotrexate 50 mg alternating with folinic acid was started. After a brief fall, post surgery, beta HCG started rising for three consecutive weeks despite continued chemotherapy. Gradually with dose modification of methotrexate to 75 mg (6 cycles) she responded and continues to be in remission after seven months.

Conclusions: This bizzare case clearly substantiates the existence of such rare conditions and also reinforces the importance of follow-up.
SINGLE-DOSE METHOTREXATE IN THE TREATMENT OF LOW-RISK GESTATIONAL TROPHOBLASTIC NEOPLASIA - AN UPDATED RESULTS

E-POSTER VIEWING

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Objectives: Low-risk gestational trophoblastic neoplasia (GTN) with WHO prognostic score of 0 to 6 has high cure rate. The aim of the study was to evaluate the effectiveness of single-dose methotrexate infusion in women with low-risk GTN.

Methods: In this single centre retrospective cohort study, 115 women with low-risk GTN were treated between January 2000 and October 2019 with an intravenous bolus of 100 mg/m² of methotrexate followed by a 12-hour infusion of 200 mg/m². Serum human chorionic gonadotropin (hCG) levels were monitored weekly. If the hCG level dropped by 10-fold after 2 weeks, no further chemotherapy was given. Otherwise, chemotherapy was continued 2-weekly until 3 cycles post-normalisation of hCG. Characteristics between the 2 groups with or without complete remission with this regimen were compared.

Results: All 115 women with low-risk GTN were cured. The overall complete remission rate with methotrexate was 85.2%, with 60.9% of women requiring a single-dose of methotrexate alone, and 24.3% requiring continuation of chemotherapy with 2-weekly methotrexate. 14.8% of women had unsatisfactory response with methotrexate alone and were cured with combination of methotrexate and actinomycin-D. The pre-treatment hCG levels were significantly lower in women who were cured with single-dose methotrexate regimen compared to those who failed this regimen (median hCG 1227 versus 3335 IU/L; P = 0.037).

Conclusions: Single-dose methotrexate regimen offers an effective option for women with low-risk GTN and a low pre-treatment hCG level.
CASE REPORT: CHORIOCARCINOMA PRESENTED AS A VAGINAL TUMOR

E-POSTER VIEWING

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Objectives: Choriocarcinoma is a highly vascular tumor of the trophoblast with immense metastatic potential to the lung, liver, brain or vulva. Next to the lung, vulvo-vaginal metastasis comprises 30% of all metastatic incidences. Metastasis in this region is often misleading in its initial appearance. Here we present case of vaginal metastasis of choriocarcinoma which was misdiagnosed initially.

Methods: 36 years old, referred to our emergency department at the beginning of January 2020 as suspected ectopic pregnancy on ultrasound and plateauing BHCG of 1012mIU/ml. had 5 weeks amenorrhea, no vaginal bleeding, her Last delivery was vaginally in august 2019. Was given methotrexate 2 doses, with no response, a diagnostic laparoscopy, and examination under anesthesia done, which found no ectopic pregnancy and a 5x3cm vaginal mass noticed. Biopsy taken showed choriocarcinoma. Started on combination chemotherapy, responded well her BHCG became <1, still under follow up.

Results: Vaginal metastasis of trophoblastic tumor may occur even after vaginal delivery. This case was erroneously diagnosed as ectopic pregnancy and diagnosed during surgical intervention. Chemotherapy is the treatment of choice with a favorable prognosis. Regarding prognostic scoring, vaginal metastasis should be considered as a poor prognostic factor. Different studies in this context thus directly recommended combination chemotherapy as their first choice.

Conclusions: While dealing with a case of vaginal mass with a history of antecedent pregnancy and rising BHCG, possibility of metastatic choriocarcinoma should be considered and investigate accordingly. Prompt diagnosis and early treatment with combination chemotherapy may thus save many lives.
DEVELOPMENT OF A GESTATIONAL TROPHOBLASTIC NEOPLASIA REGISTRY AND PROTOCOL IN AN OBGYN RESIDENCY IN RWANDA

E-POSTER VIEWING

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Objectives: Gestational Trophoblastic Neoplasia (GTN) cure rates reach >90% in settings where early diagnosis and management strategies exist. GTN is more common in African countries, where many factors effecting outcomes are not readily available. To address the high prevalence of invasive molar pregnancies in Rwanda we developed training in sonographic recognition, clinical diagnosis and management of GTN in the largest teaching hospital in Kigali, Rwanda.

Methods: We evaluated our approach to GTN management in the largest tertiary care teaching hospital in Rwanda.

Results: A patient registry of GTN patients was created with gynecologic oncology specialists. From October 2015 to June 2019 we identified 108 patients with GTN, 80 of which were diagnosed with invasive mole. Residents at all levels received training in ultrasound recognition of invasive versus noninvasive mole characteristics, GTN staging and scoring, methotrexate dosing and toxicity, B-hCG monitoring and identification of high risk or resistant disease. Residents were also trained in the appropriate use of hysterectomy in the management of Gestational Trophoblastic Disease.

Conclusions: Recently trained OB/GYN residents practicing at hospitals countrywide are now able to identify and refer appropriate patients to the GTN center at the university teaching hospital in Kigali, Rwanda. Based on these results we feel that appropriate GTN diagnosis and management can be taught in a low resource setting, even outside of the university teaching hospital, to improve patient outcomes despite limited resources.
THE EARLY DETECTION OF VULVAR CANCER THROUGH SELF-EXAMINATION (EDUCATE) STUDY: WHAT WOMEN AND CLINICIANS THINK.

E-POSTER VIEWING

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Objectives: Rates of vulvar cancer are increasing globally. Early detection reduces surgical morbidity and prolongs survival. Although population screening has no role, vulvar self-examination may prompt early diagnosis in high-risk women. UK guidance promotes self-examination in women with high-risk vulvar conditions, but there is a lack of evidence about current practice, acceptability and barriers to vulvar self-examination.

Methods: Clinician questionnaires were completed at a UK vulvar conference. Patient questionnaires (incorporating vulvar self-examination and cancer awareness) were distributed through patient networks and clinics.

Results: All ninety-eight clinicians agreed that self-examination plays an important role in detecting sinister vulvar changes in high-risk women. 87% recommended monthly self-examination and 81% provided one-to-one teaching despite believing that few patients practised self-examination. 455 patients (median age 58 years) with lichen sclerosus(69%), lichen planus(13%), vulvar cancer(14%) and VIN(13%) participated. Clinic respondents(n=197) were older(median 65 vs 52 years, p<0.001) and 65% reported self-examining compared with 86% of online respondents(p<0.001). Despite regular self-examination, 40% were not confident about recognising vulvar abnormalities. Lack of awareness(38%), confidence(31%) and physical difficulties visualising the vulva(32%) were top barriers to self-examination. Face-to-face specialist teaching was regarded as the best way to learn self-examination but only 9% of patients reported receiving this. Patients agreed that a magnified, extendable mirror and photographs depicting sinister changes would aid self-examination.

Conclusions: Patients and clinicians recognise that vulvar self-examination is important in early detection of cancer, but a lack of formal teaching impairs confidence in the identification of abnormalities. Visual aids may facilitate self-examination but should be reinforced by education and support.
HUMAN LEUKOCYTE ANTIGEN-G EXPRESSION IN VULVAR SQUAMOUS CELL CARCINOMA

E-POSTER VIEWING

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Objectives: It is widely accepted that HLA-G belongs to the group of checkpoint molecules, implicated in different pathways of immune suppression allowing tumors escape. Here, we investigated HLA-G expression in vulvar squamous cell carcinoma (VSCC) to explore the potential implication of these molecules as prognostic markers.

Methods: Immunohistochemistry was performed to evaluate HLA-G expression using the monoclonal antibody anti-HLA-G clone 4H84 that specifically identifies the denatured heavy chain of all HLA-G isoforms. Association with clinicopathological factors and survival were analyzed in 56 VSCC treated with radical vulvectomy. Mann-Whitney (MW) U test was used to estimate differences in HLAG levels expression in subgroups. Survival estimation was calculated by the Kaplan-Meier test.

Results: HLA-G was highly expressed in 11 of the 56 (19.6%) primary tumor specimens. The high HLA-G expression level was reported in high-sized tumors (PMW=0.03) and increased invasion depth (PMW=0.01). HLA-G high expression was also noted in 72.7% of advanced stages with a borderline significance (PMW=0.08). A high level of HLA-G was not associated with tumors’ resection margins (PMW=0.18). Assessment of patients’ survival by Kaplan-Meier analysis indicated an adverse correlation between HLA-Ghigh expression and overall survival rate of VSCC patients (log-rank; P=0.000037). Therefore, the 5-year cumulative survival rates of patients with HLA-Ghigh expression was 10.5%. In the same way, HLA-G high expression reduced the disease-free survival (P=0.002).

Conclusions: Our study shows that VSCC expresses high HLA-G that has been associated with an unfavorable clinical outcome. These findings suggest that HLA-G might be considered as a novel postoperative prognostic indicator for VSCC.
TRENDS IN MORBIDITY OF VULVAR CANCER IN UZBEKISTAN

E-POSTER VIEWING

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Objectives: To analyze trends in cancer morbidity for vulvar cancer (VC) in Uzbekistan.

Methods: We collected vulvar cancer incidence data from official statistics in Uzbekistan for the years 2017-2018.

Results: Totally 131 patients with VC have been registered, 61 in 2017 and 70 in 2018 of which rural women are 33, 40 and respectively. According to the age patients were registered as follows: in 2017 from 18 to 35 years old - 4 patients, from 36 to 55 years old - 14 patients, from 56 to 70 years old - 35 patients, older than 70 years old - 19 patients; in 2018 from the age of 18 up to 35 years old 1 patient, 36-55 years old - 20 patients, 56-70 years old - 24 patients and 16 patients are older than 70 years. In 2017, the largest number of VC patients were registered in Tashkent (17), Kashkadarya (10), Bukhara (10) and Tashkent regions (9). In 2018, there was an increase in the number of VC patients in the Republic of Karakalpakstan (from 4 to 13), in the Khorezm region (from 5 to 9), while in Tashkent and the Tashkent region the number of registered cases of VC decreased (9 and 3, respectively). In 2018, the number of VC cases increased in Tashkent region, Tashkent and Namangan (10, 9 and 9 respectively). In Syrdarya, Jizzakh and Navoi regions in 2017-18 years there were no cases of VC.

Conclusions: Screening programs will allow timely diagnosis of vulvar background and precancerous diseases and reduce the number of patients with this pathology.
SURGICAL TREATMENT OF VULVAR CARCINOMA IN VERY ELDERLY ITALIAN POPULATION: A RETROSPECTIVE STUDY

E-POSTER VIEWING

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Objectives: Vulvar carcinoma (VC) is a rare condition: there is a lack of evidence on treatment in Very Elderly (VE) patients. Aim of the study is to evaluate outcome of surgical resection of VC in the VE population (80 or more years).

Methods: Age at diagnosis, FIGO stage, surgical management, groin involvement, site of relapse, disease free survival and overall survival (OAS) were collected for each patient.

Results: 32 patients were managed between 2000 and 2020. Mean age at diagnosis was 82.8 years [80-92 years]. Surgical treatment consisted of radical vulvectomy in 22 (68.7%) cases and wide local excision in 10 (31.3%). All patients underwent groin node dissection: 17 (53.2%) monolateral, 15 (46.8%) bilateral. FIGO stage was I in 18 cases (56.3%), II in 1 case (3.1%), 12 had positive nodes (stage III) (37.5%) and 1 case had stage IV (3.1%). Adjuvant radiotherapy was delivered in 5 patients (15.6%). Most common complication was wound breakdown that occurred in 2 cases (6.3%). 15 patients (46.9%) were lost at follow-up. 5 vulvar and groin recurrences were observed (29.4%). Median time to relapse was 21 months [5-47]. Mean OAS was 59.9 months for patients with negative nodes and 13 months for those with positive nodes. Overall survival for the entire group was 35 months [2-148] and 7 (21.9%) patients are alive without evidence of disease.

Conclusions: Surgical management of VC is feasible even in the VE population. Complication rate is acceptable, groin dissection appears to have a prognostic rather than a therapeutic purpose.
VERRUOUS CARCINOMA OF THE VULVA: PATTERNS OF CARE AND TREATMENT OUTCOMES

E-POSTER VIEWING

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Objectives: Verrucous vulvar carcinoma (VC) is an uncommon and distinct histologic subtype of squamous cell carcinoma (SCC). The goals of this study were to analyze patient data from the National Cancer Database (NCDB) to quantitate the incidence of VC and to investigate the effects of patient and tumor demographic factors and treatment regimens on overall survival (OS).

Methods: Patients diagnosed with vulvar SCC or VC between the years of 2004 and 2016 were identified in the NCDB. OS was assessed with Kaplan-Meier curves and the log-rank test. Construction of a Cox model compared survival after controlling for confounding variables.

Results: The reported incidence of SCC of the vulva has significantly increased since 2004 (p < 0.0001). In contrast, the incidence of VC has remained stable since 2004 (p = 0.344). Compared to SCC, VC was significantly more likely to be diagnosed in older women (p < 0.0001) and treated with surgery alone (p < 0.0001). However, on propensity score weighted analysis there was a trend toward improved OS in women with VC compared to those with SCC (p = 0.0794). Multivariable Cox survival analysis showed an improvement in OS in VC patients treated with both primary site and regional lymph node surgery compared to primary site surgery alone (HR 0.67, 95% confidence interval [CI] 0.46 – 0.97, p = 0.0357).

Conclusions: Verrucous carcinoma is more likely to present in women at an older age. Regional lymph node surgery in addition to primary site surgery significantly improves OS in VC patients.
EPIDEMIOLOGICAL PROFILE OF PATIENTS WITH MALIGNA VULVA NEOPLASIA ATTENDED AT SANTA MARCELINA ITAQUERA HOSPITAL - SAO PAULO.

E-POSTER VIEWING

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Objectives: Objective: To study the epidemiological profile of patients diagnosed with vulvar malignancy seen at Santa Marcelina Itaquera Hospital (HSM) in São Paulo.

Methods: Analysis of medical records of patients undergoing follow-up at the Gynecology Oncology outpatient clinic between the years 2008 to 2020. The information analyzed were: age, parity, smoking, histological type of the tumor, neoadjuvance, surgical treatment, adjuvance, recurrence, lymph node involvement and death.

Results: Result: 45 patients were seen, whose average age was 66 years, which numerically represents 51.11% of the patients seen; 26.66% were smokers and the most common histological type is squamous cell carcinoma, marking 82.22% of all other types identified. Five patients (11.11%) were classified as stage I, fifteen (33.33%) stage II, thirteen (28.88%) stage III and twelve (26.66) of stage IV patients. Within this scenario, neoadjuvant therapy was part of 60% of the cases; surgical treatment 80% and adjuvance 62.22%. Sixty-four percent of the patients did not experience recurrence or disease progression. Forty percent of patients who did surgical procedure with lymphadenectomy had lymph node involvement and twenty-four patients (53.33%) died.

Conclusions: Conclusion: The epidemiological profile of patients are consistent with the literature, from the age group, histological type, percentage of death and recurrence. The high rate of death is mainly related to late diagnosis, although neoadjuvant treatment allows surgery in advanced cases.
LONG-TERM RESULTS OF PRIMARY VAGINAL CANCER TREATMENT: THE BELARUS NATIONAL CANCER CENTRE EXPERIENCE

E-POSTER VIEWING

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Objectives: To study the long-term results of treatment of vaginal cancer (VC) patients and to evaluate the results of diagnosis and treatment of patients living in urban and rural areas.

Methods: The data of 70 patients with primary VC treated at NN Alexandrov National Cancer Centre of Belarus from 2000 to 2019 were included. The median age was 64 years (range, 32-87). Morphology in 91.5% (64/70) cases was squamous cell cancer, in 7.1% (5/70) – adenocarcinoma, in 1.4% (1/70) – adenosquamous carcinoma. The distribution by the stage was as follows: Stage I in 17 (24.3%) patients, Stage II in 30 (42.9%), Stage III in 12 (17.1%), Stage IV in 11 (15.7%) cases. Treatment was performed in 82.8% (58/70) cases: in 94.1% (16/17) for Stage I disease, in 83.3% (25/30) for Stage II, in 91.7% (11/12) for Stage III, and in 54.5% (6/11) for Stage IV.

Results: The median follow-up time was 33 months (range, 1-220). A total of 42 women died: 28 from progression of VC and 14 from other diseases. Overall survival (OS) was 31.9±6.8%, median survival - 41 months (95% CI 0.0-105.3). Disease-specific survival (DSS) for the entire group was 54.5±6.8%, median not reached. The overall survival rate of urban women was 44.8 ± 10.6%, rural - 22.5 ± 8.2%, p = 0.142; DSS - 57.6 ± 10.5% and 53.0 ± 8.4%, p = 0.448, respectively.

Conclusions: The DSS rate was 54.0±6.8%; the OS rate did not exceed 31.9±6.8%. Rural residence was not associated with late stage at diagnosis or receipt of treatment.
EFFECT ON OVERALL SURVIVAL OF CANCER PROGRAM–LEVEL VARIATION IN THE USE OF NEOADJUVANT CHEMOTHERAPY FOR ADVANCED OVARIAN CANCER: A DIFFERENCE-IN-DIFFERENCES STUDY

E-POSTER VIEWING

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Objectives: To evaluate the effect of cancer program–level variations in use of neoadjuvant chemotherapy (NACT) on overall survival among patients with advanced ovarian cancer.

Methods: We included women with advanced-stage epithelial ovarian cancer treated 2004-2015 in Commission on Cancer–accredited cancer programs that began administering NACT liberally or continued to restrict its use after the publication of a randomized trial in 2010. We used flexible parametric survival models to perform a difference-in-differences analysis evaluating the effect of liberal NACT administration on case-mix–standardized median overall survival and 1-year mortality rates.

Results: We identified 19,562 patients treated in 332 cancer programs that increased use of NACT from 21.7% in 2004-2009 to 42.2% in 2010-2015 and 19,737 patients treated in 332 programs that marginally increased use of NACT (20.1% to 22.5%) over the same period. Standardized median overall survival improved by similar magnitudes in programs with liberal (from 31.6 to 37.9 months; 6.3-month difference; 95% CI, 4.2-8.3) and restrictive (from 31.4 to 36.8 months; 5.4-month difference, 95% CI, 3.5-7.3) use of NACT after 2010 (difference-in-differences, 0.9 months; 95% CI, −1.9 to 3.7). One-year mortality declined more in programs with liberal (from 25.6% to 19.3%; risk difference, −5.2%; 95% CI, −6.4 to −4.1 ) than with restrictive (from 24.9% to 21.8%; risk difference, −3.2%, 95% CI, −4.3 to −2.0) use of NACT (difference-in-differences, −2.1%; 95% CI, −3.7 to −0.5).

Conclusions: Compared with cancer programs that administered NACT restrictively, those that administered it liberally achieved similar improvements in median overall survival and larger declines in short-term mortality.
EFFICACY AND TOLERABILITY OF WEEKLY PACLITAXEL AS “SALVAGE THERAPY” IN PATIENTS WITH GYNECOLOGICAL TUMORS

E-POSTER VIEWING

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Objectives: Despite paclitaxel has been used routinely in gynecological tumors, there are still few studies in literature that have investigated its efficacy and tolerability as salvage therapy. The aim of this study is to examine weekly paclitaxel’s efficacy and tolerability as salvage therapy in patients diagnosed with gynecological tumors.

Methods: A retrospective study was conducted on 96 patients diagnosed in our “II Clinica Ginecologica” of Policlinico di Bari, between October 1992 and July 2019. Inclusion criteria were: 1) diagnosis of ovarian, endometrial, or cervical tumor 2) patients who received treatment with weekly paclitaxel as salvage therapy To evaluate the efficacy, PFS and OS were elaborated with Kaplan Meier curves and compared with Log Rank test. Response to therapy was also considered (stable disease or partial response vs progression of disease). Tolerability was evaluated collecting data about adverse events from medical records.

Results: Ovarian tumor: 81/96 cases; OS median 13 months (7,6-18,4); PFS median 17 weeks (12,8-21,1); positive response 68,6% Endometrial tumor: 9/96 cases; OS median 9 months (0-17,9); PFS median 18 weeks (5,2-30,7); positive response 77,8% Cervical tumor: 6/96 cases; OS median 19 months (10,4-27,5); PFS median 23 weeks (0-50,9); positive response 66,7% Toxicity: 18,4% anemia; 12,6% leucopenia; 3,4% peripheral neuropathy; 2,3% myalgia/arthritis; 1,1% cardiac toxicity; 1,1% ocular toxicity; 2,3% thrombocytopenia.

Conclusions: With this study, the efficacy of weekly paclitaxel as salvage therapy can be confirmed. Moreover, this treatment is well tolerated by patients.
“A PROSPECTIVE MULTICENTRIC STUDY OF RISK-REDUCING SALPINGO-OOPHORECTOMY IN BRCA MUTATION PATIENTS”

E-POSTER VIEWING

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Objectives: OBJECTIVES: BRCA1/2 are tumour-suppressor genes involved in DNA homologous recombination and ovarian cancer development.

Methods: METHODS: Risk-reducing surgery (RRS) was performed in 148 patients carrying BRCA1 (aged between 30-73 years, median age was 51 years) and BRCA 2 mutation (aged between 36-70 years, median age was 53 years). Seventy-nine patients had previous history of breast cancer.

Results: RESULTS: Between the all patients, 131 women underwent risk-reducing salpingo-oophorectomy (RRSO) through a laparoscopic minimally invasive approach, 11 (7,4 %) underwent laparoscopic RRSO and contextual hysterectomy, 2 woman (1,3 %) underwent RRSO through a laparotomic approach and 12 women (8,1 %) laparotomic RRSO and hysterectomy. During 7 (4,7 %) laparoscopic RRSO, prophylactic bilateral mastectomy was also performed. Early and late complication occurred in 4 patients (3 %). Six patients (4 %) were found to have occult Serous Tubal Intraepithelial Carcinoma (STIC) and seven patients (4,7 %) occult cancer.

Conclusions: CONCLUSION: RRSO is safe and feasible in BRCA mutation carriers. The procedure is effective for genetic prevention of ovarian cancer.
Objectives: Sentinel lymph node (SLN) mapping may replace staging radical pelvic lymphadenectomy in women with early-stage cervical cancer. In a national multicenter setting, we evaluated SLN mapping in women with early-stage cervical cancer and investigated the accuracy of SLN mapping and FDG-PET/CT in tumors >20 mm.

Methods: We prospectively included women with early-stage cervical cancer from March 2017-January 2021 to undergo SLN mapping. Women with tumors >20 mm underwent completion pelvic lymphadenectomy and removal of FDG-PET/CT positive nodes. We determined SLN detection rates, incidence of nodal disease, sensitivity and negative predictive value (NPV) of SLN mapping, and the sensitivity, specificity, NPV, and positive predictive value (PPV) of FDG-PET/CT.

Results: We included 245 women, and 38 (15.5%) had nodal metastasis. The SLN detection rate was 96.3% (236/245), with 82.0% (201/245) bilateral detection. In a stratified analysis of 103 women with tumors >20 mm, 27 (26.2%) had nodal metastases. The sensitivity of SLN mapping adhering to the algorithm was 96.3% (95% CI 81.0-99.9%) and the NPV 98.7% (95% CI 93.0-100%). For FDG-PET/CT imaging the sensitivity was 14.8% (95% CI 4.2-33.7%), the specificity 85.5% (95% CI 75.6-92.5%), the NPV 73.9% (95% CI 63.4-82.7%), and the PPV 26.7% (95% CI 7.8-55.1%).

Conclusions: Our results suggest that SLN mapping is a reliable method in women with early-stage cervical cancer. However, until the oncological safety is established, we recommend completion pelvic lymphadenectomy in women with tumors >20 mm. FDG-PET/CT seems redundant for nodal staging in women with early-stage cervical cancer.
IS CERVICAL EXCISION BEFORE RADICAL HYSTERECTOMY ASSOCIATED WITH BETTER ONCOLOGIC OUTCOMES FOR PATIENTS WITH EARLY STAGE CERVICAL CARCINOMA?

ORAL FEATURED POSTERS

University of Pennsylvania, Division Of Gynecologic Oncology, Philadelphia, United States of America

Objectives: Investigate the prognostic significance of prior cervical excision procedure (EXC) for patients with early-stage cervical carcinoma undergoing radical hysterectomy.

Methods: Patients with FIGO 2009 stage IB1 cervical carcinoma, no history of another tumor who underwent between 2004-2015 a radical hysterectomy, with >=10 lymph nodes (LNs) removed, known mode of surgery and at least 1 month of follow-up were drawn from the National Cancer Database. Patients who did and did not undergo EXC (within 3 months from radical hysterectomy) were identified. Overall survival (OS) was compared with the log-rank test while a Cox model was constructed to control confounders.

Results: A total of 3159 patients were identified; 37.1% (n=1171) had EXC while 55.9% (n=1766) underwent minimally-invasive surgery (MIS). Patients who had EXC were less likely to have laparotomy (39.5% vs 46.8%, p<0.001), lymph-vascular invasion (LVSI, 29.2% vs 34.9%, p=0.014), positive LNs (6.7% vs 12.7%, p<0.001), and tumors >2 cm (25.7% vs 56%, p<0.001). For patients with tumors <=2cm (p=0.008) and >2 cm (p=0.004), EXC was associated with better OS. After controlling for mode of surgery, tumor size, histology, LN status, LVSI, age, insurance status and comorbidities, patients who had EXC had better OS (HR: 0.45, 95% CI: 0.30, 0.66) compared to those who did not. After controlling for confounders there was no OS difference between laparotomy with EXC, and MIS with EXC (HR: 1.37, 95% CI: 0.66, 2.82).

Conclusions: Cervical excision before radical hysterectomy may be associated with a survival benefit for patients with stage IB cervical cancer.
PREFERENCES AND EXPERIENCES REGARDING THE USE OF THE SELF-SAMPLING DEVICE IN THE HRHPV SCREENING FOR CERVICAL CANCER

ORAL FEATURED POSTERS

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Objectives: To improve participation in the cervical cancer screening, a self-sampling device (SSD) has been introduced in 2017 into the Dutch population-based screening programme (PBS). The aim of this study was to gather potential preferences and experiences that might influence a woman’s decision to use the SSD in the Dutch PBS.

Methods: A systematic literature research was performed in the PubMed database. Studies that assessed preferences and experiences of women regarding the SSD were included and preferences and experiences were extracted. In addition, the list of potential preferences and experiences was extended based on semi-structured interviews with SSD-users as well as not-SSD-users who recently participated in the Dutch PBS.

Results: Seventy-six studies were included in the literature research and sixteen interviews were performed. Frequently mentioned preferences and experiences for (not) using the SSD were: practicality, comfort, fear of not performing the SSD procedure correctly, and doubts on whether the results of the high-risk human papillomavirus (hrHPV) test will be reliable. New preferences and experiences elicited in the interviews were: accessibility, not being aware the SSD was an option and the inconvenience that after an hrHPV-positive test result of the SSD, an additional smear test at the GP is necessary.

Conclusions: Several preferences and experiences play a role in the choice whether or not to use the SSD. Based on the currently found preferences and experiences, an app will be developed in order to assess which of these are the most important for women participating in the Dutch PBS.
BYL719 (ALPELISIB) FOR THE TREATMENT OF PIK3CA-MUTATED, RECURRENT/ADVANCED CERVICAL CANCER

ORAL FEATURED POSTERS

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Objectives: Advanced/recurrent cervical cancer has limited therapeutic options, with a median progression-free survival (PFS) after the failure of systemic treatments ranging between 3.5 and 4.5 months. Here, we reported our preliminary experience in the use of BUL719 (alpelisib) in advanced/recurrent cervical cancer after failure of at least 2 lines of treatment.

Methods: The Istituto Nazionale dei Tumori di Milano (Italy) approved this prospective investigation. From 04/01/2020 to 09/01/2020, 17 consecutive patients with recurrent cervical cancer underwent NGS to assess the presence of PIK3CA mutation/alteration.

Results: Six patients were included in the study. All patients had been treated with at least 2 previous lines of systemic treatment: 3 patients received >2 prior lines of treatment in the recurrent or metastatic setting; 60% had received prior bevacizumab in combination with chemotherapy. All patients started alpelisib at the daily dosage of 300 mg. Investigator-assessed confirmed objective response rate (ORR) was 33%. The disease control rate (DCR) was 100%. According to the RECIST 1.1, two patients had a partial response (PR), and four patients had stable disease (SD). No complete response was observed. The mean duration of response (DOR) was 6.6 (SD 3.75) months; four patients had PR lasting for >6 months. One patient stopped the treatment at 0.82 months due to the onset of a grade 2 adverse event (AE) (skin rash). Grade 3 treatment-related AEs included: lymphoedema (n=1, 20%) and rash (n=1, 20%). No treatment-related grade 4-5 AEs occurred.

Conclusions: Further trials are needed to assess the safety and effectiveness of alpelisib in PIK3CA-mutated recurrent/advanced cervical cancer.
SAFETY OF VAGINAL HYSTERECTOMY FOR CERVICAL CANCER: A MULTICENTER COHORT STUDY ON BEHALF OF THE 4C (CANADIAN CERVICAL CANCER COLLABORATIVE) WORKING GROUP

ORAL FEATURED POSTERS

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Objectives: Inferior outcomes of minimally invasive surgery (MIS) in cervical cancer may be attributable to exposure of peritoneum to tumor at colpotomy. Vaginal surgery may minimize surgical morbidity while avoiding dissemination. We sought to compare cervical cancer outcomes by surgical approach.

Methods: A retrospective cohort study of cervical cancer patients in ten Canadian centers between 2007-2017. Patients with FIGO 2018 stage IA1, LVI+, and stages IA2-IIIC tumors <4cm were included. Patients undergoing MIS, abdominal (AH) and vaginal or laparoscopy-assisted vaginal hysterectomy (CLVH) were compared. PFS and OS were assessed using the product-limit method, and Cox regression was performed to evaluate association of surgery with outcomes.

Results: 1066 patients met inclusion criteria (518 MIS, 436 AH and 110 CLVH). Radical hysterectomy was performed in 80% (CLVH), 96.9% (MIS) and 89.8% (AH) of cases. CLVH cases included more adeno/adenosquamous cancers (70.9% vs. 38.3%(MIS) and 50%(AH), p<0.001), more microinvasive disease (30.9% vs 21.4%(MIS) and 15.8%(AH), p=0.005), smaller tumors (8mm vs. 13mm(MIS), 15mm(AH), p=0.006), fewer LVI+ (20.9% vs. 39%(MIS), 35.9%(AH), p=0.001) and similar rates of lymphatic spread (11.1% vs 11.1%(MIS), 9.7%(AH)). CLVH was associated with fewer intraoperative (5.6% vs 5.6%(MIS), 10.1%(AH), p=0.023) and postoperative (11.8% vs 18.9%(MIS), 24.5%(AH), p=0.006) complications and readmissions (4.6% vs. 11.9%(MIS), 13.9%(AH), p=0.028). CLVH was further associated with a lower risk of recurrence, even when adjusted for age and stage (HR=2.6, 95% CI 1.04-6.51 (AH) and HR=3.07, 95% CI 1.23-7.64 (MIS)).

Conclusions: CLVH for cervical cancer is associated with excellent perioperative outcomes. Oncological outcomes appear promising and warrant prospective exploration.
SURVIVAL IMPACT OF ONTOGENETIC SURGERY FOR NEWLY DIAGNOSED CERVICAL CANCER

ORAL FEATURED POSTERS

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Objectives: To evaluate the survival impact of ontogenetic surgery for stage IB1-IVB cervical cancer.

Methods: We prospectively enrolled patients with stage IB1-IVB cervical cancer (NCT02986568) for patients treated with total mesometrial resection (TMMR) or laterally extended endopelvic resection (LEER) from 2016 to 2020, who received adjuvant chemotherapy if resection margin was positive or positive pelvic lymph nodes ≥2 or positive para-aortic lymph node metastasis. For historical comparison, a retrospective cohort of patients who underwent standard treatment was gathered from 2010 to 2020. Clinico-pathologic characteristics, progression-free survival (PFS), and overall survival (OS) were compared between the prospective and retrospective cohorts.

Results: A total of 46 patients underwent TMMR or LEER in the prospective cohort and 207 patients received standard treatment in the retrospective cohort. Clinico-pathologic characteristics were equally balanced in both cohorts. In terms of survival analysis, ontogenetic surgery showed worse PFS (mean, 53.08 vs 88.3 mons, p=0.003) and no differences in OS. In subgroup analysis, stage IB1-IIA2 patients did not show differences in survival, whereas stage IIB-IVB patients showed worse PFS (mean, 30.9 vs. 40.3 mons, p=0.015) and no difference in OS. In multivariate analysis, ontogenetic surgery was associated with an increase of recurrence (HR, 3.55; 95% CI, 1.34-9.39)

Conclusions: Ontogenetic surgery was associated with increased recurrence in locally advanced cervical cancer despite its similar efficacy to standard treatment in early-stage disease. Thus, we have stopped the recruitment of patients with locally advanced cervical cancer for ontogenetic surgery for considering this harmful effect.
OP007 / #276

PHASE I STUDY OF MIRVETUXIMAB SORAVTANSINE (MIRV) AND RUCAPARIB FOR RECURRENT ENDOMETRIAL, OVARIAN, FALLOPIAN TUBE OR PRIMARY PERITONEAL CANCER

ORAL FEATURED POSTERS

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Objectives: To estimate the maximally tolerated dose (MTD) and toxicities associated with MIRV and rucaparib.

Methods: Patients had to be folate receptor α (FRα) positive by IHC (≥25% of tumor staining at ≥2+ intensity). Using a 3+3 design patients received MIRV (4-6 mg/kg IV every 3 weeks) and rucaparib PO BID (400-600 mg) depending on the dose level.

Results: >100 patients were screened for FRα expression; 21 have been enrolle, 16 with ovarian and 5 with endometrial cancer. Median age was 64.5, with 3 (range 1-9) prior lines of treatment. 6 patients completed DL2 (5/500), however, 2 DLTs (grade 3 fatigue), let us to establish the RP2D at DL1 (MIRV 5 mg/kg IV every 3 weeks and rucaparib 400 mg PO BID). Treatment related toxicities (all grades) occurring in ≥25% of patients included fatigue (73%), nausea (67%), blurred vision (60%), anemia (47%), anorexia (47%), mucositis (40%), ALT/AST elevated (40%), dry eyes (33%), vomiting (27%), thrombocytopenia (27%), weight loss (27%), leukopenia (27%), dysgeusia (27%). Grade ≥3 toxicities were fatigue (20%), pneumonitis (13%), anemia (13%), diarrhea (7%), cataract (7%), lymphopenia (7%), thrombocytopenia (7%), weight loss (7%), hypokalemia (7%). Sixteen patients are currently evaluable for response; 6 (37.5%) with PR, 8 (50%) SD, 2 (12.5%) PD; ORR 33% (4/12) in ovarian cancer and 50% (2/4) in endometrial cancer. Median PFS is 6.3 months with 95%CI (0.7, 13.8) months.

Conclusions: Combination rucaparib and MIRV was tolerable with mostly manageable side effects and encouraging activity in this heavily pretreated population (including prior PARPi) of both endometrial and ovarian cancer.
Objectives: Molecular classification of endometrial cancer (EC) has important prognostic and therapeutic implications. p53abn EC represent the most aggressive molecular subtype, and recent data has shown a survival benefit from chemotherapy and targeted therapies. We describe the clinicopathologic diversity in presentation and outcomes of p53abn ECs.

Methods: Molecular classification was performed on ECs diagnosed in 2016 from 30 Canadian centres. Clinicopathologic and outcome data were collected.

Results: 190 ECs were p53abn subtype: 100 serous, 33 endometrioid, 29 carcinosarcomas, 20 mixed, 6 clear cell carcinoma, 2 undifferentiated. 13 p53abn endometrioid ECs were low grade (Gr1/2). There was a trend for worse outcomes with non-endometrioid histotypes (p=0.074).
Non-endometrioid p53abn ECs were more likely to present with advanced stage (III-IV) disease compared to endometrioid p53abn ECs (43% vs 15%, p=0.003). There was significant variation in adjuvant treatment; 28% patients received no adjuvant therapy, 40% received no chemotherapy. Of the patients who had no chemotherapy, 20/76 (26.3%) had a disease related event (progression/disease specific death). Stage I p53abn low grade ECs had worse outcomes (5-fold) than stage I low grade ECs of all other molecular subtypes combined.

Conclusions: p53abn EC was observed across a range of histotypes including low grade ECs, with no significant difference in outcomes based on histotype. EC risk stratification based on histotype and stage failed to identify 25% of patients as high risk and 15% as intermediate risk based on the 2020 ESGO/ESTRO/ESP EC guidelines, which resulted in a missed opportunity for chemotherapy and targeted therapy.
COMBINED ORAL MEGESTROL ACETATE/ LEVONORGESTREL-INTRAUTERINE SYSTEM FOR ATYPICAL ENDOMETRIAL HYPERPLASIA: A SINGLE-CENTER PROSPECTIVE RANDOMIZED CONTROLLED PILOT STUDY

ORAL FEATURED POSTERS

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Objectives: To assess if addition of levonorgestrel-intrauterine system (LNG-IUS) to megestrol acetate (MA) could improve treatment outcomes for patients with atypical endometrial hyperplasia (AEH).

Methods: In this open-label randomized controlled pilot study, patients were recruited from the Obstetrics and Gynecology Hospital, Fudan University. Between June, 2017, and June, 2020, 180 AEH patients met inclusion criteria and were randomly assigned (1:1:1) to MA+LNG-IUS group (160mg oral MA daily with LNG-IUS), LNG-IUS group or MA group (160mg oral MA daily). Hysteroscopic pathological evaluation was performed every 3 months during the treatment duration. The primary outcome, time to complete response (CR), was time from treatment initiation to pathologic assessments without lesions. Efficacy and safety were assessed in patients who received treatment. ClinicalTrials.gov: NCT03241888.

Results: Median age was 33 years (range 19–44). 58 received MA, 59 received LNG-IUS and 54 received MA+LNG-IUS. At data cutoff of the analysis on January 31, 2021, median follow-up was 25.9 months (range, 2.8-43.5). CR time was significantly shorter with LNG-IUS compared with MA (median, 4.4 vs. 7.0 months; hazard ratio 1.53; 95% confidence interval, 1.05-2.25; p=0.028). No significant difference in CR time was found between MA+LNG-IUS group and MA group. LNG-IUS group had lower incidence of weight gain (p<0.001), abdominal pain (p=0.036), insomnia (p=0.005), edema face (p=0.003), night sweats (p=0.003) and nocturia (p=0.002) than MA group. MA+LNG-IUS group had higher incidence of vaginal hemorrhage (p=0.002) than MA group.

Conclusions: LNG-IUS significantly improved CR time compared with that for MA, with less adverse events, and might be an alternative treatment option for AEH patients.
EXTRAPELVIC RECURRENCE RISK IN WOMEN WHO UNDERWENT MINIMALLY-INVASIVE VERSUS OPEN LAPAROTOMY FOR INTERMEDIATE-RISK ENDOMETRIAL CANCER; A MULTI-CENTER REVIEW.

ORAL FEATURED POSTERS

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Objectives: Objective: Minimally invasive surgery (MIS) is a common approach in endometrial cancer care. Recent studies have shown increased recurrence rates for women undergoing MIS versus laparotomy. Our goal was to assess endometrial cancer recurrence rates for MIS versus laparotomy.

Methods: A multi-centre retrospective study was conducted for patients with intermediate-risk (ESGO) stage 1 endometrioid endometrial cancer treated surgically between January 1/2010-December 31/2019. Surgical and pathology data were collected and oncology outcomes were assessed using Kaplan-Meier and multivariate COX regression analysis.

Results: A total of 282 risk-stratified patients were reviewed from two major cancer centers. Median age of diagnosis was 64 and median follow up 60 months. A minimally invasive approach was completed for 65% of patients; 35% of patients underwent laparotomy. Adjuvant therapy with EBRT was completed in 21% of patients, brachytherapy in 48% and 31% had no adjuvant therapy. There was no difference in type of radiation between the two groups. In the MIS group 9.2% had any recurrence; 4.3% of these were extrapelvic (p=0.154). In the laparotomy group 4.1% had any recurrence; 1% of these were extrapelvic (p=0.169). Although no observed difference in overall survival, mean progression free survival was 106 months in the MIS group versus 117 months in the laparotomy group (p=0.031). There was a significantly greater risk of extrapelvic relapse with MIS (p=0.019).

Conclusions: Conclusion: Among women with intermediate risk endometrial cancer, we observed a higher recurrence rate and risk of extrapelvic recurrence with MIS surgery. This finding is concerning and consistent with other published data.
Objectives: About 10-66% of patients with atypical endometrial hyperplasia diagnosed before surgery (pre-AEH) are found to have concurrent endometrial cancer (EC) after definitive hysterectomy, leading to incomplete primary surgery and delayed adjuvant treatment. This study aims to investigate which factors could predict underlying cancer risk in pre-AEH patients.

Methods: All patients diagnosed with AEH by endometrial sampling and then underwent definitive hysterectomy from January 2016 to December 2019 were identified. Patients diagnosed with EC by final pathology were divided into 2 subgroups according to NCCN guideline 2021: low-risk, and intermediate-high risk.

Results: Totally 624 pre-AEH patients were identified, 30.4% (n=190) of them were diagnosed with EC finally. Univariate analysis showed underlying risk of EC was correlated with postmenopausal status, higher CA125 serum level (≥ 35U/ml), higher serum level of fast blood glucose (≥ 7.0 mmol/L) and older age (>50 years old). In multivariate analysis, only postmenopausal status and CA125 ≥ 35 U/ml (OR = 3.89, 95% CI = 1.59-9.53; OR = 3.11, 95% CI = 1.13-8.59) independently predicted concurrent EC. Remarkably, patients with postmenopausal status + CA125 ≥ 35 U/ml had significantly increased risk of finally-diagnosed EC (OR = 14.10, 95% CI = 1.59-125.22). Similar results were also found in predicting intermediate-high-risk EC. Notably, among all the postmenopausal patients, pre-AEH women with postmenopausal time ≥ 5years were found to have highest risk of concurrent EC.

Conclusions: Pre-AEH patients with postmenopausal status and elevated level of CA125 may have high risk of concurrent EC. More detailed evaluation before surgery should be suggested.
MINIMALLY INVASIVE SURGERY IS ASSOCIATED WITH AN INCREASED RISK FOR LOCAL RECURRENT IN HIGH-GRADE ENDOMETRIAL CARCINOMA

ORAL FEATURED POSTERS

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Objectives: To compare oncological outcomes of women with high-grade endometrial carcinoma (HGEC) who underwent surgery by minimally invasive surgery (MIS) versus laparotomy.

Methods: A retrospective cohort study performed in an academic multi-center setting. Consecutive women with HGEC cancer treated at 11 Israeli institutions between 2002 and 2017 were accrued in an assimilated database with a median follow-up of 52 months (range 12-120 months). Women with HGEC were stratified into two groups by route of surgery; MIS vs. laparotomy by an intention to treat. Clinical, pathological and outcome data were compared.

Results: Six hundred and seventy-eight women met the inclusion criteria: 160 underwent MIS and 518 laparotomy. The two groups were comparable in demographic and clinical characteristics. Brachytherapy rate was similar in both groups (p=0.192). Disease progression and overall survival did not differ between groups (p=0.537, p=0.465, respectively). However, patients operated with MIS had almost 3 times risk to recur at their vaginal cuff or pelvis (Odds Ratio (OR) 95% Confidence Interval (CI) 2.80 (1.80-4.36)). In a multivariable analysis, including age, comorbidities, disease stage, CA-125 and lymph-vascular space invasion, MIS was associated with an increased risk for local (vaginal cuff or pelvic) recurrence (OR 95% CI 3.30 (1.69-6.48)).

Conclusions: In women with HGEC, MIS was associated with higher rates of local recurrence as compared to laparotomy
COST-EFFECTIVENESS OF DOSTARLIMAB IN ADVANCED RECURRENT DEFICIENT MISMATCH REPAIR ENDOMETRIAL CANCER PATIENTS

ORAL FEATURED POSTERS

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Objectives: Women with recurrent endometrial cancer who fail carboplatin and paclitaxel have a poor prognosis with few effective options. The recent GARNET Trial showed promising results for dostarlimab in these patients. We developed a decision model to compare the cost-effectiveness of dostarlimab to other treatment options in patients with progressive/recurrent deficient mismatch repair (dMMR) endometrial cancer who have failed first-line chemotherapy.

Methods: A Markov model was created to simulate the clinical trajectory of women with progressive/recurrent dMMR endometrial cancer who failed carboplatin and paclitaxel (Figure 1). The initial decision point in the model was treatment with either dostarlimab, pembrolizumab or pegylated liposomal doxorubicin (PLD). Model probabilities, cost and utility values were derived with assumptions drawn from published literature. The effectiveness was measured in terms of quality adjusted life years (QALYs) gained. The primary outcome was incremental cost-effectiveness ratios (ICERS), expressed in 2018 US dollars/QALYs. One-way sensitivity analyses were performed to vary the assumptions across a range of plausible values.

Results: PLD was the least costly strategy at $54,307, followed by pembrolizumab ($160,780) and dostarlimab ($251,132). PLD was cost-effective compared with dostarlimab with an ICER of $199,621, while pembrolizumab was subjected to extended dominance (Table 1). Multiple one-way sensitivity analyses did not substantially impact the cost-
effectiveness.

Table 1. Outcomes of Study Population

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N</th>
<th>Response Rate (%)</th>
<th>Total Costs ($)</th>
<th>QALYs</th>
<th>ICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLD</td>
<td>2,000</td>
<td>10</td>
<td>108,615,907</td>
<td>1,102</td>
<td>N/A</td>
</tr>
<tr>
<td>Pembrolizumab</td>
<td>2,000</td>
<td>29</td>
<td>321,561,768</td>
<td>1,876</td>
<td>Extended dominance</td>
</tr>
<tr>
<td>Dostarlimab</td>
<td>2,000</td>
<td>42</td>
<td>502,265,891</td>
<td>3,074</td>
<td>199,621</td>
</tr>
</tbody>
</table>

Assuming a population of 6,000 progressive/recurrent dMMR endometrial cancer patients

**Conclusions:** Dostarlimab is associated with greater survival compared with other treatments for women with recurrent dMMR endometrial cancer. However, the agent is substantially more costly.
TARGETED MOLECULAR TESTING IN ENDOMETRIAL CARCINOMA: VALIDATION OF A RESTRICTED TESTING PROTOCOL

ORAL FEATURED POSTERS

A. Talhouk1, A. Jamieson1, E. Crosbie2, A. Taylor3, D. Chiu4, S. Leung5, M. Grube6, S. Kommoss6, C. Gilks7, J. M calpine1, N. Singh8

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Objectives: The World Health Organization (WHO) endorsed molecular classification of endometrial carcinoma (EC) to be incorporated in routine diagnostic workup, by evaluating p53 and mismatch repair (MMR) protein immunohistochemistry (IHC), as well as pathogenic mutations in the gene encoding DNA polymerase epsilon (POLE). The latter is currently the least affordable or accessible step. We investigated whether POLE testing can be omitted in patients who based on stage, grade and lymphovascular space invasion (LVI) criteria would not usually be directed to adjuvant therapy.

Methods: Using data from a single cancer centre (n=460) in Vancouver, and a population-based cohort in Tubingen (n=452), we compared the WHO recommended molecular testing of the entire cohort (n=912) with a restricted protocol: p53 and MMR IHC on all cases, but POLE sequencing not done on “very low-risk” ECs, defined as Stage 1A, G1/G2, no LVI, MMR proficient and without p53 abnormalities.

Results: 30% of full cohort and 38% of population-based patients were classified as “very low-risk”, and did not undergo POLE testing. “Very low-risk” ECs with unknown POLE status showed excellent clinical outcomes in both univariable and multivariable survival models. Amongst G1/G2 EEC, 14/566 (2.5%) were p53abn, and G1/G2 EEC constituted 14/166 (8.4%) of all p53abn ECs.

Conclusions: Molecular classification of EC can be safely and more pragmatically incorporated into routine clinical practice using universal MMR and p53 IHC, and foregoing POLE testing in “very low-risk” ECs where this has no therapeutic impact. Restricting molecular testing to high-grade/high-risk EC would miss some p53abn patients.
FURTHER STRATIFICATION OF NO SPECIFIC MOLECULAR PROFILE (NSMP/P53WT) ENDOMETRIAL CARCINOMAS TO REFINE PROGNOSIS AND IDENTIFY THERAPEUTIC OPPORTUNITIES

ORAL FEATURED POSTERS

E. Thompson¹, J. Huvila², D. Chiu³, S. Leung⁴, A. Lum⁵, A. Jamieson⁵, M. Köbel⁶, M. Plante⁷, S. Scott⁸, S. Salvador⁹, D. Vicus¹⁰, L. Helpman¹¹, M. Kinloch¹², K. Grondin¹³, J. Irving¹⁴, A. Talhouk¹⁵, D. Huntsman³, S. Kommoss¹⁶, C. Gilks¹⁷, J. Mcalpine⁵

¹University of British Columbia, Molecular Oncology, Vancouver, Canada, ²University of Turku, Biomedicine, Turku, Finland, ³Molecular Oncology, University Of British Columbia, Vancouver, Canada, ⁴University of British Columbia, Genetic Pathology Evaluation Centre, Vancouver, Canada, ⁵University of British Columbia, Gynecologic Oncology, Vancouver, Canada, ⁶University of Calgary, Department Of Pathology And Laboratory Medicine, Calgary, Canada, ⁷Hotel Dieu de Quebec, Gynecology Oncology, Quebec, Canada, ⁸Dalhousie University, Obstetrics And Gynaecology, Halifax, Canada, ⁹McGill University, Jewish General Hospital, Gynecology Oncology, Montreal, Canada, ¹⁰Sunnybrook Health Sciences Centre, Gynecologic Oncology, Toronto, Canada, ¹¹McMaster University, Juravinski Cancer Center, Hamilton Health Sciences, Gynecologic Oncology, Hamilton, Canada, ¹²University of Saskatchewan, Pathology And Laboratory Medicine, Saskatoon, Canada, ¹³Université Laval, CHU de Québec, Pathology, Quebec City, Canada, ¹⁴University of British Columbia, Royal Jubilee Hospital, Pathology And Laboratory Medicine, Victoria, Canada, ¹⁵University of British Columbia, Obstetrics And Gynecology, Vancouver, Canada, ¹⁶Tuebingen Women's Hospital, Gynecologic Oncology, Tuebingen, Germany, ¹⁷UBC, Vancouver General Hospital, Pathology And Laboratory Medicine, Vancouver, Canada

Objectives: Molecular classification identifies >50% of endometrial cancers (ECs) as having ‘no specific molecular profile/NSMP’, without mismatch repair deficiency, p53 IHC abnormalities, or pathogenic POLE mutations. Clinical presentation and outcomes within NSMP ECs are diverse and optimal treatment unclear with new ESMO/ESTRO/ESP guidelines unchanged for this molecular subtype. Better biomarkers are needed to predict if and what adjuvant therapies are needed.

Methods: We characterized the clinicopathological and molecular (IHC+NGS) profiles of 1047 NSMP ECs in women from population-based and institutional cohorts, testing for associations with treatment response and outcomes.

Results: Key pathologic and molecular features associated with survival parameters (p<0.01) are tabulated below. 31% of NSMP ECs had CTNNB1 mutations, however, associations with outcomes (PFS) were observed only within Gr1/2 early-stage endometrioid ECs(p=0.03), or if restricted to ECs without substantial LVI or L1CAM overexpression (p<0.005). TP53 mutations (with normal p53IHC) were discovered in 41 women with a trend (p=0.06) to worse survival. On multivariable analysis only grade (3vs.1/2) maintained significance. 8% of this cohort would be eligible for current molecular classification de-escalation trials. Treatment received did not impact survival within low-, intermediate-, or high-intermediate risk NSMP ECs. Within high-risk, the most favorable outcomes were observed in women who received pelvic radiation with no observed benefit of
**Conclusions:** Additional prognostic stratification of NSMP ECs can be achieved with both pathologic and molecular features. Further study within NSMP subgroups may identify conventional, hormonal or targeted therapies that are more effective.
MORBIDITY AND QUALITY OF LIFE OF SENTINEL LYMPH NODE MAPPING IN ENDOMETRIAL CANCER. INTERIM ANALYSIS OF A PROSPECTIVE RANDOMIZED TRIAL (ALICE TRIAL)

ORAL FEATURED POSTERS

B. Goncalves1, L. Kumagai1, H. Mantoan1, C. Faloppa1, R. Ribeiro2, R. Moretti-Marques3, C. Andrade4, A. Lopes5, L. Badiglian-Filho1, A. Menezes1, M. Chen6, A. Guimaraes7, G. Baiocchi1

1AC Camargo Cancer Center, Gynecologic Oncology, Sao Paulo, Brazil, 2Hospital Erasto Gaertner, Surgical Oncology, Curitiba, Brazil, 3Albert Einstein Hospital, Gynecologic Oncology, São Paulo, Brazil, 4Hospital de Amor, Gynecologic Oncology Department, Barretos, Brazil, 5Brazilian Institute for Cancer Control, Gynecologic Oncology, São Paulo, Brazil, 6AC Camargo Cancer Center, Radiation Oncology, São Paulo, Brazil, 7AC Camargo Cancer Center, Medical Oncology, São Paulo, Brazil

Objectives: Despite the growing evidence of sentinel lymph node mapping (SLN) in endometrial cancer, studies addressing morbidity and impact on quality of life (QoL) are still scarce. Our aim was to evaluate treatment morbidity and QoL for SLN ± systematic lymph node dissection (LND) in endometrial cancer.

Methods: We performed an interim analysis of ALICE trial (NCT03366051), randomized controlled non-inferiority trial on SLN±LND. For the present analysis we included patients excluded from randomization (e.g. low-risk) that underwent only SLN (n=83). High-risk patients were randomly assigned to SLN (n=33) or SLN+LND (n=37). Complications were classified by Clavien-Dindo score and QoL by the EORTC QLQ30 and Cx24.

Results: Total of 153 women were analyzed. Patients that received SLN+LND had overall more early complications (≤30days) compared to SLN (32% vs. 14.1%; p=0.011), being grade ≥3 of 5% and 0.8%, respectively. We found no difference in median score of global health status at baseline and during follow-up time at 1, 6 and 12 months. At 1 month of follow-up, the scores of physical functioning (p=0.02), social functioning (p=0.008), symptoms scales (p=0.008), constipation (p=0.001) and a sexual worry (p=0.004) were all worse for SLN+LND group. Moreover, physical functioning score maintained worse for SLN+LND group at 6 and 12 months of follow-up. Regarding lower limb lymphedema, we noted a worse mean score for SLN+LND at 12 months of follow-up compared to SLN (p=0.01).

Conclusions: We found that addition of LND to SLN increased the early complication rates and was related to a worse QoL scores, including for lower limb lymphedema.
ENDOMETRIAL CANCER PROGNOSIS IN WOMEN WITH ENDOMETRIOSIS AND ADENOMYOSIS. A RETROSPECTIVE NATIONAL COHORT STUDY OF 40,847 WOMEN.

Objectives: The effect of endometriosis/adenomyosis on the prognosis of its related endometrial cancer remains unclear. Therefore, we aim to compare endometrial cancer survival in women with or without histological proven endometriosis or adenomyosis.

Methods: Women with endometrial cancer between 1990-2015 were identified from the Netherlands Cancer Registry (NCR). This data was linked to the Dutch pathology database (PALGA) to select all women with histological proven endometriosis or adenomyosis. Overall survival was compared between women with endometrial cancer with or without endometriosis/adenomyosis. We used multivariable Cox proportional hazard analysis to estimate hazard ratios (HRs) with 95% confidence intervals (CI).

Results: We included 1,708 women with endometrial cancer and endometriosis/adenomyosis and 39,139 women without endometriosis/adenomyosis. Women in the endometriosis/adenomyosis cohort were younger at endometrial cancer diagnosis, had earlier disease stage and more often had endometrioid endometrial cancer with low grade tumors. The 5-year survival rate in the endometriosis/adenomyosis cohort was 84.8% (95%CI 84.6-88.1) and 71.6% (95%CI 71.1-72.0) in the control cohort, p<0.0005. Univariate analysis resulted in a crude HR for overall survival of 0.63 (95%CI 0.59-0.69). Significant confounding factors are reported in table 1. Correction for these confounders resulted in a HR of 0.98.
(95%CI 0.90-1.06), p=0.867 (table1).

**Table 1** Hazard ratios of overall survival among women with endometrial cancer in univariate and multivariate analysis (n=35,549).

<table>
<thead>
<tr>
<th></th>
<th>Univariate analysis</th>
<th>Multivariate analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hazard Ratio (95% CI)</td>
<td>Hazard Ratio (95% CI)</td>
</tr>
<tr>
<td><strong>Endometriosis/adenomyosis</strong></td>
<td>0.63 (0.59-0.69)(^a)</td>
<td>0.98 (0.90-1.06)(^a)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>1.09 (1.08-1.09)(^b)</td>
<td>1.08 (1.08-1.08)(^b)</td>
</tr>
<tr>
<td><strong>Endometrial cancer stage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>1.00 (ref)</td>
<td>1.00 (ref)</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1.64 (1.56-1.72)(^b)</td>
<td>1.40 (1.33-1.47)(^b)</td>
</tr>
<tr>
<td>Stage 3</td>
<td>2.69 (2.57-2.81)(^b)</td>
<td>2.31 (2.20-2.42)(^b)</td>
</tr>
<tr>
<td>Stage 4</td>
<td>7.38 (6.98-7.80)(^b)</td>
<td>4.23 (3.95-4.52)(^b)</td>
</tr>
<tr>
<td><strong>Histological tumor type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endometroid</td>
<td>1.00 (ref)</td>
<td>1.00 (ref)</td>
</tr>
<tr>
<td>Clear cell</td>
<td>2.12 (1.91-2.37)(^a)</td>
<td>1.10 (0.98-1.23)(^a)</td>
</tr>
<tr>
<td>Serous</td>
<td>3.13 (2.89-3.38)(^a)</td>
<td>1.25 (1.14-1.36)(^a)</td>
</tr>
<tr>
<td>Mucinous</td>
<td>1.28 (1.10-1.48)(^a)</td>
<td>1.04 (0.90-1.21)(^a)</td>
</tr>
<tr>
<td>Adenocarcinoma NOS</td>
<td>1.29 (1.25-1.33)(^a)</td>
<td>1.20 (1.16-1.24)(^b)</td>
</tr>
<tr>
<td><strong>Histological grading</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.00 (ref)</td>
<td>1.00 (ref)</td>
</tr>
<tr>
<td>Intermediate</td>
<td>1.48 (1.43-1.53)(^a)</td>
<td>1.21 (1.17-1.25)(^a)</td>
</tr>
<tr>
<td>High</td>
<td>2.65 (2.56-2.76)(^a)</td>
<td>1.71 (1.64-1.78)(^a)</td>
</tr>
<tr>
<td>Surgery</td>
<td>0.14 (0.13-0.15)(^a)</td>
<td>0.39 (0.36-0.41)(^a)</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>2.56 (2.39-2.75)(^a)</td>
<td>1.22 (1.12-1.32)(^b)</td>
</tr>
</tbody>
</table>

Only significant factors in univariate analysis are displayed.

NOS = not otherwise specified.

\(^a\) p-value < 0.0005 for categorical factor in univariable and multivariable analyses. \(^b\) p-value < 0.0005. \(^c\) p-value not statistically significant.

**Conclusions:** Women with endometrial cancer and histologically proven endometriosis/adenomyosis have a better overall survival when compared to women with endometrial cancer without endometriosis/adenomyosis. This better survival is correlated to stage, grade, age, and histology, but not to the presence of endometriosis/adenomyosis.
PROGRESSION FREE SURVIVAL AND OVERALL SURVIVAL AFTER BRCA1/2-ASSOCIATED EPITHELIAL OVARIAN CANCER: A MATCHED COHORT STUDY.

ORAL FEATURED POSTERS

B. Heemskerk-Gerritsen1, A. Hollestelle1, I. Van Den Beek2, W. Van Driel1, K. Van Engelen4, E. Gómez García5, J. De Hullu6, M. Koudijs8, M. Mourits6, M. Hooning1, I. Boere1

1Erasmus MC Cancer Institute, Medical Oncology, Rotterdam, Netherlands, 2Amsterdam University Medical Center (AMC), Clinical Genetics, Amsterdam, Netherlands, 3Netherlands Cancer Institute, Gynecology, Amsterdam, Netherlands, 4Amsterdam University Medical Center (VUmc), Clinical Genetics, Amsterdam, Netherlands, 5Maastricht University Medical Center, Clinical Genetics, Maastricht, Netherlands, 6Radboud University Medical Center, Obstetrics & Gynecology, Nijmegen, Netherlands, 7Utrecht University Medical Center, Biomedical Genetics, Utrecht, Netherlands, 8University Medical Center Groningen, Gynaecology & Obstetrics, Groningen, Netherlands

Objectives: BRCA1/2-associated epithelial ovarian cancer (EOC) has been associated with better progression-free survival (PFS) and overall survival (OS) than sporadic EOC. Higher sensitivity to chemotherapy may be an explanation, but data are scarce.

Methods: We matched 512 BRCA1/2-associated EOC patients selected from the national Hereditary Breast and Ovarian Cancer Netherlands (HEBON) database to 512 sporadic EOC patients from the National Cancer Registry on year of birth, year of EOC diagnosis (range 1989-2015), and FIGO stage (<=IIA/>=IIB). All patients were treated with chemotherapy. We used Cox models with the sporadic group as the reference to obtain hazard ratios (HR) with corresponding 95% confidence intervals (CI). Since BRCA1/2 mutation carriers who received a DNA test after EOC diagnosis survived at least until this DNA test, which may result in survival bias, we also performed prospective analyses including only BRCA1/2-associated EOC patients with a DNA test result before EOC diagnosis (n=82) and their matched sporadic controls.

Results: The mean follow-up was 4.4 years (range 0.1-30.1). For the first 5 years after EOC diagnosis, the HRs for PFS (0.85, 95% CI 0.73-0.98) and OS (0.58, 95% CI 0.49-0.69) were in favor of the BRCA1/2 EOC patients. In the prospective analyses, survival benefit withstand for PFS (HR 0.66, 95% CI 0.45-0.98), and – to a lesser extent – for OS (HR 0.69, 95% CI 0.44-1.1).

Conclusions: For EOC patients treated with chemotherapy, we confirmed survival benefit for BRCA1/2 mutation carriers. This may indicate higher sensitivity to chemotherapy, both in first line treatment and in the recurrent setting.
CLEAR CELL OVARIAN CANCER IN NATIVE ASIANS COMPARED TO US ASIANS - IS THERE A DIFFERENCE?

ORAL FEATURED POSTERS

I. Tunnage1, D. Lewis2, M. Caesar3, C.-I. Liao4, A. Chan5, D. Lee5, A. Rohatgi5, K. Darcy6, C. Tian6, J. Chan3,7

1 New York University, Gynecologic Oncology, New York, United States of America, 2MedStar Washington Hospital Center, Obstetrics And Gynecology, Washington, United States of America, 3California Pacific Medical Center Research Institute, Gynecologic Oncology, San Francisco, United States of America, 4Kaohsiung Veterans General Hospital, Obstetrics And Gynecology, Kaohsiung City, Taiwan, 5Palo Alto Medical Foundation Research Intitute, Obstetrics And Gynecology, Palo Alto, United States of America, 6Gynecologic Cancer Center of Excellence, Obstetrics And Gynecology, Washington, United States of America, 7California Pacific Medical Center, Obstetrics And Gynecology, San Francisco, United States of America

Objectives: To study the incidence and trends of clear cell ovary cancer (CCOC) in the US and Taiwan.

Methods: Data were obtained from the United States Cancer Statistics (USCS) Public Use Databases and Taiwan Cancer Registry of Taiwan Health and Welfare Data Center (HWDC) from 2001 to 2017. SEER*Stat 8.3.9, Joinpoint regression program 4.8.0.1, and Excel were used to calculate the incidence and trends.

Results: Compared to Whites, Asians have nearly five-fold higher incidence of CCOC (2.44 vs 0.49 per 100,000). Native Asians have a 1.8 fold higher incidence vs. US Asians (1.58 vs. 0.86 per 100,000). The peak age range of CCOC diagnosis in Native Asians is younger compared to US women (50-54 vs. 65-69 years). From 2001 to 2017, there was an Increase in CCOC in both NAs and US Asians at 6.2% per year vs 2.1% per year, respectively. In a projected model, by 2029, the incidence of CCOC in NAs will surpass that of serous cancer in US Whites.

Conclusions: Over the last 17 years the rate of clear cell ovary cancer has increased for both Asians residing in Asia and the United States and may surpass other cell types in next decade. Further studies are needed to evaluate the genetic and environmental factors responsible for this disparity.
HEALTH CARE RESOURCE AND COST IMPLICATIONS OF INTEGRATION OF MOLECULAR CLASSIFICATION IN THE MANAGEMENT OF ENDOMETRIAL CANCER

ORAL FEATURED POSTERS


1University of British Columbia and BC Cancer, Gynecology, Division Of Gynecologic Oncology, Vancouver, Canada, 2Molecular Oncology, University Of British Columbia, Vancouver, Canada, 3Dalhousie University, Obstetrics And Gynaecology, Halifax, Canada, 4University of Saskatchewan, Pathology And Laboratory Medicine, Saskatoon, Canada, 5University of British Columbia, Royal Jubilee Hospital, Pathology And Laboratory Medicine, Victoria, Canada, 6University of British Columbia, Genetic Pathology Evaluation Centre, Vancouver, Canada, 7McGill University, Jewish General Hospital, Gynecology Oncology, Montreal, Canada, 8Cheba medical center, Gynecologic Oncology, Ramat Gan, Israel, 9Sunnybrook Health Sciences Centre, Gynecologic Oncology, Toronto, Canada, 10Gynecologic Oncology Service, CHUM, Université de Montréal, Department Of Obstetrics And Gynecology, Montreal, Canada, 11University of Manitoba, Obstetrics And Gynecology, Gynecologic Oncology, Winnipeg, Canada, 12Dalhousie University, Pathology, Halifax, Canada, 13Brigham and Woman's Hospital, Pathology, Boston, United States of America, 14University of British Columbia, Obstetrics And Gynecology, Vancouver, Canada, 15Hotel Dieu de Quebec, Gynecology Oncology, Quebec, Canada, 16UBC, Vancouver General Hospital, Pathology And Laboratory Medicine, Vancouver, Canada

Objectives: Increasing incidence and morbidity of endometrial cancer (EC) has resulted in high systemic cost burdens associated with management. Molecular classification is now being integrated into routine pathologic reporting, providing objective biologically-relevant data to direct care. We assessed the cost implications of this integration in a modern cohort of women with ECs.

Methods: 994 women diagnosed with EC across Canada (2016) underwent retrospective molecular classification enabling us to determine their eligibility for current molecular stratification trials and 2020 ESMO/ESTRO/ESP risk group assignment and treatment recommendations. We then calculated cost differences based on molecular subtype/ProMisE-directed change in surgical management, adjuvant therapy, clinic visits, pathology testing, and genetic counseling.

Results: Total costs saved, even after correcting for cost of molecular testing for all 994 individuals ($450-575 CAD/test) were $570,744-$747,042 CAD or $574-$752 CAD per capita. If we test MMR and p53 IHC for all patients but perform POLE sequencing only in women where treatment would be altered (e.g., NOT testing POLE in Stage IA Grade 1/2 endometrioid ECs who are usually untreated and stage III/IV ECs where ESMO/ESTRO/ESP recommendations are currently unchanged for POLEmut ECs) total costs saved increases to $720,294-$958,842 or $725-$965/capita. If costs of additional treatment directed by ProMisE are added, such as chemotherapy +/or radiation directed secondary to unveiling high risk molecular subtype, this would be expected to improve outcomes but at an additional cost of $280,908-$826,719 or $282-$832/capita.

Conclusions: Molecular classification may tailor treatment with cost savings, while providing an opportunity to improve outcomes at reasonable cost for women with endometrial carcinoma.
OP021 / #475

SEPARATING THE BRCA1 AND BRCA2 PHENOTYPE, A PATHWAY ANALYSIS

ORAL FEATURED POSTERS

L. Rubinsak¹, S. Kim², H. Jang², G. Mor³, S. Galoforo³, H. Ramos³, R. Rattan², A. Alvero³, R. Gogoi³
¹Wayne State University/Karmanos Cancer Institute. Division of Gynecologic Oncology, Gyn Oncology, Detroit, United States of America, ²Wayne State University, Oncology, Detroit, United States of America, ³Wayne State University, Obstetrics And Gynecology, Detroit, United States of America

Objectives: To identify gene expression profiles and interacting pathways in BRCA1- and BRCA2-associated high grade serous ovarian cancer (HGSOC) as compared to one another and to BRCA wild type, homologous recombination proficient (HRP) tumors.

Methods: Of 657 total HGSOC samples, 15 BRCA2 mutated (2.3%), 16 (2.4%) BRCA1 mutated, and 375 (57.1%) HRP samples were analyzed. Gene expression data was collected from Tempus and unpaired t-tests were used to identify differentially expressed genes (DEG) with unadjusted p-value <0.05 and fold change of 1.5. Meta and pathway analyses were performed among BRCA1, BRCA2 and HRP groups using Venn diagram and Advaita Bio’s iPathwayGuide. BRCA mutated and wild type (wt) ID8 mouse cell lines were used for protein expression and seahorse assay for metabolism analysis.

Results: From 18,284 genes with measured expression, 843 (4.6%) DEG were found between BRCA2 vs BRCA1, 748 (4.1%) between BRCA2 vs HRP and 1,858 (10.2%) between BRCA1 and HRP. On meta-analysis of the three comparisons, pathway analysis revealed significant involvement of Wnt signaling pathway and oxidative phosphorylation unique to BRCA2 group compared to fibroblast growth factor signaling and PI3K-Akt signaling for BRCA1. Western blot analysis confirmed higher expression of oxidative phosphorylation complex proteins in BRCA1/BRCA2 mutated lines and differential expression of β catenin between BRCA mutated versus wt cell lines. Seahorse assay showed higher oxidative consumption rate in BRCA mutated versus wt cells.

Conclusions: Our study identified differential pathway regulation for BRCA2 versus BRCA1 associated HGSOC, suggesting each should be considered a separate phenotype with unique opportunities for targeted therapy.
OPTIMIZING THE NUMBER OF CYCLES OF NEOADJUVANT CHEMOTHERAPY IN ADVANCED EPITHELIAL OVARIAN CARCINOMA: A PROPENSITY-SCORE MATCHING ANALYSIS

ORAL FEATURED POSTERS

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Objectives: Neoadjuvant chemotherapy and interval debulking surgery are widely offered in advanced ovarian cancer patients; the number of NACT cycles to be given is still an issue. Our aim was to compare survival outcomes of patients with advanced ovarian cancer treated with <4 or more NACT cycles.

Methods: A cohort of patients with stage III-IV epithelial OC undergoing NACT followed by IDS was identified. Patients were classified in group A (≤4 cycles) and group B (>4 cycles). Selection bias was avoided using propensity score matching (2:1 ratio).

Results:

Figure 1: Overall Survival and Disease Free Survival in Group A and Group B
140 (group A) and 70 (group B) patients were included. After the propensity score matching, there were no imbalances in baseline characteristics. BRCA status was associated to improved OS (HR=0.41; 95%CI 0.18-0.92, p=0.032) and residual tumor to decreased OS (HR=1.93; 95%CI 1.08-3.46, p=0.026). Statistically significant differences were not observed in OS (2-year OS 82.4% for group A versus 77.1% for group B, p=0.109) and PFS (2-year PFS 29.7% for group A versus 20.0% for group A, p=0.875) (Figure 1). In group B, the administration of >4 cycles was related to an additional chance of achieving complete (12.9%) and partial (34.3%) responses compared to responses after 3-4 cycles (Figure 2).

Conclusions: Receiving more than 4 cycles of NACT is no detrimental in terms of OS and PFS in advanced ovarian cancer. Response rates can increase following further cycles administration.
CORRELATION OF HRD STATUS WITH CLINICAL AND SURVIVAL OUTCOMES IN PATIENTS WITH ADVANCED-STAGE OVARIAN CANCER UNDERGOING FRONTLINE AND MAINTENANCE THERAPY.

ORAL FEATURED POSTERS

T. Sims¹, A. Sood², S. Westin², B. Fellman³, J. Unke², K. Rangel², T. Hilton², N. Fleming²
¹The University of Texas MD Anderson Cancer Center, Gynecologic Oncology And Reproductive Medicine, Houston, United States of America, ²The University of Texas MD Anderson Cancer Center, Gynecologic Oncology & Reproductive Medicine, Houston, United States of America, ³The University of Texas MD Anderson Cancer Center, Biostatistics, Houston, United States of America

Objectives: We aimed to compare clinical and survival outcomes in high grade ovarian cancer (HGOC) stratified by homologous recombination deficiency (HRD) status undergoing frontline and/or maintenance therapy.

Methods: We performed a retrospective analysis of HGOC from April 2013 to June 2019. Clinical outcomes were analyzed by (1) germline BRCA+ (2) germline BRCA - and somatic BRCA/HRD+, or (3) BRCA-/HRD-. Progression free (PFS) and overall survival (OS) were estimated using Kaplan-Meier methods and modeled via Cox proportional hazards regression.

Results: 187 patients met inclusion criteria. 106 patients had germline BRCA mutation, 26 somatic BRCA/HRD+, and 55 BRCA/HRD-. Multivariate analysis for PFS revealed that age (HR 1.02, 95% CI 1.00-1.04, p=0.01), stage (HR 5.7, 95% CI 1.39-23.4, p=0.02), R0 resection at TRS (HR 0.41, 95% CI 0.21-0.83, p=0.01), and BRCA/HRD- status (HR 1.63, 95% CI 1.07-2.48, p=0.02) were significant factors impacting PFS. Multivariate analysis for OS revealed age (HR 1.07, 95% CI 1.03-1.10, p<0.001) and R0 resection at TRS (HR 0.19, 95% CI 0.08-0.44, p<0.001) were significant factors impacting OS. 17 of 187 patients received PARPi maintenance therapy. All harbored a germline or somatic mutation in BRCA1/BRCA2 (14) or had tumors characterized by HRD (3). Multivariate analysis for PFS revealed that PARPi maintenance therapy (HR 0.14 95% CI 0.04-0.57, p=0.006) was a significant factor impacting PFS.

Conclusions: Germline BRCA-mutant, somatic BRCA/HRD+ HGOC was associated with improved PFS and OS regardless of primary TRS or NACT. BRCA-/HRD- was a negative prognostic factor for survival in HGOC. PARPi maintenance therapy was associated with improved PFS in Germline BRCA-mutant, somatic BRCA/HRD+ HGOC.
FINDINGS AND OUTCOMES IN A POST-VACCINATION COHORT OF YOUNG WOMEN UNDER 25 YEARS ATTENDING A TERTIARY COLPOSCOPY SERVICE

ORAL FEATURED POSTERS

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¹Royal Women’s Hospital, Gynaecologic Cancer Centre, Randwick, Australia, ²Royal Women’s Hospital, Dysplasia, Parkville, Australia

Objectives: In 2007, human papillomavirus (HPV) vaccination was rolled out in Australia, with a high uptake of 73%, and a consequent reduction in high-grade dysplasia in young women. The aim was to provide descriptive data on post-vaccination women below 25 years between 2008 and 2017, prior to the change in cervical screening guidelines.

Methods: A retrospective cohort analysis of women under 25 attending a tertiary colposcopy clinic.

Results: 3128 women with a median age of 22 (range 14-24) years were identified. When comparing overall worst histology result, vaccinated women were less likely to have a high grade abnormality than unvaccinated women (RR 0.78, 95%CI 0.67-0.90, p=0.0006). Amongst those with high grade abnormalities, there was no significant difference in rates of CIN2 or CIN3 between vaccinated and unvaccinated women (RR 0.81, 95%CI 0.62-1.05, p=0.1086).

Conclusions: This study provides baseline data on young women under the previous cervical screening program, following the introduction of the HPV vaccine.
COMPREHENSIVE PERIOPERATIVE CARE PROGRAM TO IMPROVE SAME-DAY DISCHARGE AFTER MINIMALLY INVASIVE GYNECOLOGIC ONCOLOGY SURGERY

ORAL FEATURED POSTERS

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1Princess Margaret Cancer Centre/University of Health Network/Sinai Health Systems, Gynecologic Oncology, Toronto, Canada, 2Cumming School of Medicine, Obstetrics & Gynecology, Calgary, Canada, 3Toronto General Hospital, University Health Network, Anesthesia And Pain Management, Toronto, Canada, 4Princess Margaret Cancer Centre, Biostatistics, Toronto, Canada

Objectives: Same-day discharge (SDD) after minimally invasive hysterectomy for gynecologic conditions has been shown to be safe and feasible. We designed and implemented a quality improvement perioperative program to improve SDD rate from 30% to 75% over a 12-month period.

Methods: We included 102 consecutive patients undergoing minimally invasive hysterectomy at a single cancer centre during the 12-month implementation period. A pre-intervention cohort of 100 patients was identified for comparison of clinicodemographic variables and perioperative outcomes. We developed a comprehensive perioperative care program based on Early Recovery after Surgery (ERAS) principles and met bi-weekly for plan-do-study-act (PDSA) cycles. Patients were followed for 30 days after discharge. We used a run chart to monitor the effects of our interventions and conducted a multivariate analysis to determine patient factors or interventions associated with SDD.

Results: SDD rate increased from 29% to 75% after implementation (p<0.001). The post implementation cohort was significantly younger (59 vs. 65yrs; p=0.025) and had shorter operative times (180 vs. 211 minutes; p=0.001) but the two groups were similar in BMI, comorbidity, stage, and intraoperative complications. There was no difference in 30-day perioperative complications, readmissions, reoperations, emergency department visits, or mortality. The most common reason for overnight admission post intervention was nausea and vomiting (16%). Overall, 89% of patients rated their experience as “very good” or “excellent”, and 87% felt that their post-operative length of stay was adequate.

Conclusions: Following implementation of a perioperative quality improvement program, our interventions significantly improved SDD rates while maintaining low 30-day perioperative complications and excellent patient experience.
MALNUTRITION AS A RISK FACTOR FOR POST-OPERATIVE MORBIDITY IN GYNECOLOGIC CANCER: ANALYSIS USING THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM (NSQIP) DATABASE

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Objectives: Malnutrition increases risk of post-surgical morbidity in gynecologic malignancies. We assessed whether different malnutrition definitions are suitable for predicting morbidity in each cancer type.

Methods: Patients undergoing resection of ovarian, uterine, or cervical cancer between 2005-2019 were identified using the NSQIP database. Body mass index (BMI), weight loss, and albumin were used to evaluate whether patients met various malnutrition criteria (severe, ESPEN1, ESPEN2, ACS, mild, albumin<3.5g/dL; Figure). Outcomes included 30-day major post-operative complications, readmission, and reoperation. Modified Poisson regression was used to estimate the association between each definition and outcomes using risk ratios (RR) and 95% confidence intervals (CI).

Results: Ovarian cancer patients meeting ESPEN2 had higher risk of readmission (RR 1.69;1.29-2.20), reoperation (RR 2.53;1.70-3.77), and complications (RR 1.36; 1.20-1.54; Table). Uterine cancer patients meeting ACS had increased risk of readmission (RR 2.74;2.09-3.59), reoperation (RR 3.61;2.29-5.71) and complications (RR 3.92;3.40-4.53). For cervical cancer, albumin<3.5 was associated with readmission (RR 1.48;1.01-2.19), reoperation (RR 2.25;1.17-4.34), and complications (RR 2.59;2.11-3.17). Albumin<3.5 was also associated with increased risk of all outcomes for ovarian and uterine cancer.
patients.

**Table.** Association between malnutrition definitions and outcomes by cancer presented as risk ratios and 95% confidence intervals.

<table>
<thead>
<tr>
<th></th>
<th>Uterine</th>
<th>Cervical</th>
<th>Ovarian</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major complication(s)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Mild malnutrition</td>
<td>1.33 (1.14, 1.55)</td>
<td>1.69 (1.30, 2.18)</td>
<td>1.16 (1.07, 1.26)</td>
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<tr>
<td>Severe malnutrition</td>
<td>7.85 (6.10, 10.11)</td>
<td>4.83 (2.54, 9.21)</td>
<td>2.05 (1.66, 2.53)</td>
</tr>
<tr>
<td>ESPEN 1</td>
<td>3.65 (2.23, 5.97)</td>
<td>3.62 (1.53, 8.54)</td>
<td>1.65 (1.34, 2.01)</td>
</tr>
<tr>
<td>ESPEN 2</td>
<td>1.74 (1.36, 2.22)</td>
<td>1.92 (1.32, 2.79)</td>
<td>1.36 (1.20, 1.54)</td>
</tr>
<tr>
<td>ACS</td>
<td>3.92 (3.40, 4.53)</td>
<td>3.51 (2.49, 4.95)</td>
<td>1.67 (1.52, 1.82)</td>
</tr>
<tr>
<td>Albumin&lt;3.5 g/dL³</td>
<td>3.74 (3.48, 4.02)</td>
<td>2.59 (2.11, 3.17)</td>
<td>1.74 (1.65, 1.83)</td>
</tr>
<tr>
<td><strong>Unplanned readmission</strong></td>
<td></td>
<td></td>
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<tr>
<td>Mild malnutrition</td>
<td>1.17 (0.93, 1.48)</td>
<td>1.46 (1.00, 2.15)</td>
<td>0.96 (0.78, 1.18)</td>
</tr>
<tr>
<td>Severe malnutrition</td>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>ESPEN 1</td>
<td>---</td>
<td>---</td>
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</tr>
<tr>
<td>ESPEN 2</td>
<td>1.15 (0.74, 1.79)</td>
<td>1.33 (0.71, 2.50)</td>
<td>1.69 (1.29, 2.20)</td>
</tr>
<tr>
<td>ACS</td>
<td>2.74 (2.09, 3.59)</td>
<td>2.45 (1.24, 4.82)</td>
<td>1.36 (1.06, 1.75)</td>
</tr>
<tr>
<td>Albumin&lt;3.5 g/dL³</td>
<td>2.38 (2.10, 2.69)</td>
<td>1.48 (1.01, 2.19)</td>
<td>1.28 (1.11, 1.47)</td>
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<tr>
<td><strong>Unplanned reoperation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild malnutrition</td>
<td>0.98 (0.61, 1.58)</td>
<td>0.91 (0.38, 2.21)</td>
<td>0.95 (0.66, 1.38)</td>
</tr>
<tr>
<td>Severe malnutrition</td>
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</tr>
<tr>
<td>ESPEN 1</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>ESPEN 2</td>
<td>1.25 (0.56, 2.77)</td>
<td>1.42 (0.46, 4.38)</td>
<td>2.53 (1.70, 3.77)</td>
</tr>
<tr>
<td>ACS</td>
<td>3.61 (2.29, 5.71)</td>
<td>2.23 (0.57, 8.69)</td>
<td>1.09 (0.65, 1.81)</td>
</tr>
<tr>
<td>Albumin&lt;3.5 g/dL³</td>
<td>2.56 (2.01, 3.25)</td>
<td>2.25 (1.17, 4.34)</td>
<td>1.31 (1.01, 1.70)</td>
</tr>
</tbody>
</table>

¹ Major complications included unplanned intubation, ventilator use >48 hours, sepsis, septic shock, pneumonia, deep incisional surgical site infection, acute renal failure, organ space surgical site infection, renal insufficiency, wound disruption, pulmonary embolism, myocardial infarction, cardiac arrest requiring CPR, stroke/cerebrovascular accident with neurological deficit, deep vein thrombosis, blood transfusion

² Outcome only available starting in 2011

³ Only among the subset of patients with pre-operative serum albumin

--- = models did not converge due to low event rate after dividing by malnutrition definition and cancer type

**Conclusions:** The malnutrition definitions predicting the highest number of adverse post-operative outcomes varies by cancer type. Major complications, readmission, and reoperation were associated with BMI<18.5 alone for ovarian cancer (ESPEN2), with 10% recent weight loss and a normal or overweight BMI for uterine cancer (ACS), and with albumin<3.5 for all cancers. These criteria may be useful for cancer-specific pre-operative planning.
OBJECTIVES: The aim of this study was to report our initial experience with a mobile app of electronic patient-reported outcome (ePRO) for patients undergoing treatment for gynecologic malignancies.

METHODS: The target patients were introduced to a mobile app in which they could answer to pre-selected questions. The questions included the quantification of fatigue, pain, anxiety, dizziness, hair loss, peripheral numbness, tingling, nausea, myalgia, depression, insomnia and others. Two different sets of questions were used for surgery and chemotherapy.

RESULTS: A total of 61 patients reported more than 29,000 data points. The mean ages were 53.0 ± 12.2 years old for the surgery group and 54 ± 13.2 years old for the chemotherapy group. The median numbers of app use during the course of treatment was 10 and 13 for the surgery and chemotherapy groups, respectively. The mean duration of app use to complete each report was 8 ± 13 minutes for the surgery and 7 ± 12 minutes for the chemotherapy groups. This did not differ by age groups, suggesting that there were no difficulties of using the app for any specific age group. ePRO was able to detect the occurrence of both expected and unexpected side effects. In addition, a gradual increase in the severity of side effects over the course of treatment, especially for those who received chemotherapy, could be observed.

CONCLUSIONS: ePRO have a great potential to improve patient care in gynecologic oncology by providing a comprehensive documentation of symptoms and side effects.