Message from the ASC President
Standardize + Optimize = Strategize

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Dear Colleagues:

It is an honor to start this New Year as the President of the American Society of Cytopathology (ASC). I am looking forward to furthering the Society’s missions of patient advocacy, education, and research in this coming year of my Presidency. Primarily, I am an educator, which has defined my academic career, and with this in mind, I especially want to encourage mentorship and professional development for our members. As educators, we are teachers for the next generation of cytopathologists, and as I have realized that “to teach is to learn,” my goal is to learn from this experience as well. One major lesson learned as a teacher is to know that one has to pave one’s own pathway, and this would be a mission for the year to provide opportunities to our members to be able to do so with the ASC’s initiatives.

The ASC is unique as I consider it a “community of friends.” It has been my professional family for nearly 25 years and has been central to my career. It has been a source of close friendships, and I have been able to collaborate with brilliant individuals with incredible ideas resulting in major initiatives, especially with our standardized reporting systems. It has also led me to speaking and teaching assignments on five continents, which has enriched my life by making professional connections as well as lifelong friendships across the oceans.
I will continue the work of my predecessors and embrace the future. Our membership, which comprises over 3000 individuals, is enthusiastic and engaged with the society. In this regard, the National Office staff and leadership provide a pillar of support to all who call the ASC their professional “home.” The ASC is financially stable. Our ASC Foundation is working hard to generate funds to support the ASC and its goals. Its focus remains on advocacy and education with an eye on the budget. We have a strong central office under the able leadership of a resolute Executive Director.

My Initiatives for 2024

• **Standardization for optimization**: A cytopathologist is now facing increasing demands to provide information that goes beyond a diagnosis. As our current work environment is focused on additional ancillary and molecular testing to be performed on diagnostic cytologic samples, my goal is to set up a new task force to address this issue, called “Optimizing Cytology and Small Biopsy Specimen Processing for Ancillary Studies (OCSPA).” This task force is chaired by Dr. Sinchita Roy-Chowdhuri who, along with the other members of the task force, will critically review pre-analytical factors in exfoliative and aspiration cytology specimens that impact ancillary studies. The task force will create an evidence-based recommendation document regarding cytology specimens for optimization for ancillary testing. The task force will also present its recommendations at the 2024 ASC 72nd Annual Scientific Meeting in Orlando, FL, to update the ASC membership on our current clinical practice regarding this issue. My personal take on this goal can best be expressed as **Standardize + Optimize = Strategize** for best patient management.

• **Advocacy: Laboratory Workforce Shortage**: In the last few years, we have all experienced a shortage in our laboratory workforce. The causes for this are many but mainly focus on salary, regulatory issues, and job satisfaction. The ASC will seek to foster collaborative workforce solutions to address the needs facing the US Medical and Public Health Laboratory Workforce (MPHLW). The MPHLW Coalition, a coalition of 28 national and regional laboratory, pathology, and healthcare associations, has been formed to work toward building a robust, more diverse medical laboratory workforce. ASC is partnering with the MPHLW Coalition to expand and improve workforce recruitment, development, and retention.

• **Mentorship, Professional Development, and Diversity**: These important missions will continue to be of immense importance to the ASC with our committee chaired by Dr. Kristen Atkins. The committee will provide guidance and develop programs for mentorship and professional development. This is to ensure we are focused on training our leaders for tomorrow, who will serve as our ambassadors to the greater medical community.

• **2024 ASC 72nd Annual Scientific Meeting in Orlando**: This will be a dynamic meeting, with internationally renowned speakers and a strong scientific basis. Our Scientific Program Committee chaired by Dr. Syed Z. Ali is working diligently to design a meeting program that will enrich our learning experiences. So please plan to join us in November at the Hyatt Regency in Orlando, Florida.

In conclusion, I look forward to serving as your President this year. I inherit the leadership of a strong and financially stable organization, with a loyal staff and dedicated membership. I, with the help of the leadership, promise to fulfill my duties as a servant leader.

Sincerely,

Momin T. Siddiqui, MD, FIAC
ASC President
The ASC 71st Annual Scientific Meeting was held in Austin, Texas, from November 15th through 19th. The Meeting began on Wednesday with the Cytopathology Master Class and Strategies in Cytology Education. This meeting ran through Sunday, with inspiring and challenging scientific sessions, which included State of the Art Symposium, Worldvision Cytopathology Contest, Hot Topic on Shrinking Workforce, JASC Panel Discussion Session, Diagnostic Cytology Seminar, Video Microscopy Tutorials, Short Courses, Digital Slide Workshops, Poster and Platform presentations, and sensational social events, including the ASC Foundation Diamonds and Denim Gala.

The WorldVision Cytopathology Contest (WCC), held on Friday afternoon, is a global outreach initiative providing a platform for fostering close international relationships. The WCC offers the opportunity to exchange scientific knowledge and goodwill in a unique cytopathology competition with an award to the winner. The top four finalists—Ayesha Baig, MD, Canada; Leyla Hasanaliyeva, MD, Turkey; David Langford, MD, South Africa; and Barbara Sepodes, MD, Portugal—presented interesting cytopathology cases to a jury during the contest. The international jury panel consisted of Danijela Vrdoljak-Mozetič, MD, PhD (Croatia), Philippe Vielh, MD, PhD (France); Massimo Bongiovanni, IAC (Switzerland); and Roseann Wu, MD, MD, MPH (United States). The jury and the audience voted on the best presentation. The 2023 winner was Dr. Ayesha Baig from Calgary, Alberta, Canada, who presented a Pleural effusion cytology as the first-line diagnostic test for a very interesting case.

The ASC Achievement Awards was a successful awards ceremony! Thank you to all the award winners for your outstanding recordings. Congratulations!

Please view each award winner’s Thank You videos by clicking on their names below.

The Papanicolaou Award was established in 1958 and is the highest award given by the American Society of Cytopathology. It is presented annually to a physician or PhD member in recognition of meritorious contributions in the field of cytology.

This year the Papanicolaou Award recipient is Dr. Syed Ali who serves as Professor of Pathology and Radiology at the Johns Hopkins University School of Medicine as well as the Director of the Division of Cytopathology at The Johns Hopkins Hospital.
The Cytotechnologist Award for Outstanding Achievement is presented annually to a cytotechnologist member in recognition of meritorious service or accomplishments in the field of cytology.

This year’s Cytotechnologist Award for Outstanding Achievement recipient is **Ms. Michele Smith**, whose current role is as program manager for master’s and certificate programs in biotechnology and bioinformatics.

The Excellence in Education Award is presented annually to a cytotechnologist or pathologist in recognition of meritorious service or accomplishment in the field of cytology education including the education of cytotechnologists, pathology residents, and/or cytopathology fellows.

The recipient of this Award is **Dr. Zubair Baloch**, who is a Professor of Pathology and Laboratory Medicine at the University of Pennsylvania Medical Center, Perelman School of Medicine Philadelphia.

The ASC President’s Award is presented annually to an outstanding ASC member at the discretion of the current ASC President. Dr. Liron Pantanowitz, selected **Dr. Oscar Lin and Dr. Zaibo Li**.

Dr. Lin is the Cytology Service Chief at the Pathology Department at Memorial Sloan Kettering Cancer Center.

Dr. Li is a Professor, Director of Cytopathology and Cytopathology Fellowship Program, Associate Director of Digital and Computational Pathology at The Ohio State University Wexner Medical Center.

The International Achievement Award is awarded to a cytopathologist or cytotechnologist who has transcended geographical boundaries and contributed significantly to cytopathology education and research. The award honors individuals with leadership roles at an international level who are respected for their collaborative and organizational excellence in promoting the profession globally.

This year the International Achievement Award recipient is **Dr. Robert Osamura** who is the current Chief of Diagnostic Pathology at Nippon Koukan Hospital. He is also a Visiting Professor at Keio University School of Medicine and a Professor Emeritus at Tokai University.

The 2023 ASC’s Volunteer Appreciation Award. This award was created in 2018 to acknowledge the contributions of an ASC member who has demonstrated outstanding service to the mission, goals, and work of the ASC during a given service year. The Awardee is selected by the ASC National Office Staff.

The 2023 Volunteer Appreciation Award recipient is **Taryn Waraksa-Deutch**, DHS, SCT(ASCP), CMIAC. Taryn is a Lead Cytotechnologist at Fox Chase Cancer Center, Philadelphia, Pennsylvania.

The Bernard Naylor Excellence in Cytomorphology Award.

The Bernard Naylor Excellence in Cytomorphology Award addresses a morphologic constituency that is not served by current ASC awards. The Award highlights one of the most important skills in the field of cytology practice, morphology observation.

The 2023 Award is for **Metastatic Prostate Cancer Diagnosed by Fine-Needle Aspiration: Contemporary Cytopathologic and Biomarker Assessment with Clinical Correlates**.

First Author: **Richard Cantley, MD**
University of Michigan Hospital
Ann Arbor, Michigan
2023 ASC 71ST ANNUAL SCIENTIFIC MEETING AWARDS & HIGHLIGHTS

2023 ASC Poster and Platform Award Recipients

**The Warren R. Lang, MD, Resident Physician Award** is presented annually to recognize the resident or fellow in an approved training program who submits the best scientific paper in cytology for either a platform or a poster session.

**Platform 13**
Revisiting the Performance of Cyst Fluid Carcinoembryonic Antigen as a Diagnostic Marker for Pancreatic Mucinous Cysts: A Comprehensive 20-Year Institutional Review
Melanie Kwan, MD
Massachusetts General Hospital
Boston, Massachusetts

**Platform 6**
Using Natural Language Processing and Machine Learning Techniques for Cytology-Histology Correlation Saves Cytotechnologist Time without Compromising Quality
Robert Post, DO
Thomas Jefferson University
Philadelphia, Pennsylvania

**Quality Improvement in Cytology Award** recognizes Quality Improvement (QI) projects designed to improve quality in cytopathology practice. The award is given for those projects that demonstrate innovative and forward-thinking approaches to current Cytology practices, as well as measurable and replicable improvement.

**Poster 15**
Age and Race-Based Differences in Anal Cytology: Implications for Screening and Prevention of Anal Cancer Disparities: A Single Institutional Study
Timothy Gilpatrick
University of California
San Francisco, California

The **Excellence in Diversity Equity and Inclusion Research Award** is to highlight, reward and promote research, programs, and other efforts that advance the diversity, equity, and inclusion goals of the ASC while also representing excellence and dedication to the field of Cytopathology.

**Platform 14**
Evaluation of Oral Cytology Brushings Correlated With Histopathology with High Sensitivity for Carcinoma
Abberly Lott Limbach, MD
The Ohio State University Wexner Medical Center
Columbus, Ohio

**The Geno Saccomanno, MD, New Frontiers in Cytology Award** is presented to the paper that contributes to a better understanding of cell biology or enhanced diagnosis and shows significant innovation, good study design, and potential diagnostic utility.

**Platform 14**
Evaluation of Oral Cytology Brushings Correlated With Histopathology with High Sensitivity for Carcinoma
Abberly Lott Limbach, MD
The Ohio State University Wexner Medical Center
Columbus, Ohio

The **Advances in Thyroid Cytology Award**, established in 2014, recognizes the abstract presentation that best contributes to the knowledge of diagnosis and treatment of thyroid diseases using FNA and/or ancillary techniques. This award is supported by an educational grant from Thyroid Cytopathology Partners in Austin, Texas.

**Poster 89**
Repeat Fine Needle Aspiration for Thyroid Nodules Classified as Follicular Neoplasm: Evaluation of Cytologic, Molecular, and Histologic Outcomes
Lily Mahler
Beth Israel Deaconess Medical Center
Boston, Massachusetts
The Cytotechnologist Scientific Presentation Award is presented to the cytotechnologist or cytotechnology student enrolled in a CAAHEP-accredited Cytotechnology Program who presents the best scientific paper in cytology for either a platform or poster session.

Poster 94
The Performance of Molecular Tests for Selected Indeterminate Thyroid Nodules (AUS and FN) in an Academic Medical Institution
Courtney Hoang, CT, ASCP
Houston Methodist Hospital
Houston, Texas

The Innovative Cytotechnologist Practice Award, established in 2018, this award demonstrates programs, services, or projects performed by a cytotechnologist that are creative, cost-effective, and improve practice in cytopathology.

Poster 19
HPV Status and Genotype in Veteran Population at an Urban VA Center
Natalia Brooks, MS
VA Hines Hospital
Hines, Illinois

Podcast – Listen to the 2023 winner of the ASC Foundation Investigator Award

Welcome to the American Society of Cytopathology Podcast CytopathPod! The American Society of Cytopathology (ASC) is fully committed to Saving Lives One Cell at a Time. The ASC plays a leading role in education, advocacy and research in cytopathology to increase early detection of cancer and its precursors. Join special guests to highlight ASC activities in cytopathology education, advocacy and research. Each episode contains information to help you grow in your cytopathology profession.
CALL FOR PRESENTATION PROPOSALS

The American Society of Cytopathology Scientific Program Committee is pleased to invite you to submit a Presentation Proposal for the 72nd Annual Scientific Meeting to be held in Orlando, Florida, November 7-10, 2024.

SUBMISSION DEADLINE:
Tuesday, January 24, 2024
11:59 PM Eastern Time

SUBMITTING A PRESENTATION PROPOSAL:
In creating a presentation proposal, the needs and interests of attendees should be considered. A wide variety of topics are welcome, and these can cover common as well as specialized areas of knowledge.

The Scientific Program Committee encourages presentation proposals for:
- Short Courses (didactic PowerPoint lectures)
- Video Microscopy Tutorials (video microscope presentations)
- Companion Meetings
- Digital Slide Workshops

Important information about your submission:
- Past presenters must resubmit. We cannot invite a presentation without a proposal through the system (for ACCME purposes).
- The Scientific Program Committee will ultimately determine the format method for the proposal. If your submission is accepted, you may be invited to present in a format other than the one you selected.
- If your proposal is selected for presentation at the meeting, but does not draw an audience of five or more attendees, your session will likely be canceled.

SUBMIT PROPOSAL

COMING SOON: Call for Abstracts
Dr. Margaret Compton attended as the delegate for the American Society of Cytopathology. The American Society of Cytopathology is part of the Pathology Section Council, which also consists of representatives from the National Association of Medical Examiners (NAME), the American Society of Clinical Pathology (ASCP), the American Society of Dermatopathology (ASDP), and the College of American Pathologists (CAP). Representatives from the Young Physicians Section and the Resident and Fellows Section also report to the Pathology Section Council. Dr. Compton attended the Reference Committee on Medical Education. The Pathology Section Council supported several issues discussed at the Committee on Medical Education, including a report on standards for board specialty certification, as well as advocacy for the rights of residents and fellows as outlined in the AMA Residents and Fellows’ Bill of Rights.

Multiple issues pertinent to pathology were discussed at the interim meeting. The ASCP introduced a resolution urging the American Medical Association to advocate for extension of the comment period for the Food and Drug Administration’s (FDA) proposed rule on Laboratory Developed Tests (LDTs). The current FDA deadline for comment on this proposed rule was set as December 4, 2023. This resolution, which was discussed in the reference committee on Science and Public Health, was unanimously adopted by the AMA House of Delegates.

Through introduction of this resolution, the House of Medicine was made aware of the impending legislation of LDTs, which will have broad and far-reaching consequences for patient care.

Several resolutions were also introduced with specific implications for cytopathology. These included Council for Science and Public Health Report 3, which amended existing AMA policy H-440.872, “HPV-Associated Cancer Prevention.” The amendments introduced additional language related to encouraging the expansion of HPV vaccine access and researching ways to enhance uptake in an equitable manner. Furthermore, the policy was amended to broaden screening recommendations from “routine cervical cancer screening” to the more inclusive language of “appropriate HPV-related cancer screening.” This amended language, which was supported by the ASC delegation and Pathology Section Council, is critical in bringing recognition to the importance of screening for other HPV-related cancers, such as anal cancer. A further resolution was introduced that encouraged the study of HPV subtypes in minoritized populations and recognized racial, ethnic, socioeconomic, and geographic differences in high-risk HPV subtype prevalence when developing and distributing HPV vaccines.

As the use of digital pathology expands, laboratory regulations must be updated to reflect current practices. This conflict between new technologies and current regulations was seen acutely during the COVID-19 pandemic, when navigating the regulatory landscape surrounding remote sign-out of digital slides. 42 CFR § 493.55 (a)(2) stipulates that each separate laboratory location file a separate application for registration and certificate of accreditation. During the public health emergency, it was recognized that this posed barriers and a temporary waiver was issued by CMS on March 26, 2020, detailing enforcement discretion of this regulation. This announcement allowed for digital slides and other digital data to be examined at a site other than the primary laboratory.

With the announcement of the end of the public health emergency, it is necessary to ensure that pathologists continue to be able to have flexibility with the review of digital data from sites other than the primary laboratory location such that they can continue with pre-established workflows. To this end, a resolution was introduced by the Association for Clinical Oncology that the AMA shall advocate to CMS in order to clarify the exemptions for separate licensure to include all qualified physicians under CLIA, to be able to review digital data, digital results, and digital images at a remote location under the primary location CLIA certificate. This resolution, entitled Oversight Modernization of Clinical Laboratory Improvement Amendments was adopted by the Reference Committee.

During the interim meeting, the AMA House of Delegates addressed several issues pertinent to the specialty of pathology, highlighting the importance of continued representation of pathologists in the HOD and the critical nature of continued advocacy.
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FIFTH ANNUAL
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learn.houstonmethodist.org/cytopathology-2024

PROGRAM DIRECTORS: Dina R. Mody, MD; and Mary R. Schwartz, MD

Physicians and cytologists need the most up-to-date knowledge and strategies in pathology and cytopathology to provide the most appropriate ancillary testing for guiding patient management. Attendees will learn various new evidence-based reporting terminologies, which will enable them to assess the risk of malignancy, specifically regarding findings in thyroid, salivary, pancreas, biliary tract and respiratory tract. By understanding these new site-specific reporting systems, attendees will know the risk of malignancy associated with each reporting category and appropriate ancillary testing and, therefore, better guide management of patients. The World Health Organization, under the guidance of the International Academy of Cytology, and other organizations is in the process of publishing cytology reporting terminologies across a broad spectrum of sites. Updates and status reports on these will be provided. Additionally, digital cytology and whole slide imaging is the next big thing. A lecture regarding how they apply specifically to cytologic and small specimens will be presented. The status of whole slide imaging worldwide will also be presented. Patient safety issues, updates to HPV testing, head and neck cancers, respiratory tract EBVs and molecular testing, cellblocks, and rapid on-site evaluation will be presented. Other new developments in the field that will impact patient care in the future will also be discussed.

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ASC FOUNDATION, CO-CHAIRS EX-OFFICIOUS
Seeking Nominations for the ASC Executive Board

CALL FOR EXECUTIVE BOARD NOMINATIONS
ASC OFFICER AND EXECUTIVE BOARD MEMBERS
DEADLINE WEDNESDAY, FEBRUARY 29, 2024

Nominating Committee

NOMINATE YOURSELF OR SOMEONE YOU KNOW AS A CANDIDATE FOR THE ASC EXECUTIVE BOARD ELECTION

The ASC Nominations Committee is seeking candidates for the upcoming 2024 Executive Board election. The ASC Executive Board strategically leads the Society by adhering to its mission, vision, and strategic plan, while ensuring the long-term financial stability and strength of the Society. The Committee will choose two candidates for the position of vice president (2024-2027; serving on the Board until 2028), four physician member candidates for two positions on the Executive Board (2024-2028), and two cytologist member candidates for one position on the Executive Board (2024-2028). Ballots will be distributed electronically to all voting members of the Society in the late summer. To nominate yourself or an ASC colleague, access the nomination form on the ASC website. Nominations are due Thursday, February 29, 2024, by 11:59 pm. (EST).

NOMINATION SUBMISSIONS FORM

The American Society of Cytopathology Awards Committee is now accepting nominations for the 2024 Achievement Awards.

The deadline for submitting nominations is March 18, 2024.

The ASC Awards Committee will review all eligible nominations and make recommendations for each award to the ASC Executive Board.

- Executive Board members are ineligible.
- Award winners will be announced during the 72nd Annual Scientific Meeting in Orlando, FL.

Click here to submit nominations
WHO Reporting System for Pancreaticobiliary Cytopathology

Swikrity U Baskota, MD¹, and Amarpreet Bhalla², MD, The ASC Bulletin Editorial Board

1. Assistant Professor, Department of Pathology and Cell Biology, Columbia University Irving Medical Center, New York, NY.
2. Associate Professor, Department of Pathology, The University Hospital for Albert Einstein College of Medicine, New York, NY.

WHO Reporting System for Pancreaticobiliary Cytopathology is first in a series from a joint collaborative venture of International Academy of Cytopathology (IAC) and International Agency for Research on Cancer (IARC), a specialized agency of World Health Organization (WHO) cytopathology reporting system series. WHO reporting system for Pancreaticobiliary Cytopathology is authored by about 70 authors and editors, led by an editorial board of 15 global experts and standing members of pancreatic cytopathology. The book consists of hundreds of high-quality images and more than 900 references. The book is available in both print volumes and as a website (https://tumourclassification.iarc.who.int), and its access is included with the yearly subscription of WHO classifications of tumors online.

The standardized comprehensive diagnostic reporting WHO system provides a seven-tiered framework for standardized reporting of pancreatobiliary lesions. The evidence-based structured reporting aims to improve quality, clarity, language uniformity, and reproducibility of reports within individual organizations and across countries. It also aims to improve patient management and facilitate research and quality assurance measures. The International System of Units (SI) is used for all measurements and the genomic nomenclature is standardized. It is a revision of the six-tiered Papanicolaou Society of Cytopathology (PSC) System originally published in 2014 which advocated incorporation of imaging findings and ancillary testing into final diagnosis and has significantly reduced the number of "atypical" interpretations.

This book integrates clinical, radiological, and key fine needle aspiration biopsy (FNAB) features with ancillary testing for multidisciplinary diagnostic approach. It mirrors the WHO classification of Tumor series and has a total of ten chapters, which include chapters on pancreaticobiliary cytopathology techniques and management recommendations. The chapter on techniques describes in detail various sampling methods and tissue triage techniques utilized for evaluation of pancreatic and biliary lesions.

Role of Rapid On-Site Evaluation (ROSE): Has been used for two decades with the goals of increasing specimen adequacy and allows for adequate material for ancillary testing. It reduces incidence of repeat biopsy procedures and number of passes necessary for adequate sampling. It increases cellular yield by 10%-30% in case of solid pancreatic lesions and is not recommended for cystic lesions. The cost benefit ratio remains controversial.
Ancillary testing: Includes immunohistochemistry, molecular based testing, biochemical testing, Fluorescent In situ Hybridization (FISH), and flow cytometry. Immunohistochemical evaluation resolves diagnostic dilemmas, and allows for distinction between benign and malignant lesions, characterization of non-ductal neoplasms, and workup of metastatic neoplasms. Molecular based testing allows for detection of targetable mutations for diagnostic, prognostic, and therapeutic purposes. FISH allows for detection of numerical and structural abnormalities in chromosomal DNA, which improves diagnostic accuracy and may select patients for targeted therapies. Biochemical testing of cyst fluid provides ancillary support for diagnosis.

Each diagnostic category is discussed as an individual chapter and includes seven diagnostic categories as follows: Insufficient/inadequate/non-diagnostic, benign/negative for malignancy, Atypical, Pancreaticobiliary neoplasm, low-risk/grade, pancreaticobiliary neoplasm, high-risk/grade, suspicious for malignancy, and malignant categories. This book also enlists the risk of malignancy for each category and suggests the management recommendations of each category as the last chapter. You can also find sample reports, which can be adopted for each category. Sample report comprises nature of specimen, specimen adequacy, category, and diagnosis. This book also describes individual diagnostic entities as sub-headings in each diagnostic category chapter. A short description of each diagnostic category with a brief explanation of changes from widely used Papanicolaou Society of Cytopathology (PSC) System for Reporting Pancreatobiliary Cytology reporting system is as follows:

**Insufficient/inadequate/non-diagnostic:** is used when the specimens obtained do not provide any useful information concerning the targeted lesion. Specimens consisting exclusively of benign pancreatic elements (acinar or ductal cells) in the setting of imaging findings of distinct solid or cystic masses should be put in this category. The risk of malignancy (ROM) varies from 5%-25% for solid lesions and 28%-69% for bile duct brushings. A relatively high risk of malignancy is not surprising given the fact that only visible typically suspicious lesions are sampled.

**Benign/negative for malignancy:** This category should be used if cytomorphological features demonstrate unequivocal benign features, which may or may not be diagnostic of a non-neoplastic or benign neoplastic process involving the pancreas/pancreaticobiliary tract. Such lesions include pseudocysts, chronic pancreatitis, cholangitis, serous cystadenomas, and benign mesenchymal neoplasms. This WHO reporting system category includes both the “negative for malignancy” and the “neoplastic: benign” categories in the PSC System for Reporting Pancreatobiliary Cytology reporting system. The ROM varies from 0%-15%.

**Atypical:** It is a low to indeterminate risk category used to categorize specimen exhibiting cellular and architectural atypia that cannot be confidently classified as benign or malignant entities. The ROM varies from 30%-40% for pancreas FNAB and 25%-61% for bile duct brushings. It allows for high Negative predictive value for benign lesions. In the PSC system, a well-differentiated neuroendocrine tumor (NET) or solid pseudopapillary neoplasm (SPN) were in the “Neoplastic: other category”. WHO Reporting System now categorizes them as “Malignant” in line with the fifth-edition of WHO classification of digestive system tumors. Thus, if FNAB features are not diagnostic of one of these entities, but are suspected, then the interpretation should be “suspicious for malignancy” and not “atypical”.

Based on the different risks of malignancy, the current WHO Reporting System for Pancreatobiliary Cytopathology divides the neoplastic category into two distinct categories: “Pancreatobiliary neoplasm, low-risk/grade (PaN-low)” and “Pancreatobiliary neoplasm, high-risk/grade (PaN-high)”. Specimen containing cells diagnostic of low-grade dysplasia that were otherwise placed in the “Atypical” category using the PSC system are now included in the “PaN-low” category. The two-tiered categorization system of epithelial atypia matches with the two-tiered histopathological classification of intraepithelial and cystic pancreatic neoplasia in the fifth-edition of WHO classification of digestive system tumors.

**Pancreatobiliary neoplasm, low-risk/grade (PaN-low):** is extracted from the “neoplastic: other” category of the PSC system for reporting pancreatobiliary cytology. The estimated ROM is 5%-20%. This new category is limited to intraductal and cystic neoplasms with low-grade epithelial atypia, and excludes low-grade pancreatic NET and SPN (included in PSC: neoplastic other category), which are now categorized as “malignant”. Gastrointestinal contamination constitutes the major differential diagnosis.

**Pancreatobiliary neoplasm, high-risk/grade (PaN-high):** is extracted from the “neoplastic: other” category of the PSC system for reporting pancreatobiliary cytology. This new category is limited to “non mass-forming”, <5 mm, intraductal and cystic neoplasms with high-grade epithelial atypia, suggestive of high-grade dysplasia. It may also include cystic lesions with invasive carcinoma. The estimated ROM is 60%-95% and is therefore considered to be a “high-risk” result. As in most of the instances, cytopathological atypia can be difficult to classify with accuracy, usage of this category rather than “suspicious for malignancy” for these challenging lesions provides more flexibility, provokes less patient anxiety, and provides options for conservative patient management.
Suspicious for malignancy: This category is reported to account for 4.7%-16% of all cytopathological diagnoses in the pancreatobiliary tract. The estimated ROM is 80%-100% for pancreatic FNAB and 74%-100% for bile duct brushings. It is to be used when the cytomorphological features are highly concerning but not diagnostic of a malignant process and the definitive diagnosis of malignancy is limited by scant cellularity, and/or insufficient tissue for ancillary studies and/or presence of confounding factors such as chronic pancreatitis. On its own, this category should not be considered as an indication for surgical resection or initiation of adjuvant therapy.

Malignant: This category is used when cytomorphological features are unequivocal of malignancy. The ROM is 99%-100% for pancreatic lesions and 96%-100% for bile duct brushings. This category includes pancreatic ductal adenocarcinoma, cholangiocarcinoma, well-differentiated neuroendocrine tumors (NETs) (G1–G3) and solid pseudopapillary neoplasms, and other rare primary pancreatic malignancies: acinar cell carcinoma, poorly differentiated neuroendocrine carcinomas (NECs), primary non-Hodgkin lymphoma, pancreaticoblastoma as well as lymphoid, spindle cell malignancies (gastrointestinal stromal tumor) involving pancreas and metastases. Autoimmune pancreatitis may contribute to false-positive interpretations in some cases.

Comparison of WHO Reporting System with Pancreatobiliary System of Cytopathology System

- Classification of neoplasia: The PSC categories of “Neoplastic: benign” and “Neoplastic: Other” have been dismissed. The lesions are classified within the “Benign”, “Pan-Low”, “Pan-High”, and “Positive for malignancy” categories.
- Well-differentiated Pancreatic neuroendocrine tumors (PanNET) and solid pseudopapillary neoplasms are included in the new WHO classification as “malignant” to align with WHO Classification of Tumors of the Digestive System.
- Pancreatic FNAs with findings suspicious for Well-differentiated Pancreatic neuroendocrine Tumor (PanNET) or SPN were categorized as atypical in PSC system and are now reclassified as “Suspicious for malignancy” in the WHO System.
- Lymphangioma and serous cystadenoma are classified as “Benign”

Cytology of bile duct brushings

- Definitive classification of “Atypical” as neoplastic is challenging
- ROM is higher per diagnostic category than for FNAB of pancreatic masses
- Estimated ROM for “Negative”: 25%, “Atypical”: 50%, “Suspicious”: 90%, “Positive”: 96%
- There is significant overlap of carcinoma with reactive and regenerative changes caused by indwelling stents, instrumentation, and underlyng inflammatory processes such as Primary sclerosing cholangitis “PSC”

In conclusion, the diagnostic reporting system presented in the WHO Reporting System for Pancreatobiery Cytopathology is a revision of the Papanicolaou Society of Cytopathology (PSC) System for Reporting Pancreatobiery Cytopathology and provides clear information to better guide clinicians in their diagnostic approach to pancreatobiery disease and aligns with the histopathological terms used for pancreatobiery lesions in the fifth-edition of WHO classification of digestive system tumors with a refined risk of malignancy based on recent publications.

References:
Gastric Body Mass with Cytology – Histology Correlation and Diagnostic Pitfalls

Rong Xia, MD, PhD  
NYU Langone Health  
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Tamar C. Brandler, MD, MS  
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Disclosure: None

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The American Society of Cytopathology designates this enduring educational activity for a maximum of 1AMA PRA Category 1 credit(s).™ Physicians should only claim credit commensurate with the extent of their participation in the activity.

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Disclosure for Education Planners

Review the Case Study and visit the ASC Website to take the test for Continuing Education Credit.

Clinical History

A 74-year-old female presented with acid reflux and diarrhea. Polypoid appearing mucosa was noted on endoscopy at the pylorus (25–30mm) with duodenal mucosal lymphangiectasia. Endoscopic ultrasound imaging of the upper gastrointestinal (GI) tract displayed wall thickening in the gastric body, antrum, and pylorus. The thickening appeared to be primarily within the luminal interface/superficial mucosa, which was sampled via fine needle aspiration (FNA). Past medical history included breast carcinoma, bilateral ovarian cysts, endometriosis, back pain, and diarrhea.

Cytopathology Features:

The smears and cell blocks show proliferation of neoplastic cells associated with curvilinear vessels, and focal necrosis. Cells exhibit variable morphology ranging from clusters of spindle cells to epithelioid cells with enlarged, hyperchromatic, and eccentric nuclei. Cell block section is noncontributory due to scanty tumor cells.

Upon comparison with the histomorphology, it becomes clearer that the epithelioid cells are infiltrative tumor cells and the spindle cells are the gastric wall myocytes. Immunohistochemical staining performed on the concurrent surgical biopsy pathology case confirmed that tumor cells are positive for CAM 5.2, CK7, GATA3, ER and focally for PR, while nonreactive for CDX2 and CK20, consistent with the patient’s previous breast carcinoma.

Pre-test Image 1: 20x Diff Quick stained FNA

Pre-test Image 2: 40x Diff Quick stained FNA

Pre-test Image 3: 60x Diff Quick stained FNA

Pre-test Image 4: 20x Papanicolaou stained FNA

Pre-test Image 5: 60x Papanicolaou stained FNA
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