



SAR Prostate DFP Case of the week

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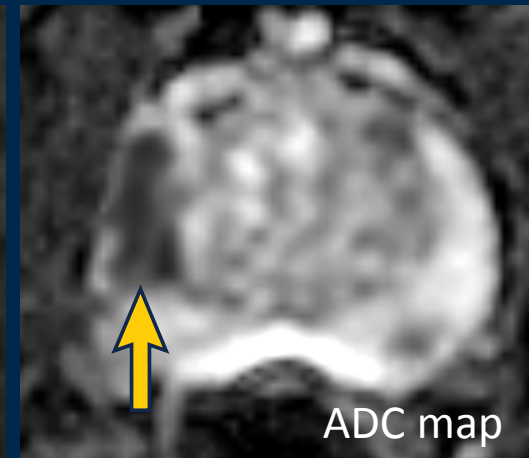
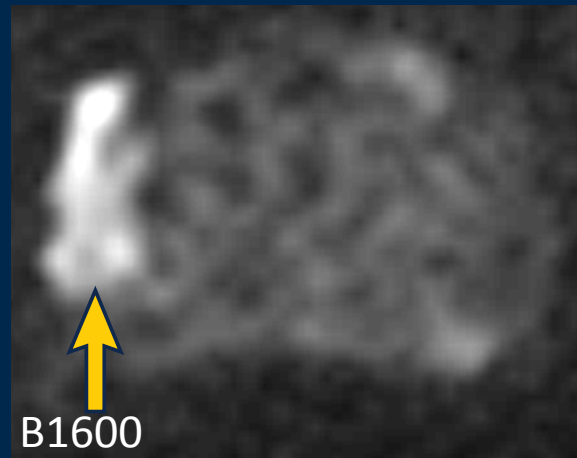
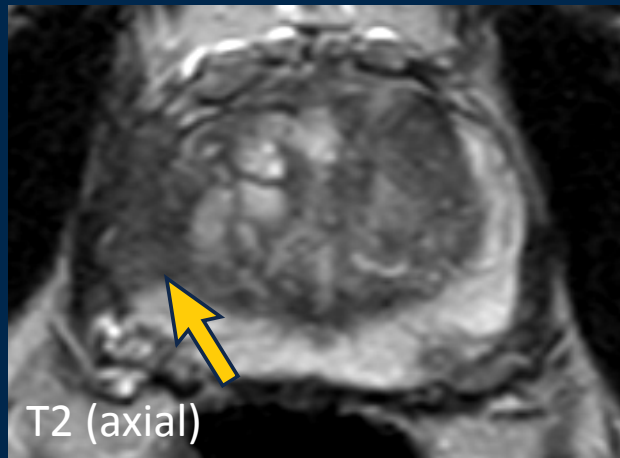
University of Michigan

History

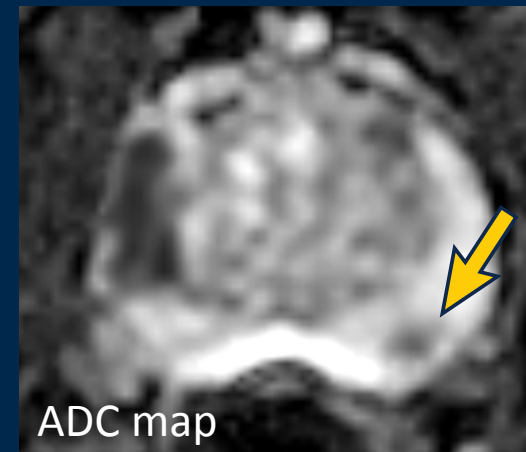
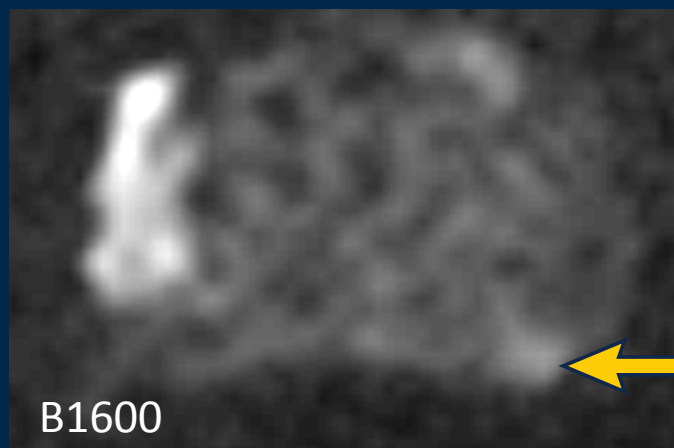
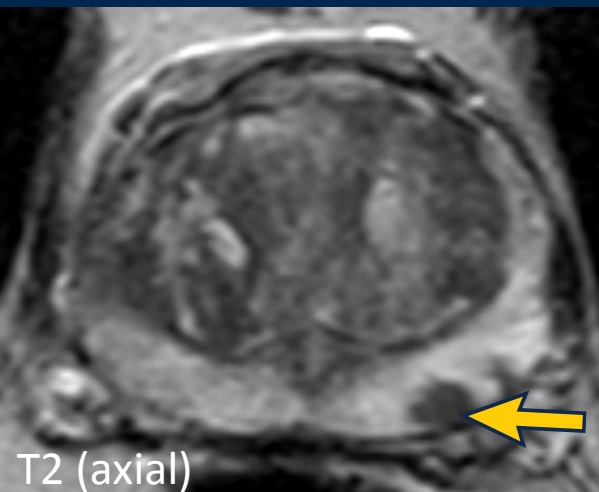
Clinical History:

- 64 year old
- No prior prostate biopsy
- Rising PSA, most recently 7.6 ng/mL
- Referred from an outside facility for multiparametric prostate MRI and possible targeted biopsy

Multiparametric prostate MRI findings

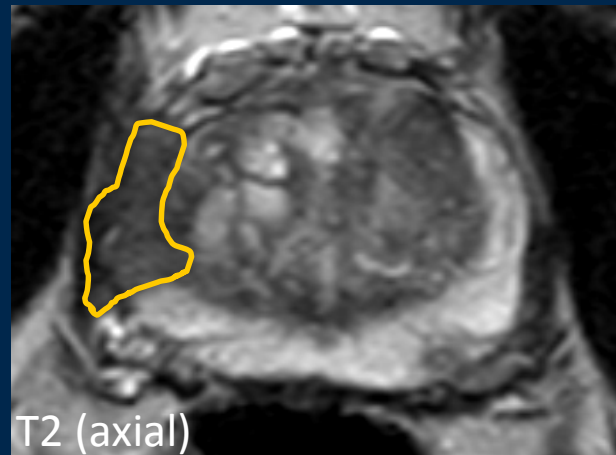
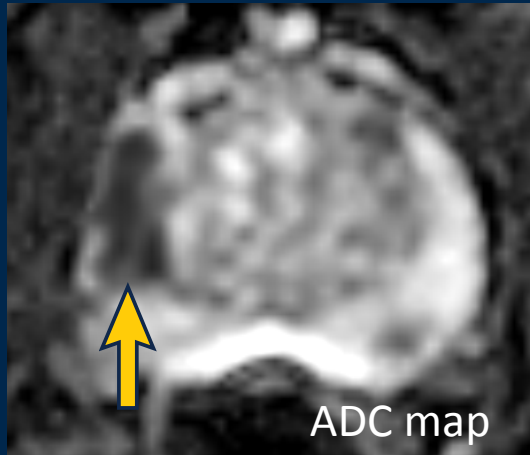


Index Lesion:
2.1 cm right mid
peripheral zone lesion
with extraprostatic
extension (PI-RADS 5)

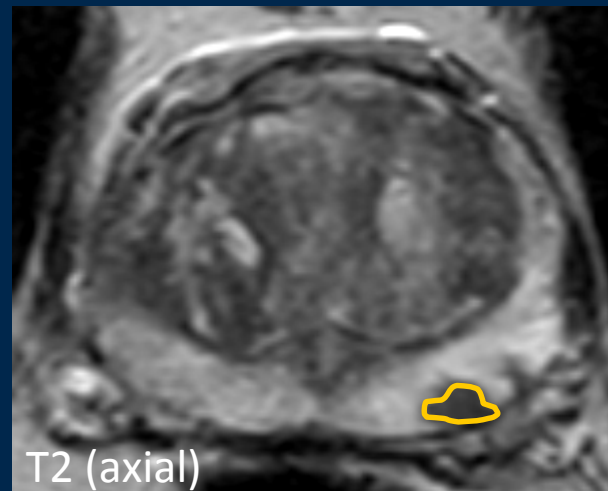
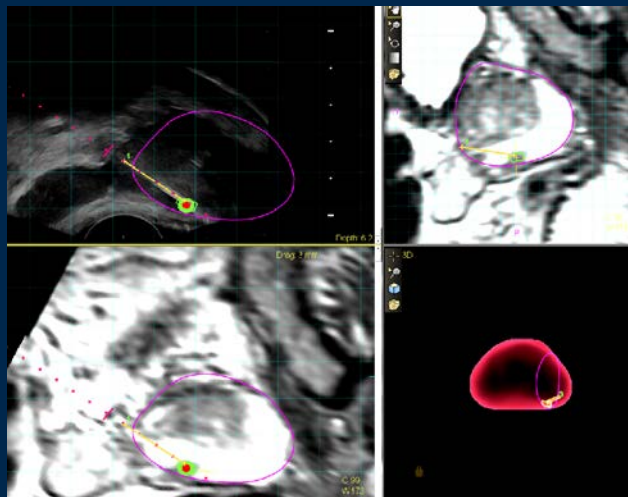


0.7 cm left mid
peripheral zone lesion
(PI-RADS 4)

MR-US fusion biopsy revealed..



Multiple cores of Gleason 4+3 prostate cancer with a single core of Gleason 4+5 prostate cancer



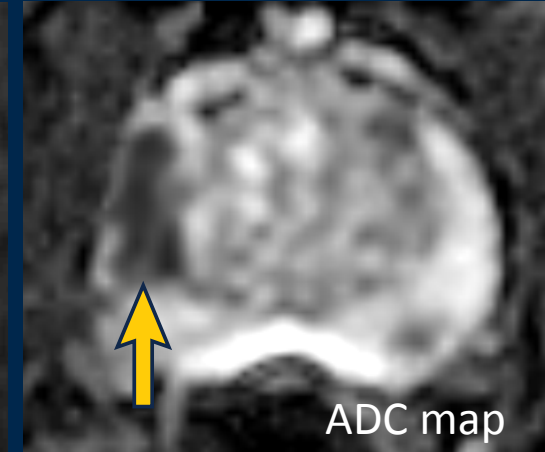
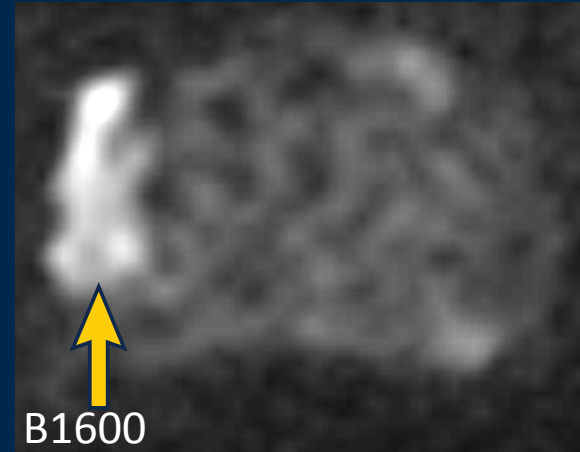
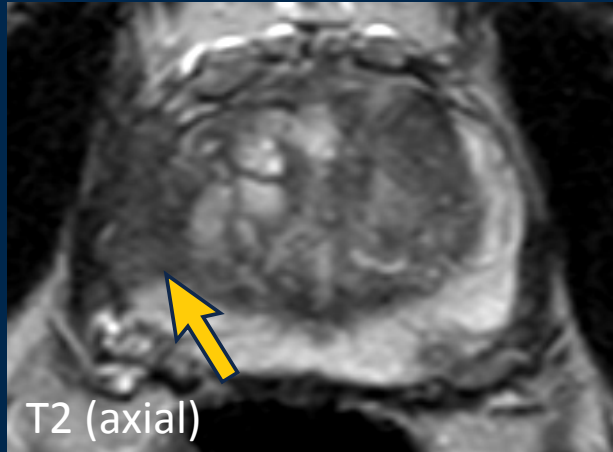
5 cores of Gleason 4+3 prostate cancer

Management

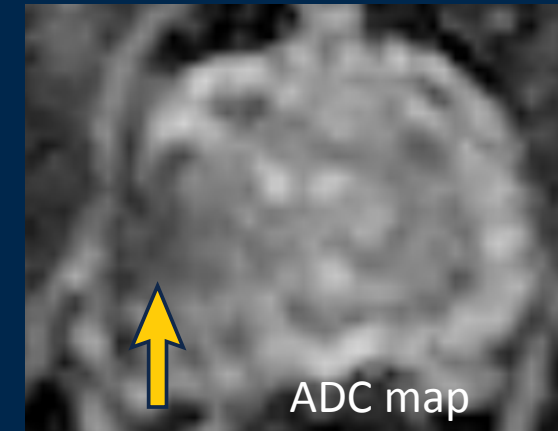
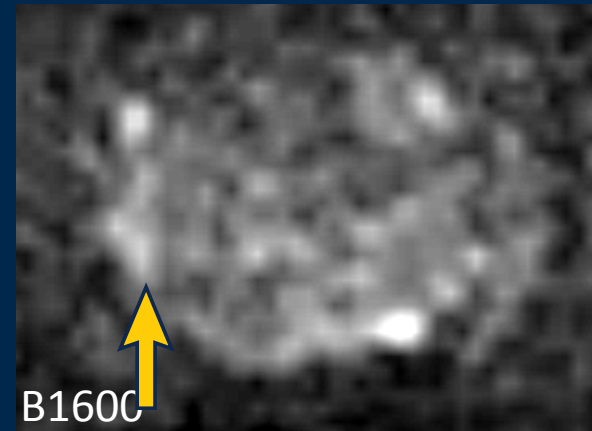
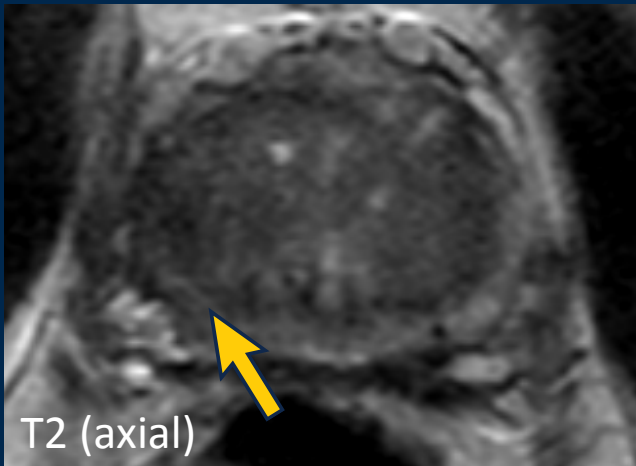
- Due to significant lower urinary tract symptoms, the patient was not an ideal candidate for definitive radiotherapy
- The patient was enrolled in an ongoing clinical trial to assess neoadjuvant radiation therapy prior to prostatectomy
- The patient received 35 Gy external stereotactic body radiation therapy (SBRT) to the prostate over 5 fractions prior to surgery

Pre and Post-radiation imaging

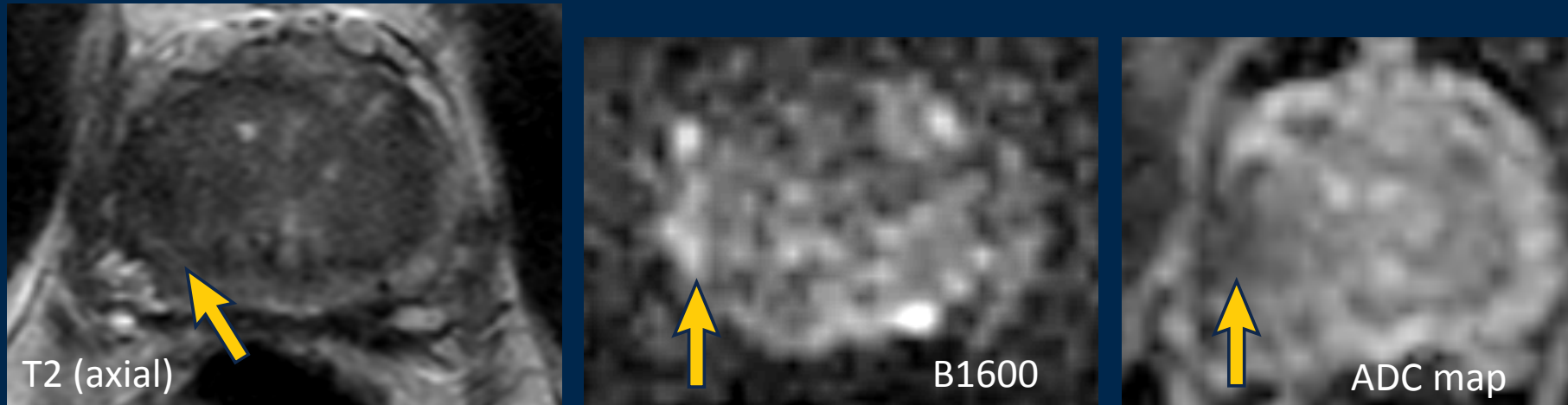
Pre-Treatment



Post-SBRT



Post-radiation findings



- Diffuse ill-defined T2 hypointensity
- Decreased signal on high B-value images
- Increased ADC values of the index lesion (arrows) ($850 \mu\text{m}^2 / \text{sec}$ from baseline of $550 \mu\text{m}^2 / \text{sec}$), suggestive of increased cellular damage and greater water diffusivity

Robotic Prostatectomy Histology Results

Pathology Report:

- The index nodule located on the right mid prostate shows mild therapy-related changes. The tumor morphologically resembles Gleason score 4 + 4
- Extra-prostatic tumor extension present on the right side of the gland
- A smaller tumor nodule is also noted on the left posterior aspect showing mild therapy-related changes, Gleason score 3 + 4 = 7
- Seminal vesicles and margins negative

Neoadjuvant SBRT prior to radical prostatectomy

- A benefit of this on-going trial is the ability to allow patients with aggressive disease to receive only 5 fractions (treatments of radiation) prior to surgery, which is substantially less than the number of treatments typically necessary during post-operative SBRT (39 treatments)
- The presented clinical trial and future investigations are necessary to adequately assess the risks and benefits of this management strategy

Note: The presented trial is in progress and safety/efficacy data are currently unavailable

Thank You

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