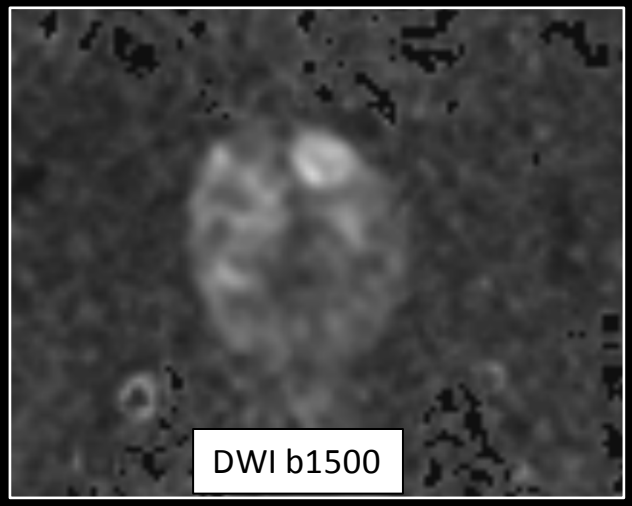
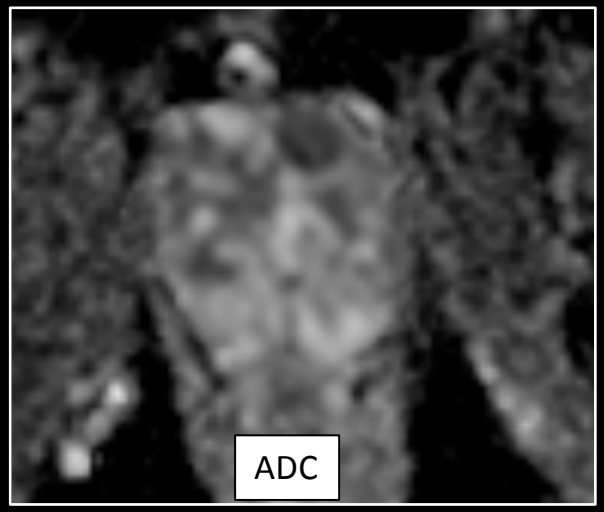
Elevated PSA and no prior prostate biopsy





Case courtesy: Andrew Rosenkrantz MD, NYU Langone Medical Center

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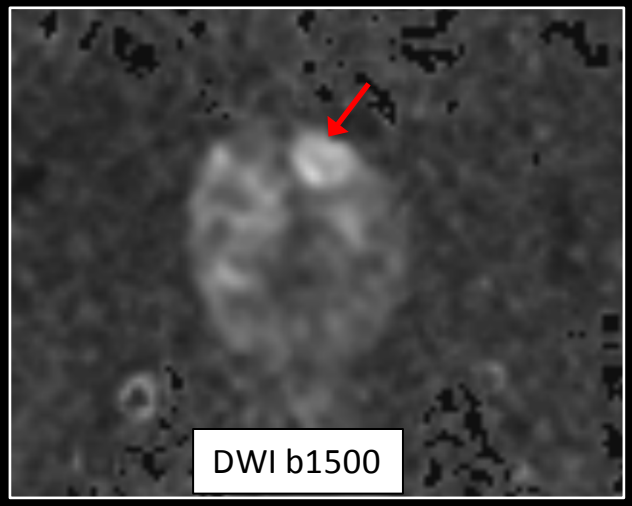

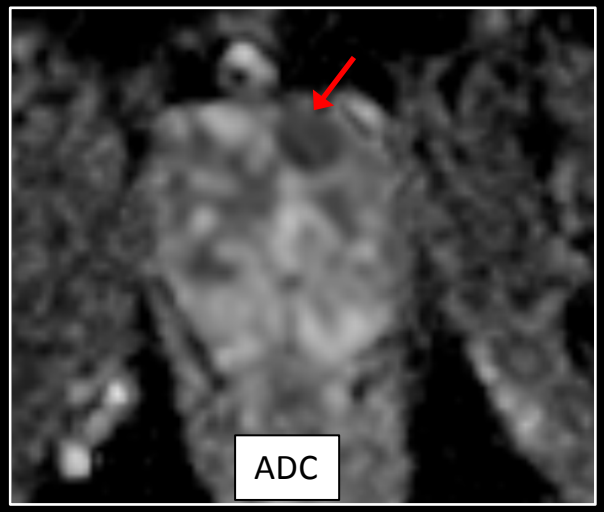

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- T2WI shows a left anterior TZ lesion with homogeneous mildly decreased T2 signal.
- While TZ tumors exhibit decreased T2 signal, this lesion has a round shape and thin T2-hypointense capsule visible along its posterior aspect (dashed arrow), features characteristic of stromal BPH nodules.

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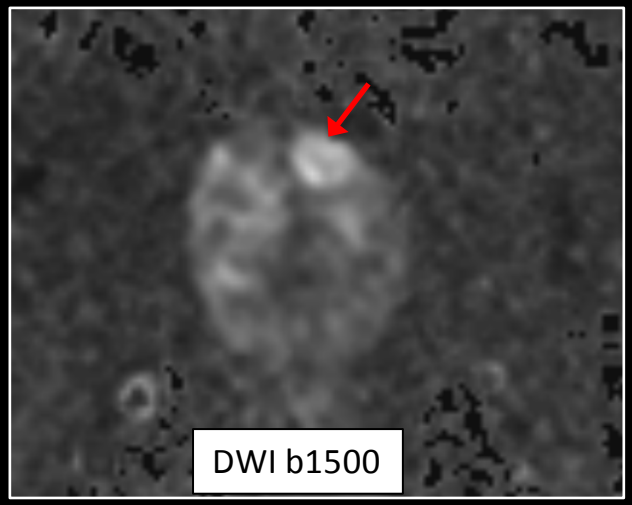

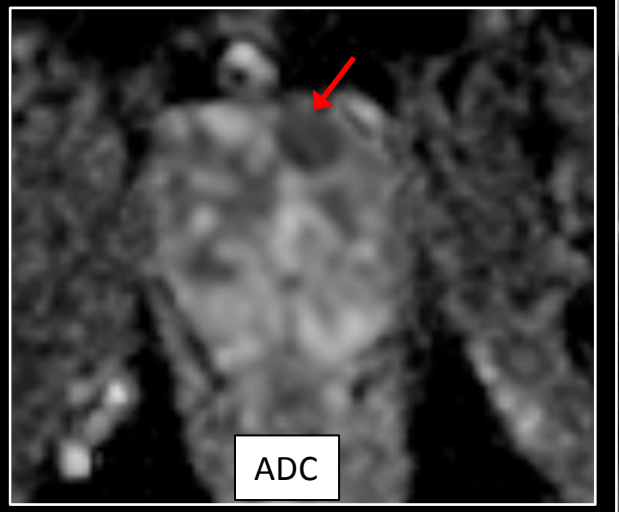

- The lesion also showed increased signal on high b-value DWI, decreased ADC, and increased vascularity on DCE.
- However, all of these features overlap between TZ tumors and BPH nodules.

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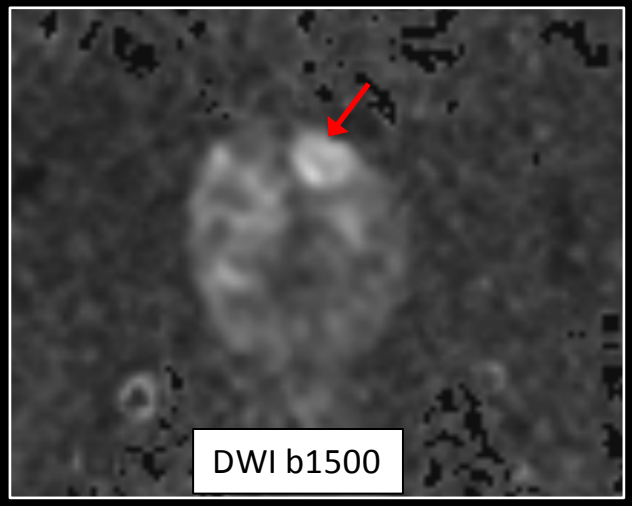

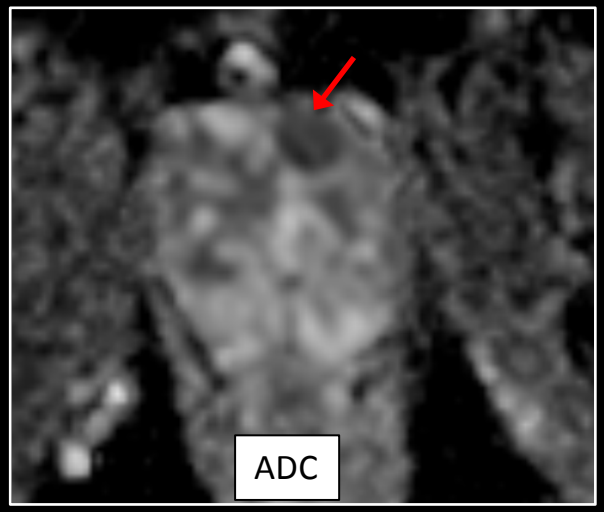

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- The lesion was assessed using PI-RADS V2 as follows:
- *T2WI:* Score of 2 given circumscribed margins with partial encapsulation; score of 3 in TZ requires "obscured margins"
- *DWI:* Score of 3, given "mild-to-moderate" signal changes on DWI and ADC; score of 4 required "marked" signal changes
- *DCE:* (+) given corresponding early enhancement
- **Overall category: 2**
  - T2WI serves as the dominant sequence in TZ

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- MRI/ultrasound fusion-targeted biopsy demonstrated the left anterior TZ lesion to be **benign**.
- Concurrently performed systematic cores were benign as well.
- *Teaching points:*
  - Lesion shape and margins are important for differentiating TZ tumors and stromal BPH.
  - Stromal BPH nodules often exhibit restricted diffusion and hypervascularity
  - T2WI is the dominant sequence for determining the overall PI-RADS category for TZ lesions.

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