

De Novo Metastatic Prostate Adenocarcinoma Presenting as Acute Urinary Retention in a 37-Year-Old Man: A Rare Case Report

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Introduction

- Prostate cancer is the second most common cancer in men worldwide, but is exceptionally rare under age 40 (<0.1% of cases).
- Young patients more often present with high-grade, high-stage disease and germline DNA repair mutations, notably *BRCA2*.
- Aim:** to report a 37-year-old man with acute urinary retention and de novo metastatic disease

Case Presentation

- Presentation:** 37-year-old Pakistani man with no significant medical history presented with acute urinary retention (3,000 mL drained), following a fall 3 months earlier
- DRE:** Firm prostate with hard nodules
- Labs:** PSA >100, repeat **6336 ng/mL**; ALP 420 U/L; Hb 12.2 g/dL.
- MRI:** PIRADS-5 nodules, seminal vesicle and bladder wall invasion, pelvic and distant nodes, bone metastases.
- Trial without catheter:** Failed; post-void residual 1,246 mL
- Outcome:** referred to medical oncology for ADT and systemic therapy; genetic counseling and germline testing advised.

Imaging & Histopathology

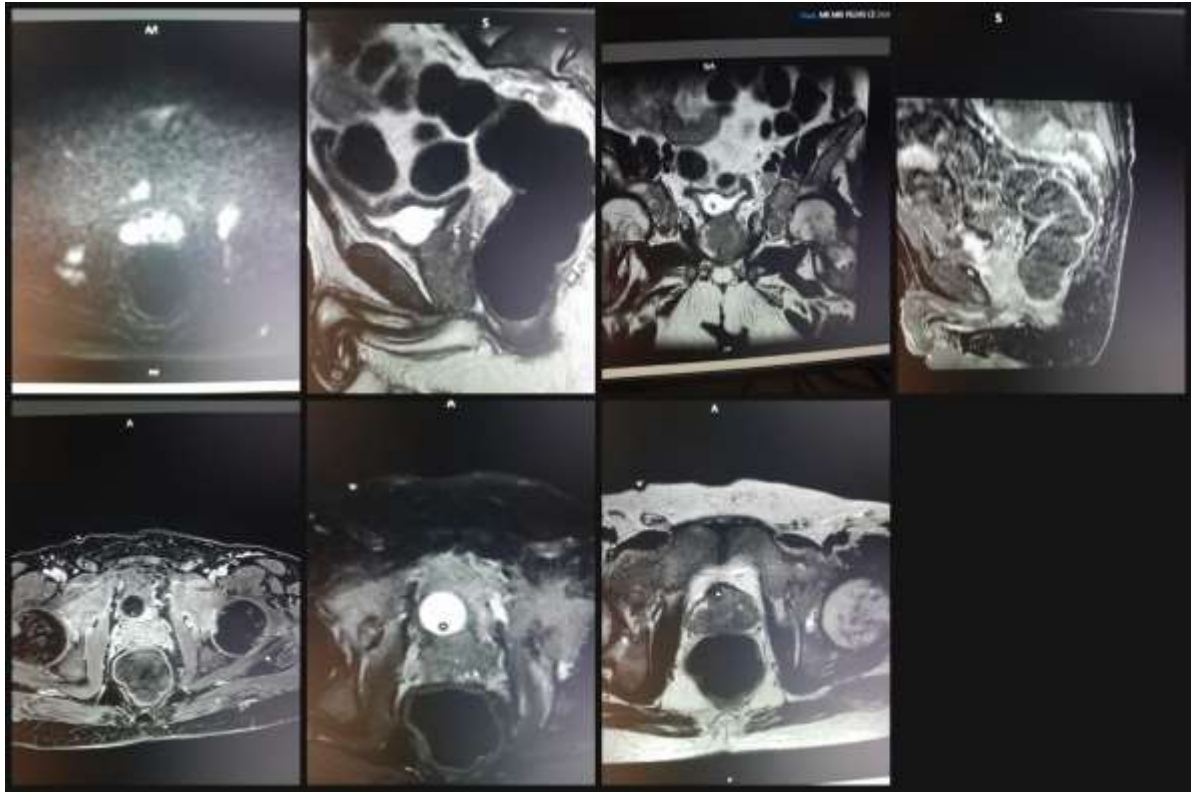


Fig 1. Prostate MRI: PIRADS-5 lesions.



Fig 2. Bone scan: extensive metastases.

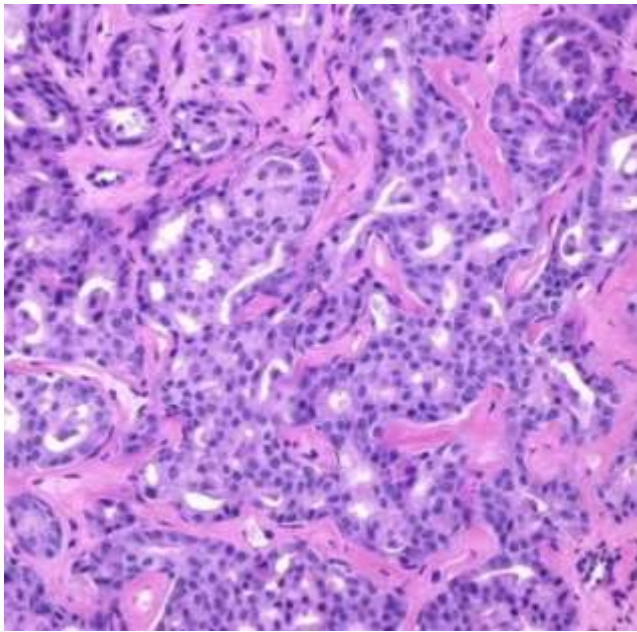


Fig 3. Biopsy: acinar adenocarcinoma.

Biopsy & Diagnosis

Site	Gleason (GG)	Features
Right	4+4=8 (GG4)	No PNI
Left	4+3=7 (GG3)	Intraductal, PNI

cT4 N1 M1c, Stage IVB de novo metastatic hormone-sensitive prostate cancer.

Conclusions

- ❖ Prostate cancer under age 40 is exceptionally rare, but it can present as aggressive, high-volume metastatic disease, masked here by a nonspecific history of trauma.
- ❖ Unexplained acute urinary retention in a young man warrants prompt DRE and PSA testing to prevent critical diagnostic delay

Discussion

- ❖ Metastatic prostate cancer before age 40 is exceptionally rare and may present at an advanced stage.
- ❖ Acute retention after trauma can cause anchoring bias; severe retention with intact neurology suggested tumor-related outlet obstruction.
- ❖ PSA 6,336 ng/mL strongly suggested metastatic disease, prompting urgent imaging and biopsy.
- ❖ High-grade/intraductal carcinoma and perineural invasion warrant consideration of DNA-repair defects, including *BRCA2*, and germline testing.
- ❖ High-volume metastatic disease requires systemic treatment intensification, with fertility and psychosocial counseling in young patients

References

- Sung H, et al. Global Cancer Statistics 2020: GLOBOCAN estimates. *CA Cancer J Clin.* 2021;71(3):209-249.
- Sandhu S, et al. Prostate cancer in young men: evolving understanding of genomic landscape. *Eur Urol.* 2021;79(6):736-745.
- Pritchard CC, et al. Inherited DNA-repair gene mutations in men with metastatic prostate cancer. *N Engl J Med.* 2016;375(5):443-453.
- Fizazi K, et al. Abiraterone plus prednisone added to ADT and docetaxel in de novo mCSPC (PEACE-1). *Lancet.* 2022;399(10336):1695-1707