



Case report: Recurrent urethral polyps, an atypical presentation of ductal prostate adenocarcinoma

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ABSTRACT

Prostate ductal adenocarcinoma is a rare subtype of prostate adenocarcinoma which can show aggressive features and have poor response to conventional treatment. Early diagnosis aids in shared patient decision making. We report an atypical presentation of this rare condition where a recurrent urethral polyp which showed pagetoid spread was diagnosed as ductal adenocarcinoma of the prostate, with emphasis on review of prior available histology.

1. Introduction

Ductal adenocarcinoma of the prostate is the most common variant histological subtype accounting for between 0.1 and 12.7% of prostate cancer.^{1,2} Managed traditionally as a high risk cohort,³ due to delayed diagnosis as often associated with low Prostate Specific Antigen (PSA) levels, and an affinity for early metastasis particularly to visceral organs. Treatment guidelines are limited due to the small number of case series reports, however a multimodal aggressive treatment approach is often undertaken.² We report an atypical presentation of this rare condition.

2. Case presentation

A 78 year old male presented with a single episode of painless macroscopic haematuria and bothersome irritative lower urinary tract symptoms (LUTS), IPSS score 23. His past medical history included parkinson's disease, hypertension, osteoarthritis and depression. There was no significant family history of prostate cancer. He had no history of carcinogen occupational exposure but was an ex-smoker. No initial prostate specific antigen (PSA) result accompanied his referral.

Urine microscopy, ultrasound and Computed Topography (CT) intravenous pyelogram (IVP) were unremarkable. Physical examination confirmed a moderately enlarged benign feeling prostate. Cystoscopy showed moderate bladder trabeculations, with concerning macroscopic changes in the urothelium, biopsies of which returned as benign.

A year later the patient represented with recurrent episodes of painless macroscopic haematuria. Cystoscopy revealed multiple small

papillary lesions extending from the navicular fossa through the entire penile, bulbous and membranous urethra, including in the apical portion of the prostatic urethra. Lesions appeared to extend from the left ejaculatory duct. Lesions were removed with a cold cup biopsy and fulgurated. Microscopic appearance of complex branching villoglandular architecture lined by tall columnar epithelium showering mild atypia and scattered mitosis was seen (Fig. 1A) and concluded at the time to be benign prostatic urethral polyps.

A second cystoscopy and biopsy 3 months later showed recurrence of three papillary lesions at the proximal and bulbar urethra, with histology stating evidence of urethritis cystica, with no evidence of atypia or malignancy.

Six months following, multiple polyps were again seen in the distal penile urethra. Digital rectal examination at this time confirmed clinical T2c prostatic disease. Histological examination of the urethral polyps revealed cells with cribriform arrangement, appearing malignant. Further assessment with immunohistochemistry with MKX3.1 confirmed prostatic cells in the distal urethra, giving the final diagnosis of polypoid ductal type prostatic adenocarcinoma, Gleason score 4 + 4 = 8 (Fig. 1B).

Retrospective review of the original urethral biopsy suggested evidence of ductal carcinoma in situ. The report mentioned atypia, however given the small volume present and clinical history at first presentation, the impression at the time led to a benign urethral polyp. Re-review of histology from the second resection revealed mitotic figures with cell crowding (Fig. 2A) and apparent pagetoid spread (Fig. 2B).

The case was discussed at a urology multidisciplinary meeting and

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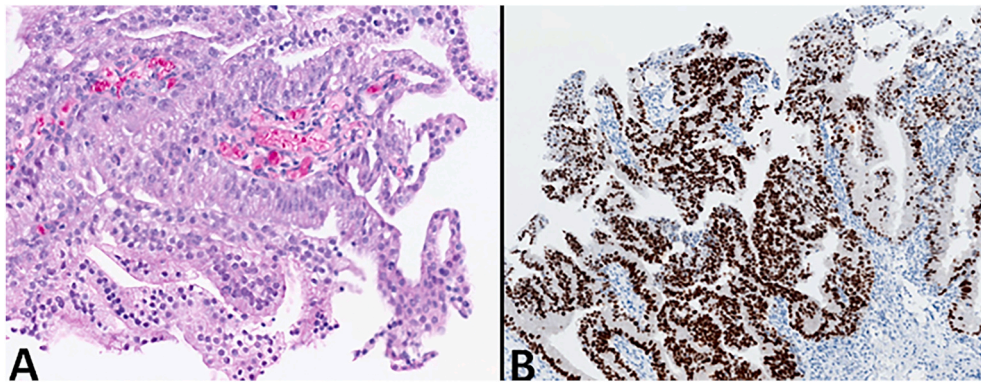


Fig. 1. Histopathology slides with hematoxylin and eosin. A) atypical columnar glandular epithelium with prominent nucleoli and scattered mitoses. B) immunohistochemistry stain with MKX3.1 highlighting prostatic epithelium cells in the distal urethra.

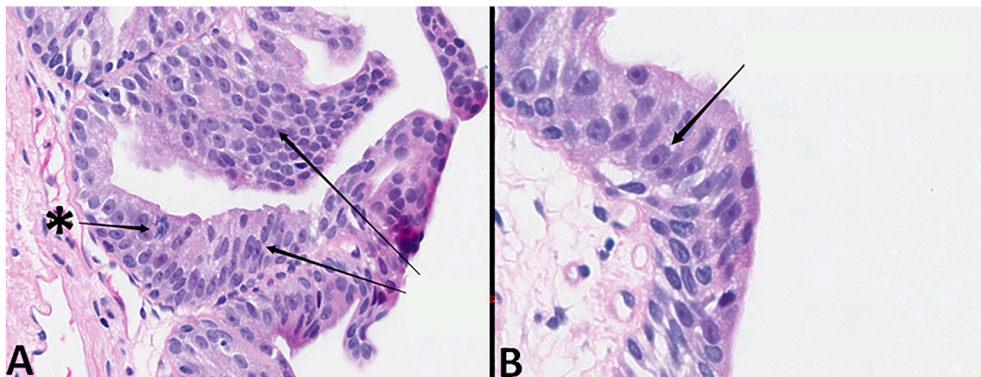


Fig. 2. Histopathology slides with hematoxylin and eosin. Retrospective review of resection 2. A) Mitotic figures (*) with atypical glandular epithelium with columnar morphology and prominent nucleoli (arrows). B) Pagetoid spread under native urothelium (arrow).

given the poor prognosis of ductal prostate cancer, patient age and comorbidities, androgen deprivation therapy (ADT) and repeat cystoscopies for symptomatic management of LUTS was recommended. Radiotherapy was not recommended.

Interestingly on further investigation of prior patient history at adjacent hospitals, it was found the patient had undergone a cystoscopy two years prior for irritative LUTS. A papillary lesion had been seen at the verumontanum and biopsy completed at the time concluded papillary hyperplasia, with a differential diagnosis mentioned in the body of the report of well differentiated prostatic ductal adenocarcinoma.

3. Discussion

Ductal carcinoma of the prostate should be considered as a rare aetiology for patients presenting with LUTS and haematuria.⁴ Our case represents an atypical clinical presentation of ductal prostate carcinoma presenting as recurrent urethral polyps. This case highlights the importance of repeat cystoscopy and biopsy in patients with urethral polyps and the importance of appreciating the microscopic histological description to maintain an index of suspicion for potential sinister pathology. The recurrent nature of the polyps and the persistent atypia seen were red flags for a malignant pathology. In this case, our impression is that the ductal carcinoma initially presented as an atypical mass at verumontanum contributing to lower urinary tract symptoms. These cells displayed pagetoid spread, and after resection seeded the penile urethra. Clinicians should consider reviewing original pathology at times of lesion recurrence, and previous benign diagnosis.

4. Conclusion

Ductal adenocarcinoma of the prostate is a rare pathology that can initially present as can present as a multiloculated pelvic lesion or recurrent urethral lesions in patients with urinary symptoms and/or haematuria. It should be considered in a list of differentials for these clinical scenarios.

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Author contributions

Angela Holmes: Conceptualization, Writing - Original Draft, Visualization. Sophie Tissot: Conceptualization, Writing - Original, Project administration Draft. Paul Kearns: Writing - Review & Editing, Supervision.

Informed consent

Provided by patient.

Declaration of competing interest

None.

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