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Case Report

A rare prostatic tumour masquerading clinically as benign prostatic hyperplasia

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ABSTRACT

Prostatic tumours are usually benign. Malignant tumours are usually adenocarcinoma. Rare benign prostate tumours include inflammatory myofibroblastic tumours, which can be found in various body parts and are frequently identified in the lung or abdominal cavity of children and young adults. Inflammatory myofibroblastic tumours of the urinary tract present more often in kidneys. Prostatic inflammatory myofibroblastic tumours are sporadic and rare. Presenting 44 years old male with complaints of gross hematuria for 15 days with recurrent urine retention. Per rectal examination revealed, grade II prostate enlargement was firm in consistency. PSA was mildly raised (4.4 ng/ml). Ultrasound abdomen showed enlarged prostate (volume -40 cc) with irregular margins and heterogeneous echo texture showing increased flow on colour Doppler. Transrectal ultrasound (TRUS) showed a well-defined irregular heterogeneously echoic mass in the transitional zone, but TRUS biopsy showed no malignancy. After TURP, prostate chip examination showed inflammatory myofibroblastic pseudotumour of the prostate. Differentiation of inflammatory myofibroblastic prostate tumours from malignant tumours through imaging and laboratory tests is difficult. A case of prostatic inflammatory myofibroblastic tumour observed after transurethral resection of the prostate to treat prostate hyperplasia in a 44-year-old man is presented in this report.

Keywords: Inflammatory myofibroblastic prostate tumours, Prostatic tumour, Pseudotumour of the prostate

INTRODUCTION

Prostatic tumours are usually benign. Malignant tumours are usually adenocarcinoma. Rare benign prostate tumours include inflammatory myofibroblastic tumours, which can be found in various body parts and are frequently identified in the lung or abdominal cavity of children and young adults. Inflammatory myofibroblastic tumours of the urinary tract present more often in kidneys.[1] Prostatic inflammatory myofibroblastic tumours are extremely rare and usual clinical presentation of inflammatory myofibroblastic prostate tumours consists of dysuria and acute urinary retention.[1] Differentiation of inflammatory myofibroblastic prostate tumours from malignant prostate tumours through imaging and laboratory tests is difficult. A case of prostatic inflammatory myofibroblastic tumour observed after transurethral resection of the prostate to treat prostate hyperplasia in a 44-year-old man is presented in this report.

CASE REPORT

A 44 years old male presented in the emergency room with complaints of gross hematuria for 15 days with recurrent urine retention. He also had associated complaints of intermittency and burning micturition-no previous history of urethral surgery. The patient was a non-smoker and non-alcoholic. On examination, the patient had a palpable bladder with suprapubic tenderness, per rectal examination, revealed grade II prostate enlargement, which was firm in consistency. The

rest of the physical examination was unremarkable. The patient was catheterized and further evaluated. Urine analysis revealed a field full of RBCs and 8-10 pus cells/hpf. PSA was mildly raised (4.4 ng/ml). Urine culture showed *E. coli* organism, and the patient was given antibiotics as per antibiotic sensitivity. Ultrasound abdomen showed enlarged prostate (volume-40 cc) with irregular margins and heterogeneous echo texture showing increased flow on colour Doppler.

The bladder wall was thickened and irregular, measuring about 7 mm, with echogenic sedimentation within the bladder lumen. TRUS showed a well-defined irregular heterogeneously echoic mass in the transitional zone of the prostate on the left side protruding into the base of the bladder with significant vascularity. Instead of suspicious ultrasound findings and marginally raised PSA levels, a TRUS biopsy was done, which showed no evidence of malignancy.

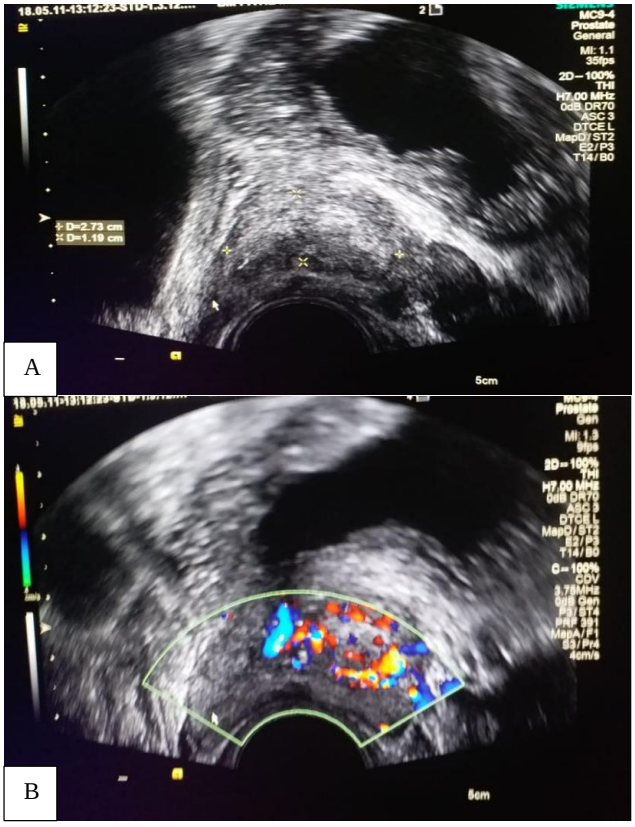

Figure 1 (A and B): TRUS image showed a well-defined irregular heterogeneously echoic mass with significant vascularity on colour Doppler.

Subsequently, the patient was taken up for transurethral resection of the prostate under regional anaesthesia. Immense pedunculated growth was present over the left lateral prostatic lobe on cystoscopy. The rest of the bladder wall showed mild trabeculations and standard bilateral ureteric orifices. Endoscopic resection of the left side growth was done transurethrally using bipolar cautery, and prostatic chips were sent for histopathologic examination (HPE), which showed proliferation of widely dispersed spindle cells seen against a myxoid background. Mild to moderate nuclear atypia was present with rare mitosis (<1 mitotic figure/ 10 HPF). On immunohistochemistry (IHC), spindle cells were positive for smooth muscle actin (SMA) and negative for pan-cytokeratin/S-100 protein/desmin/CD-56 (Figure 2). There was no evidence of malignancy. The histopathological diagnosis was inflammatory myofibroblastic pseudotumour of the prostate. No recurrences were observed up to five years of follow-up.

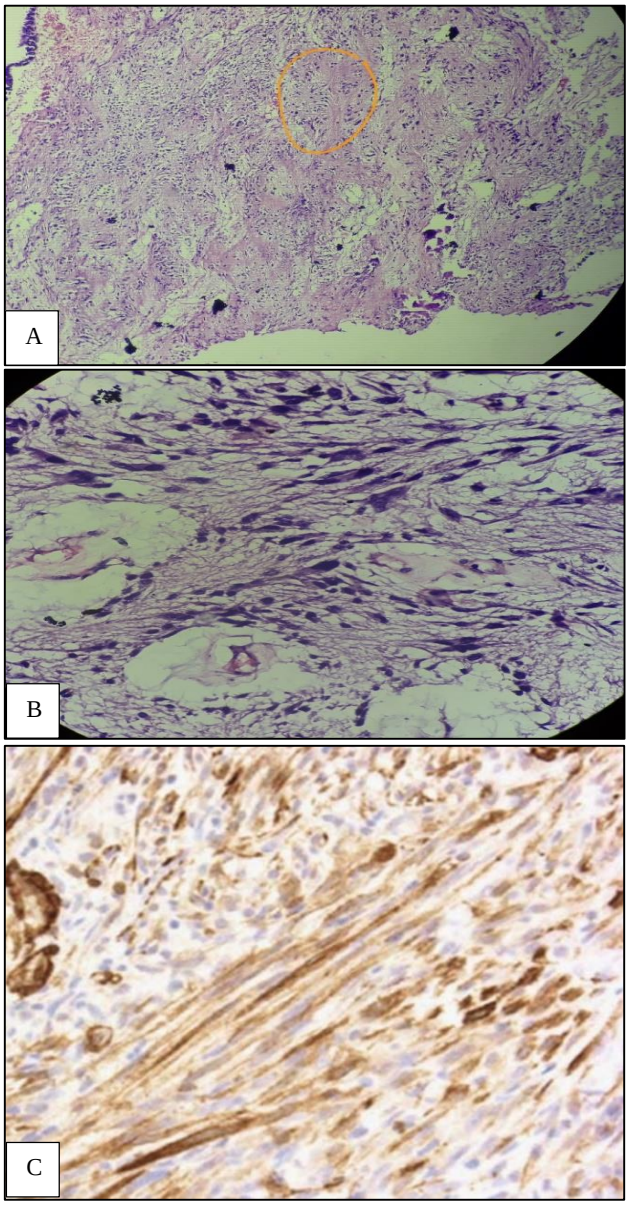

Figure 2 (A-C): HPE, with IHC which showed proliferation of widely dispersed spindle cells seen against a myxoid background. Micro-photograph (H and E) at 100x shows spindle cells in fibromyxoid background. Micro-photograph (H and E) at 400x shows spindle cells with few nucleoli and micro-photograph IHC showing positivity for SMA.

DISCUSSION

In 1980, Roth first described a spindle cell lesion in the urinary bladder using the term "reactive pseudosarcomatous response".[2] In 1984, Hafiz et al described a similar lesion of the prostate.[3] Ro et al reported this type of lesion in the urinary bladder and prostate and were the first to use the term "pseudosarcomatous fibro myxoid tumour" (PSFMTP).[4,5] Inflammatory pseudotumors have also been observed in various other organs throughout the body, such as the ureter , vagina , and urethra.[6-8] Tsuzuki et al described an expression of anaplastic lymphoma kinase (Alk)-1 in these tumours.[9] The Alk gene was initially identified in anaplastic large-cell lymphoma carrying the t (2;5) (p23; q35) translocation.[10]

Prostatic IMT occurs in patients between 22 to 80 years old, with a median of 51 years. The etiopathogenesis of PSFMTPs is unknown. In most reported cases, common associated factors were smoking, previous instrumentation, and surgery.

Another lesion with a somewhat similar histological appearance to PSFMTP is the postoperative spindle cell nodule (POSCN), first described by Proppe et al.[11] This lesion originates from invasive trauma, mainly cystoscopies or TURPs. Our patient had no previous history of instrumentation or surgery, and a PSFMTP was diagnosed from the first resection. The difference between POSCN and PSFMTP is based on the few mitoses in the latter and the preceding operative trauma leading to POSCN.

IMT is considered a benign tumour with local recurrence but rarely metastases to distant locations. Based on the new WHO classification, metastasis occurs in <2% of cases. The prostatic IMT can grow rapidly and locally aggressively, invading the adjacent organs such as the bladder.[12]

Jensen et al. reported a case of a PSFMTP of the prostate. In their case, the patient underwent another TURP because of increasing lower urinary tract symptoms.[12] Similarly, Harik et al studied 42 cases of PSFMTPs of the bladder and reported that 10% of patients developed recurrences, but none had metastases.[13] One of the characteristics of a PSFMTP is its rapid growth. In our case, the patient remained asymptomatic without additional treatment and had no recurrence.

CONCLUSION

Differentiation of inflammatory myofibroblastic prostate tumours from malignant tumours through imaging and laboratory tests is difficult. A case of prostatic inflammatory myofibroblastic tumour observed after transurethral resection of the prostate to treat prostate hyperplasia in a 44-year-old man is presented in this report. Despite the rarity of PSFMTP, it is important for urologists and pathologists to recognize it and be aware of its benign course to avoid unnecessary radical procedures. Immunohistochemistry will help in arriving at the correct diagnosis.

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