Case Report

Recurrent Prostatic Stromal Tumour of Uncertain Malignant Potential (STUMP) Presenting with Urinary Retention 6 Years after Transurethral Resection of Prostate (TURP)

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Abstract

Clinical Presentation: A 56-year-old Chinese male with previously diagnosed prostatic stromal tumour of uncertain malignant potential (STUMP) presented with urinary retention 6 years after transurethral resection of prostate (TURP). Treatment and Outcome: Cystoscopy showed a papillary tumour of the prostatic urethra causing near-complete obstruction. Repeat TURP was performed. He has been asymptomatic since. Conclusion: There has been fewer than 100 cases of this lesion reported worldwide. Definitive treatment is not well established. Long-term follow-up to monitor progression and possible recurrence is required, and repeat TURP or radical surgery may be necessary.

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Key words: Hormone receptors, Mesenchymal neoplasms, Prostatic tumour, Urinary symptoms

Introduction

Prostatic stromal tumour of uncertain malignant potential (STUMP) is a rare lesion, with fewer than 100 cases reported worldwide. It is considered a neoplastic lesion possessing relatively high recurrence and progression rates. We report a case of this neoplasm, manifesting initially with gross haematuria and haematospermia, and subsequent acute urinary retention.

Case Report

A 56-year-old Chinese male with a medical history of hypertension and diabetes mellitus presented with gross haematuria and haematospermia in 1996. Digital rectal examination (DRE) then revealed slightly bulky, non-tender and benign prostatomegaly. PSA was 3.9 µg/L. Rigid cystoscopy revealed a papillary tumour just proximal to the verumontanum. A transurethral bladder neck incision (TURBNI) was performed. His symptoms persisted and a transurethral resection of prostate (TURP) followed a year later.

Both prostatic tissue specimens from the TURBNI and TURP revealed atypical stromal cells. A diagnosis of STUMP was made. No malignancy was noted in the bladder biopsy and urine cytology was negative for malignant cells. Computed tomography of the pelvis showed no abnormalities. Six months after his TURP, a transrectal ultrasound of the prostate (TRUS) was carried out and the transition zone was enlarged (47 cc). Biopsy again showed atypical stromal cells between benign hyperplastic prostatic glands, compatible with recurrence of STUMP diagnosed at initial biopsy. Subsequently, the patient defaulted follow-up.

He returned to the Urology Clinic 6 years after his initial TURP, complaining of gross haematuria. A raised prostatic specific antigen (PSA) of 4.4 µg/L was noted. Cystoscopy revealed marked prostatomegaly with near-complete obstruction and intravesical protrusion. He later developed urinary retention. Suprapubic catheterisation was performed due to failed transurethral catheterisation. He underwent an elective TURP, with 26 g of prostatic tissue resected. Histology of the prostatic tissue demonstrated nodular hyperplasia with atypical stromal cells, in keeping with STUMP. At follow-up 4 months after TURP, he was well and free from recurrent urinary symptoms.

Discussion

STUMP is a rare proliferative lesion with few reported cases. Classically, patients present in the sixth and seventh decade of life. The most common clinical manifestations are urinary retention, followed by haematuria or

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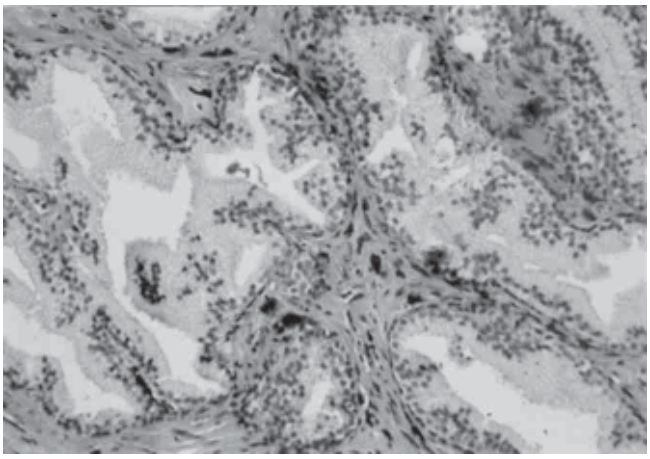

Fig. 1. Atypical stromal cells with hyperchromatic smudged nuclei lying in between benign hyperplastic glands.

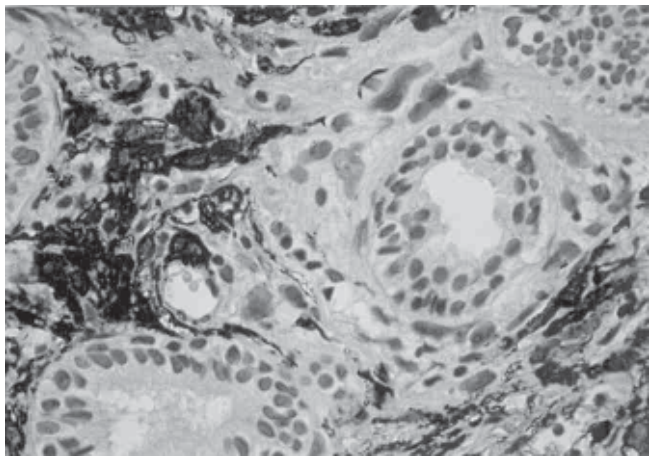

Fig. 2. CD34 immunostaining of atypical stromal cells revealing cytoplasmic reactivity.

haematospermia. Abnormal digital rectal examination and a palpable rectal mass may be noted.[1]

STUMPs arise mostly from the posterior prostate and protrude basally, and have the potential to infiltrate the entire prostate gland, as well as the adjacent tissues.[2] There is also a relatively high recurrence rate.[1,2] Most cases of STUMP do not behave in an aggressive manner. However, local recurrence may still occur rapidly even after resection and occasionally progress to prostatic stromal sarcoma (PSS).[1-3]

Despite aggressive local resection or radical surgery, 46% of patients with prostatic STUMP will show local recurrence.[1,2] Five per cent of patients may progress to PSS.[1-3] Although distant metastasis was not observed in prostatic STUMP, 25% of patients with PSS develop distant metastasis, most commonly in the lungs and bones.[1]

Histology is analysed by the extent of stromal cellularity, presence of mitotic figures, necrosis, and stromal overgrowth.[1,3] Four histological patterns of prostatic STUMP were identified:

1. Hypercellular stroma with scattered cytological atypia associated with benign glands (Fig. 1).
2. Hypercellular stroma with minimal cytological atypia associated with benign glands.
3. Hypercellular stroma with or without cytological atypia associated with benign glands in a "leaf-like" growth pattern that resemble phyllodes tumours.
4. Hypercellular stroma without cytological atypia and without glands.

Generally, PSS shows greater cellularity, mitoses, necrosis, and stromal overgrowth than prostatic STUMP.[1]

The immunohistochemical profile of both prostatic STUMP and PSS demonstrate positive reactivity for CD34, which may aid in distinguishing them from other prostatic mesenchymal neoplasms such as rhabdomyosarcoma or leiomyosarcoma (Fig. 2).[1,3] Both STUMP and PSS involve hormonally responsive prostatic mesenchymal cells because they characteristically express progesterone receptors (PR) and to a lesser extent, oestrogen receptors (ER).[4-6] PSS is generally negative for HHF-35, smooth muscle actin and desmin, in contrast to prostatic STUMP, and this may also serve as a method of differentiation between these 2 neoplasms.[1,5]

Our patient, who presented with the classical triad of symptoms, was investigated thoroughly and treated aggressively. In view of the risk of recurrence and possibility of progression to frankly malignant PSS, close surveillance involving long-term follow-up and appropriate urological investigations or procedures will be required.[2] Fortunately, our patient has not shown any evidence of recurrence or progression to malignant PSS to date. In conclusion, although the definitive treatment of STUMPs is still unclear due to their rarity, further research and reports characterising these lesions and their behaviour will provide better understanding and insights in the development of optimal therapy.

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