CASE REPORT

Osteitis pubis after standard bipolar TURP surgery: insight into aetiology, diagnosis, management and prevention of this rarity

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SUMMARY

Transurethral resection of the prostate (TURP) surgery is standard treatment for symptomatic benign prostatic hyperplasia when medical therapy has failed. We describe a rare case of osteitis pubis secondary to a prostatico-symphocoele sinus after standard bipolar TURP surgery. We also discuss diagnostic techniques and management strategies, and provide an insight into the aetiology of this rare phenomenon. Conservative management with intravenous antibiotics and an indwelling catheter was successful in our case. Treatment in more severe cases may include laparotomy with peritoneal or omental interposition or open retropubic radical prostatectomy to remove the entire sinus tract.

BACKGROUND

Transurethral resection of the prostate (TURP) surgery is standard treatment for symptomatic benign prostatic hyperplasia (BPH) when medical therapy has failed.¹ Over the past two decades, laser and bipolar electrocautery technologies have developed as alternatives to monopolar TURP.¹ Conventional bipolar electrocautery TURP remains widely performed due to its success and low complication rates. We describe a rare complication post-TURP surgery—osteitis pubis secondary to a prostatico-lymphocoele sinus tract. While this complication appears well documented after PVP surgery, it has not been described in large historic series of standard bipolar TURP.

CASE PRESENTATION

An 83-year-old previously fit man presented with a 10-month history of malaise, suprapubic pain, reduced mobility and recurrent symptomatic urinary tract infections (UTIs). He had undergone a repeat TURP (pathology 10 g BPH). His early postoperative course had been complicated by urosepsis and a groin abscess treated by intravenous antibiotics and percutaneous drainage. History included previous TURP surgery 10 years prior (pathology 40 g BPH).

INVESTIGATIONS

Routine blood investigations showed a haemoglobin level of 10.8 g/dL, white cell count $12 \times 10^9/L$ and C reactive protein level 14.2 mg/L. Serum urea and creatinine levels were within normal limits. A mid-stream urine sample was negative for culture and sensitivity. Work up including X-ray, cystoscopy and CT scan was not diagnostic, but multiplanar

MRI (with gadolinium contrast) demonstrated a urethra-pubis sinus tract, enhancement of the pubic bones, lymphocoele fluid collections, and associated myositis of the adductor and pectineus muscles (figure 1A–C). The sinus from the bladder neck to symphysis pubis was confirmed with fluoroscopic cystography (figure 1D). Diagnostic aspirate from the lymphocoele tract cultured Methicillin-resistant *Staphylococcus aureus* (MRSA).

DIFFERENTIAL DIAGNOSIS

The differential diagnosis at presentation included prostate cancer, bladder cancer, UTI and chronic symphyseal injury. In young females presenting with similar symptoms, it is important to rule out gynaecological conditions, as tubal pregnancies and pelvic inflammatory disease can present with suprapubic pain. Occasionally, suprapubic pain in young athletes may be due to prostatitis, acetabular labral tears and abdominal muscle strains. Stress fractures, tendon injuries, bursitis and pubic stress fractures should also be considered in the differential diagnosis.

TREATMENT

Antibiotic therapy included intravenous vancomycin for 14 days followed by oral co-trimoxazole and doxycycline for a further 4 weeks. A urethral catheter was inserted and maintained on continuous drainage for 8 weeks to promote healing of the sinus tract.

OUTCOME AND FOLLOW-UP

Repeat MRI scan after 8 weeks demonstrated resolution of the sinus tract with reduction of fluid collection and surrounding oedema (figure 2). The patient remains asymptomatic without infection relapse after 3 months.

DISCUSSION

TURP surgery is standard treatment for symptomatic BPH when medical therapy has failed.¹ Over the past two decades, bipolar electrocautery has developed as an alternative to conventional monopolar TURP.¹ Bipolar electrocautery TURP is associated with low complication rates. We describe a case of osteitis pubis secondary to a prostatico-symphocoele sinus tract after bipolar TURP surgery and discuss different management strategies for treating this unusual complication.

Eight similar cases are described in the literature but the majority relate to osteitis pubis as a

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Figure 1 Osteitis pubis secondary to a prostatico-symphocoele sinus after standard bipolar transurethral resection of the prostate (TURP) surgery. (A) X-ray of the pelvis demonstrating sclerosis in relation to the symphysis pubis (arrow) with cortical irregularity consistent with associated osteomyelitis. (B) Transverse T1-weighted MRI pelvis with fat saturation and intravenous gadolinium contrast demonstrating an enhancing tract communicating between bladder neck and pubic symphysis (arrow). (C) Midline sagittal T2-weighted image with fat saturation demonstrating communication between bladder neck and pubic symphysis (arrow). (D) Fluoroscopic cystogram demonstrating extravasation of contrast from the bladder neck (arrow) to the symphysis pubis consistent with a fistula.

complication of photo-selective laser vaporisation of prostate (PVP).^{2–6} In those reports, diagnosis was difficult and delayed as patients presented with non-urolological symptoms such as suprapubic pain, and were referred to orthopaedic and infectious disease specialists before urology. Conservative treatment included aspiration and/or debridement of the pubic symphysis with intravenous antibiotics. Treatment in more severe cases included laparotomy with peritoneal or omental interposition or open retropubic radical prostatectomy to remove the entire sinus tract.^{2–5}

It is postulated that osteitis pubis and associated sinus tract after PVP surgery can develop after an intraoperative capsular perforation and/or periprostatic tissue ischaemia.² With PVP, a coagulated hypovascular zone that is up to 11 mm in depth develops beyond the visualised field.⁷ This hypovascular zone may necrose, leading to suprapubic discomfort, voiding dysfunction and fistula communication with adjacent structures.

Figure 2 Midline sagittal T2-weighted image with fat saturation demonstrating resolution of the sinus tract (arrow) with reduction of fluid collection and surrounding oedema.

Judicious use of laser coagulation and insertion of a urethral catheter with traction may prevent tissue necrosis that is associated with the development of a sinus. The area at maximum risk is the anterior commissure and anterolateral aspect of the prostate, where the prostate capsule is at its thinnest.⁷

Perhaps this late and rare complication remained undiagnosed historically in the era before MRI was introduced. Regarding the aetiology of this case report, this was a repeat TURP surgery. For that reason, the anterior commissure may have been thinner, increasing risk. Another contributing factor may be the current use of TV monitoring during TURP surgery in contrast to direct vision resection telescopes. The advent of monitors facilitates angulation of the resectoscope and deeper resection at the anterior commissure as opposed to the more limited access in the area provided by historic direct vision endoscopy.

Learning points

- ▶ This rare case of prostate-symphysis sinus after standard bipolar transurethral resection of the prostate (TURP) surgery may have been predisposed by previous TURP surgery and by current TV monitoring allowing greater angulation of the resectoscope.
- ▶ The clinical presentation was non-specific and diagnosis was by MRI scan.
- ▶ Conservative management with intravenous antibiotics and indwelling catheter was successful in this case.

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