Unexpected outcome (positive or negative) including adverse drug reactions

A rare complication of suprapubic catheterisation following pelvic reconstructive surgery for urinary incontinence

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Summary

Suprapubic (SP) catheterisation is commonly used for drainage of the bladder following pelvic surgery. Although it is a widely employed procedure, it is not without complications, such as infection and blockage. The authors report a rare complication of SP catheterisation involving a persistent SP catheter site fistulous tract and an infected haematoma significantly complicating a patient's postoperative course. Wound debridement, bladder drainage and a prolonged course of antibiotics were employed to successfully treat this complication. The exact mechanism of her complication is only speculative, however to our knowledge no similar cases of a fistula after removal of a SP catheter used for short-term bladder drainage have been reported.

BACKGROUND

Suprapubic (SP) catheterisation is commonly used for drainage of the bladder following pelvic surgery. Although it is a widely employed procedure, it is not without complications, such as infection and blockage.¹ We report a rare complication of SP catheterisation following a combined abdominovaginal fascial sling procedure for urinary incontinence. With mixed evidence in the literature and a lack of clear guidelines regarding the use of SP catheterisation, our case illustrates the need for an elevated index of suspicion regarding uncommon complications that may result with this type of bladder drainage. In our patient's case, the development of a haematoma in the space of Retzius contributed to infection of the SP catheter site in her bladder and should be an indication for closer monitoring for fistula formation.

This case will add to the existing literature and possibly help to identify those patients at particular risk for such a complication.

CASE PRESENTATION

A 63-year-old multiparous woman presented with persistent stress urinary incontinence (SUI) following a minimally invasive mid-urethral incontinence procedure (tension free vaginal tape) in conjunction with anterior colporrhaphy with porcine dermis graft (pelvisoft) and sacrospinous ligament vault suspension. She has had a previous dilatation and curettage and a lumpectomy of her left breast with benign findings. Her history also included hypertension and dyslipidaemia.

Urodynamics confirmed persistent SUI and severe intrinsic sphincter deficiency. The patient elected to undergo a repeat surgical repair. A combined abdominovaginal fascial sling procedure was performed without complication. Cystoscopy at the conclusion of the procedure confirmed the integrity of the urethra, trigone, bladder mucosa and bilateral ureteral function. A SP catheter was inserted into

the bladder under direct cystoscopic guidance at this time. Insertion of the SP catheter was also without complication.

Postoperatively, the patient was transfused with two units of packed red blood cells due to a significant drop in haemoglobin. A pelvic ultrasound on postoperative day two demonstrated a haematoma in the space of Retzius. Following close clinical observation and repeat blood work, which evidenced a stable haemoglobin level, further surgical intervention was not warranted. She was discharged in good condition on postoperative day 4 following discontinuation of the SP catheter and a successful voiding trial. A follow-up ultrasound was arranged to re-evaluate her retropubic haematoma on postoperative day (WHEN).

Approximately 10 days postoperatively, the patient developed a urinary tract infection and urinary incontinence. Induration of the abdominal wound and haematuria was also evidenced.

INVESTIGATIONS

Pelvic ultrasound on postoperative day 10 demonstrated a complex fluid collection measuring 12 cm by 7 cm by 8 cm in the space of Retzius consistent with a haematoma. On cystoscopy, the haematoma was seen to be impinging on the anterior wall of the bladder (figure 1). Furthermore, the SP catheter site at the bladder dome appeared to be erythematous and distended. Liquefied haematoma and pus was seen draining through this site when the area of the haematoma on the abdomen was massaged.

DIFFERENTIAL DIAGNOSIS

We suspected that the SP catheter site failed to heal initially due to infection resulting in contiguous spread to the rectus haematoma through this persistent tract. The infected haematoma was then draining through the persistent SP catheter site into the bladder resulting in haematuria and interfering with healing. This likely facilitated fistulisation of the tract (figure 1).

Figure 1 Anterior bladder wall demonstrating fistulous tract.

TREATMENT

During a repeat cystoscopy performed 4 weeks following her initial surgery, the abdomen was massaged to partially evacuate the haematoma through the bladder, followed by copious bladder irrigation. A drain was placed in the space of Retzius under ultrasound guidance to facilitate evacuation of the haematoma. An indwelling Foley catheter was left in place for 3 weeks. Clindamycin and gentamicin were administered intravenously for 4 days followed by oral ciprofloxacin and clindamycin for a period of 7 days.

OUTCOME AND FOLLOW-UP

Repeat ultrasound 1 week later demonstrated reduction in size of the haematoma. The abdominal incision was debrided and all granulation tissue was excised. A cystogram and repeat cystoscopy confirmed intact bladder mucosa, and that the previous SP catheter site had healed. Follow-up at approximately 11 weeks after the initial sling procedure confirmed that her abdomen had healed well.

DISCUSSION

Previously reported complications of SP catheterisation include bowel injury, catheter blockage or replacement, urinary tract infections and haematuria.^{1 2} In the case of our patient, the rare occurrence of a persistent patent SP catheter site tract and an infected haematoma significantly complicated her postoperative course. The exact mechanism of her complication is only speculative, however to our knowledge no similar cases of a fistula after removal of a SP catheter used for short-term bladder drainage have been reported. Cundiff and Bent describe a case of bowel perforation following SP catheter insertion following pelvic surgery,² however this was an intraoperative complication as opposed to a postoperative one.

There is a lack of consensus in the literature regarding the best practice for bladder drainage following urinary incontinence surgery. There has been reported evidence that SP catheters have advantages over transurethral catheters with regard to bacteriuria, recatheterisation and discomfort.³ However, recent studies comparing the two methods of urine drainage following vaginal pelvic surgery show no significant difference in rate of urinary tract infections,⁴⁻⁷ but higher rate of other complications with the SP method.⁶ With mixed evidence in the literature and a lack of clear guidelines, our case illustrates the need for vigilant monitoring for postoperative complications of SP catheters. In our patient's case, the development of a haematoma in the space of Retzius contributed to infection of her SP catheter site and should be an indication for closer monitoring.

Learning points

- ▶ Disagreement exists in the literature regarding the incidence of urinary tract injury with respect to SP versus transurethral bladder drainage following pelvic surgery.⁴⁻⁷
- ▶ SP catheters are associated with earlier trial of voiding, and lower rates of recatheterisation and patient discomfort.^{3 7}
- ▶ Pelvic haematoma, particularly in the space of Retzius, should raise suspicion regarding the possibility of bladder fistula formation.

Competing interests None.

Patient consent Obtained.

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