CASE REPORT

Pelvic gossypiboma with spontaneous intravesical erosion

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SUMMARY

A 23-year-old man presented with chronic lower urinary tract symptoms and right flank pain. He had undergone ureterolithotomy a few years ago. Ultrasonography and CT of the abdomen and pelvis showed a right paravesical mass and proximal hydroureteronephrosis. Cystoscopic examination revealed a part of surgical gauze embedded in the right lateral wall of the bladder. The surgical gauze was completely retrieved with grasping forceps without any additional procedures. The patient experienced prompt relief of his symptoms and at follow-up, imaging studies revealed resolution of the pelvic mass and non-obstructed clearance of right-side collecting system. Pelvic gossypiboma with partial intravesical erosion is an unusual presentation and can be managed successfully by cystoscopic manipulation.

BACKGROUND

Gossypiboma is a dreaded surgical mishap that a surgeon would never wish to face during one's surgical career. Although it is uncommon, most gossypibomas have been reported to occur after intra-abdominal procedures.¹ They possess significant diagnostic challenges due to highly variable delay in presentation after the index surgery and also by its clinical and radiological masquerades.

There have been few reported cases of gossypiboma with intravesical erosion and the literature is even more dearth regarding successful endoscopic removal of partially embedded intravesical gossypiboma.² Herein we like to highlight that endoscopic management of pelvic gossypiboma with partial intravesical erosion is a feasible option.

CASE PRESENTATION

A 23-year-old man presented with irritative lower urinary tract symptoms (LUTS) and right-flank pain of 6 months duration. There was no history of fever, vomiting, haematuria or obstructive LUTS. The patient had undergone right open lower ureterolithotomy 3 years before at an outside institution. The physical examination did not reveal any abnormality except for the surgical scar.

INVESTIGATIONS

The patient had normal renal function and his urine examination showed sterile pyuria. Ultrasonography of the urinary tract showed poorly defined hyperechoic lesion of 6.0 cm in greatest diameter in right side of the pelvis with proximal hydroureteronephrosis. Contrast-enhanced CT of the abdomen and pelvis revealed a heterogeneous soft tissue density mass in right paravesical region with the displacement of the urinary bladder and hydroureteronephrosis (figure 1A, B). In view of gross displacement of the right side of the bladder wall, the patient underwent cystoscopy to rule out infiltration of the bladder wall and to our surprise part of a surgical gauze seen protruding from the right lateral wall (figure 2). Rest of the bladder mucosa appeared normal.

TREATMENT

The surgical gauze was found to erode approximately 1 cm of the bladder wall which on further manipulation with the help of alligator jaw grasping forceps, removed in its entirety (figure 3). We did not see any associated intravesical calculus which

Figure 1 (A) CT of abdomen and pelvis showing right-side paravesical mass. (B) Coronal image of delayed phase showing right proximal hydroureteronephrosis.

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Figure 2 Cystoscopic view showing partially intravesical erosion of surgical gauze.

may require additional instrumentations, like lithotrite or energy devices, to crush or break up the associated stone.

OUTCOME AND FOLLOW-UP

The postoperative course was uneventful and the patient eventually discharged on the second postoperative day. He improved symptomatically and at 3 months follow-up, CT scan (figure 4) and the renal dynamic scan revealed resolution of the pelvic mass and non-obstructed clearance on the right side, respectively.

DISCUSSION

The term 'gossypiboma' is derived from Latin word *gossypium* to denote cotton and the Swahili word *boma* to denote the place of concealment.¹ The true incidence of gossypiboma is unknown, although estimates suggest that such retained foreign bodies (RFB) occur one in every 1000 to 1500 intra-abdominal operations.³ An emergency procedure, unplanned change in the procedure performed and body mass index were associated with increased risk of retained foreign body.⁴

Any pelvic foreign body has a potential ability to erode or transmigrate into the bladder wall. A variety of pelvic foreign bodies have been reported to transmigrate into the urinary bladder including surgical gauze, intrauterine device, metal wire.⁵ The presentation of RFB is highly variable with 40% of gossypiboma being discovered in 1 year and that 50% are identified 5 years or more after surgery.⁶ Our patient presented nearly after two and half years after the index surgery which suggests the time taken for the spontaneous erosion of the urinary bladder by the then silent pelvic gossypiboma resulting in irritative LUTS.

Figure 3 Surgical gauze retrieved by endoscopic manipulation.

Figure 4 Follow-up CT showing resolution of pelvic mass.

Intravesical gossypiboma presents with a myriad of symptoms with wide variable manifestations and complications, making a diagnostic dilemma with significant patient morbidity. Complications such as recurrent urinary tract infections, urosepsis, acute urinary retention, obstructive uropathy, fistulae can occur.⁵ Hence a high index of suspicion for intravesical gossypiboma should be kept in the differential diagnosis of all postoperative patients following pelvic surgeries who present with chronic irritative LUTS.

Ultrasonography is usually the initial investigation to be done with non-radiopaque foreign bodies having varied appearance depending on the acoustic impedance.⁷ However, CT scan would be the best diagnostic modality to diagnose gossypiboma although there is no pathognomonic sign.¹ RFB especially the surgical gauze or sponge appear as soft tissue density mass with a typical whorled or spongiform pattern due to trapped air bubbles on CT scan.⁸ Cystoscopy is performed to confirm the presence as well as to identify the type and location of an intravesical foreign body. In some cases, it can be therapeutic too.⁵

Although initial management consists of treatment of presenting symptoms like irritative voiding LUTS, lower abdominal pain and urinary tract infections, the definitive management of intravesical gossypiboma is complete removal of the foreign body by endoscopic, percutaneous, laparoscopic or open surgery depending on the clinical presentations.^{2, 5} Open surgical exploration of intravesical gossypiboma can be associated with perforation of adjacent bowel due to dense adhesions.¹ Endoscopic removal of intravesical gossypiboma is possible in some cases and should be tried initially.² Additional procedures like cystolitholapaxy required in cases of associated bladder calculi.⁵

Studies have shown open, laparoscopic, combined laparoscopic-endoscopic removal of intravesical foreign bodies;⁹ however, there is a paucity of literature with only a few reported cases of entirely cystoscopic removal of partially embedded intravesical gossypiboma.² Our patient is one of the cases in which the pelvic gossypiboma partially eroded the urinary bladder. There was no associated intravesical calculus formation. We completely retrieved the surgical gauze cystoscopically without any additional procedures. We did not encounter any intraoperative or postoperative complications.

Gossypiboma is definitely a nightmare to the surgeon and should be avoided. The occurrence of RFB can be prevented by sponge or gauze counting before the start of the procedure, before closure of a body cavity, before wound closure and at skin closure.¹⁰ However if occurred, among the various surgical techniques available, cystoscopic removal of pelvic gossypiboma with partial intravesical erosion is a feasible option.

Learning points

- ▶ Pelvic gossypiboma with spontaneous intravesical erosion is an unusual presentation.
- ▶ A high index of suspicion is critical in facilitating early detection and prevention of severe morbidities.
- ▶ Among various surgical techniques, cystoscopic retrieval is one of the feasible options.

Contributor We certify that we have participated sufficiently in the intellectual content, conception and design of this work or the analysis and interpretation of the data (when applicable), as well as the writing of the manuscript, to take public responsibility for it and have agreed to have our name listed as a contributor. Contributor statement is correct.

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