Case Report

Anterior perineal hernia after anterior exenteration

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Abstract
Perineal hernia is a rare complication of anterior exenteration. We reported this complication after an anterior exenteration for bladder cancer with bleeding complication requiring packing and second-look laparotomy. Perineal approach is a simple and effective method for repair of perineal hernia.

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1. Introduction

Perineal hernia is a rare complication of anterior exenteration [1–4]. Diagnosis requires careful history taking and physical examination with high level of suspicion. Imaging such as ultrasonography or computed tomography (CT) helps to confirm the diagnosis [2,5]. Different surgical approaches have been adopted to the repair of perineal hernia [3,6]. We reported the management of this complication after an anterior exenteration for bladder cancer with bleeding complication requiring packing and second-look laparotomy.

2. Case presentation

We report a case of a 63-year-old female who suffered from anterior perineal hernia after anterior exenteration for bladder cancer. She had history of diabetes mellitus, hypertension, bronchiectasis and transabdominal hysterectomy with bilateral salpingo-oophorectomy in 1990s for a benign pathology. She first presented with mucus in her urine in 2013. Subsequent flexible cystoscopy revealed a 2 cm sessile mass at the trigone. Transurethral resection of the bladder tumor was performed and histopathology showed adenocarcinoma with detrusor muscle invasion. CT scan showed no upper tract lesions or
lymph node metastases. Colonoscopy was performed to rule out a primary colonic tumor and the result was normal. Anterior exenteration was performed in May 2013. Unexpectedly dense adhesions were found between the anterior rectal wall and posterior bladder wall during the operation. The surgeons decided to resect the bladder and urethra en-bloc with the proximal rectum and distal sigmoid colon. However, there was profuse venous bleeding from pre-sacral venous plexus after colorectal dissection. It was partially controlled with pins and tacker screws. The pre-sacral area was further packed with gauze roll. Both ureters were brought out through the inferior part of the main wound.

Second-look laparotomy was performed 2 days later. Hemostasis was achieved. An ileal conduit was fashioned. Colorectal anastomosis was performed 6 cm above the anal verge with Covidien EEA™ 28 mm stapler. A defunctioning transverse colostomy was fashioned which was eventually closed 6 months later. Final histopathology of the specimen was pT2a adenocarcinoma of the bladder with clear resection margin.

She complained of a labial mass since the early postoperative period. Serial CT scans however showed no evidence of recurrence until she was found to have a suspected perineal hernia during physical examination in May 2015 (Fig. 1). CT pelvis with Valsalva maneuver revealed a wide-necked anterior perineal hernia containing ileum situated anterior to the superficial transverse perineal muscles (Fig. 2). Transperineal repair of the hernia was performed in the lithotomy position. The incision was made lateral to the left labia majora. Further dissection deeper down revealed a 4 cm defect lateral to the left side of the vagina and anterior to the superficial transverse perineal muscle. The defect was covered with a tailored polypropylene Prolene™ mesh and anchored with 2-0 non-absorbable polyester Ethibond™ suture. It was sutured anteriorly to the pelvic floor and inferior pubic rami, posterolaterally to the sacrospinous ligament and posteriorly to the perineal body.

Postoperatively the wound was complicated with superficial wound abscess which was managed with incision and drainage. The mesh was not involved. There was no recurrence of the perineal hernia at last follow-up visit in the outpatient clinic 8 months after surgery.

3. Discussion

Perineal hernia is the protrusion of intraperitoneal or extraperitoneal contents through a congenital or acquired defect of the pelvic diaphragm. The first case was reported in 1743 [7]. Anatomically, perineal hernia can be classified into anterior or posterior form based on their position relative to the superficial transverse perineal muscle (Fig. 1). Primary perineal hernia is rare [1–4]. Perineal hernia is usually secondary to complications of pelvic operations. The prevalence of secondary perineal hernia was reported up to 7% after pelvic exenteration but less than 1% after abdominoperineal resection [8,9]. The actual prevalence is however believed to be higher as the patients are commonly asymptomatic [5]. Predisposing factors include female gender, extensive pelvic resection especially pelvic exenteration, previous hysterectomy, radiotherapy and presence of infections [6,8]. The reported patient had multiple predisposing factors for perineal hernia including female gender, history of hysterectomy and anterior pelvic exenteration. Extensive dissection of the pelvis may disrupt the anatomy of the pelvis, leading to subsequent perineal hernia formation.

Perineal hernia usually occurs within the first year after the pelvic operations [6,10]. Patients can manifest clinically as a unilateral bulge in the area of the labia or gluteal or perineal region. Careful physical examination usually reveals a perineal swelling with a positive cough impulse. The diagnosis can be supported by sonography or CT scan with Valsalva maneuver as illustrated in this patient [2,5].

Surgical repair of perineal hernia is indicated for symptomatic control as well as prevention of complications such as small bowel obstruction and strangulation [6]. There is no single best treatment approach. Perineal hernias can be repaired through transabdominal, perineal, or combined abdomino-perineal approaches [3,6]. The advantages and disadvantages of different approaches are summarized in Table 1. Limited data suggested perineal approach is associated with higher recurrence rate [6,10]. This may be explained by poor fixation of mesh due to limited exposure in perineal approaches. But the results were largely limited by...
we reported an uncommon complication of anterior perineal hernia after anterior pelvic exenteration. Perineal approach is a simple and effective method for repair of perineal hernia.

4. Conclusion

We reported an uncommon complication of anterior perineal hernia after anterior pelvic exenteration. Perineal approach is a simple and effective method for repair of perineal hernia.

Conflicts of interest

The authors declare no conflict of interest.

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Table 1 Advantages and disadvantages of different approaches to perineal hernia (Summarized from Stamatiou et al. [4]).

| Approaches                        | Advantages                                                                 | Disadvantages                                                                 |
|-----------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Trans-abdominal                   | Optimal exposure for dissection and reduction of hernia sac; Possible for simultaneous trans-abdominal procedure; Better mesh fixation; Feasible for minimally-invasive approaches | Need for more pelvic dissection; More morbidity                              |
| Perineal                          | Simplest; Less morbidity                                                    | Suboptimal exposure for dissection and reduction of hernia sac; Difficult mesh fixation Increased magnitude of operations; More morbidity |
| Combined abdomino-perineal        | Best for complex cases; Best exposure                                      |                                                                               |