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Totally laparoscopic treatment of vaginal cuff dehiscence: A case report and systematic literature review

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ABSTRACT

INTRODUCTION: To highlight the laparoscopic management as a feasible treatment option for vaginal cuff dehiscence with intestinal evisceration after hysterectomy.
PRESENTATION OF CASE: We report a rare case of a 49-year-old postmenopausal woman who was admitted to the emergency department with vaginal herniation of approximately 40 cm of small bowel 3 months after total laparoscopic hysterectomy, treated laparoscopically exclusively.
DISCUSSION: The patient underwent a laparoscopic reduction of the protruded mass, inspection of the entire small bowel and closure of the vaginal dehiscence. She was discharged home in a good health and the postoperative course remains uneventful 6 months later.

Our systematic review of the literature found 116 cases of vaginal evisceration, which were described as early as 1864. There is no consensus on the ideal method of surgical repair. To our knowledge, only 2% (3 cases) were treated totally laparoscopically and 10% by a combined approach (laparoscopic and vaginal). Although the current evidence does not suggest that one approach is preferred to the others, the laparoscopic approach seems to be the new trend for the management of this surgical emergency.
CONCLUSION: Totally laparoscopic repair in experience hands seems to be a safe approach to cure vaginal evisceration after pelvic surgery.

1. Introduction

Vaginal evisceration is a relatively rare event with a significant risk of morbidity and mortality if the diagnosis and treatment are delayed. Since the first case reported in 1864 by Hyernaux [1], to date, only 116 cases have been described worldwide [2].

Vaginal cuff dehiscence and evisceration are serious postoperative complications after pelvic surgery and especially hysterectomy, requiring prompt resuscitation and surgical intervention. Vaginal evisceration can occur at any time after an hysterectomy and has been reported as early as 3 days and as late as 30 years postoperatively [3,4]. The most common organ to eviscerate through the vagina is the terminal ileum, but there have also been cases reported of evisceration of omentum, colon, salpinx and the appendix through the vagina [3,5].

There is no consensus on the ideal method of surgical repair. Possible approaches include transvaginal, transabdominal, laparoscopic or a combination of these. Although the laparoscopic approach seems advantageous avoiding associated morbidity of laparotomy, it has been very rarely reported in the literature as a treatment option.

In our paper, we report a case of vaginal cuff rupture with small bowel herniation, describe the most important risk factors, review the literature concerning this issue and highlight the laparoscopic management as a feasible treatment option for this surgical emergency.

2. Presentation of case

A previously healthy 49-year-old postmenopausal woman was admitted to the emergency department complaining of acute onset of lower abdominal pain and a mass, consisted of a part of small bowel, protruding from the vagina. A detailed history revealed that the patient had engaged in intercourse, without the use of foreign bodies, 6 h prior to presentation. During straining on defecation, she felt fullness between her legs with a loop of bowel prolapsing of her vagina.

From her medical history, she had undergone a total laparoscopic hysterectomy for multiple episodes of menorrhagia because of a leiomyoma 3 months ago. She had an uncomplicated course after her hysterectomy, she was not receiving hormonal

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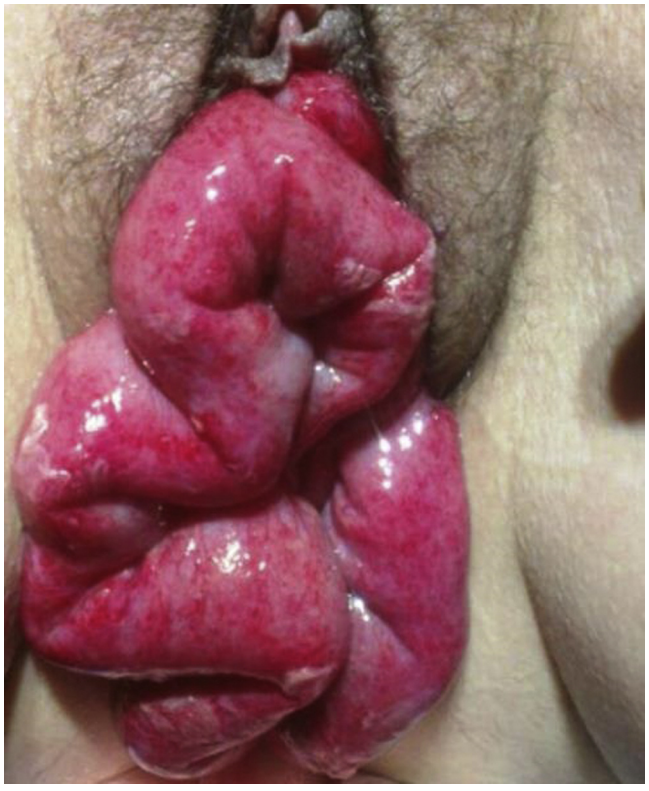

Fig. 1. Vaginal herniation of intestinal content.

replacement therapy or steroids and she was sexually active without history of vaginal trauma.

Upon admission to the emergency department, she was hemodynamically stable with significant lower abdominal pain, abdominal tenderness and distension without peritoneal signs. The pelvic examination showed an evisceration of approximately 40 cm of small bowel through the vagina (Fig. 1). The intestinal loops were congested, erythematous and edematous without signs of ischemia and with contraction when touched.

A detailed blood test revealed only a mild leukocytosis without excess of lactate. No radiological exam was performed. The protruded mass was wrapped in sterile warm saline solution-soaked gauze, intravenous fluid replacement and prophylactic broad spectrum antibiotics were administrated and finally the patient was immediately conducted to the operating room.

After induction of general anesthesia, the patient was placed in the lithotomy position. An abundant washing of the protruded bowel as well as a failed maneuver to reduce it intraperitoneally from the vagina were undertaken. The decision was, therefore, made to proceed to a diagnostic laparoscopy and repair. The patient was placed in the Trendeleburg position. We used 4 ports: a 10-mm infra-umbilical laparoscopic port, a 5-mm left lateral flank port, a 5-mm right lateral port and a 5-mm lower left port. The herniated bowel, which seemed to be a part of the ileum, was carefully reduced into the abdominal cavity laparoscopically, by using blunt and atraumatic graspers. Surgical packs were inserted in the vagina to maintain the pneumoperitoneum and helped us to trace a 5 cm horizontal dehiscence of the vaginal cuff (Fig. 2).

We started with the exploration of the abdominal cavity which did not reveal any significant abnormality. There was no abnormal intra-abdominal liquid, the small bowel was inspected by running it with atraumatic laparocopic forceps from the ligament of Treitz to the ileocaecal valve and was free of adhesions. The herniated portion of what appeared to be ileum (40 cm) was erythematous but was clearly viable without signs of ischemia or perforation.

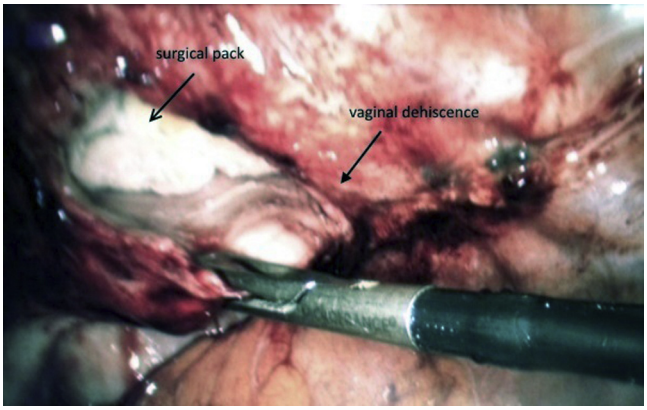

Fig. 2. Laparoscopic aspect of vaginal cuff dehiscence.

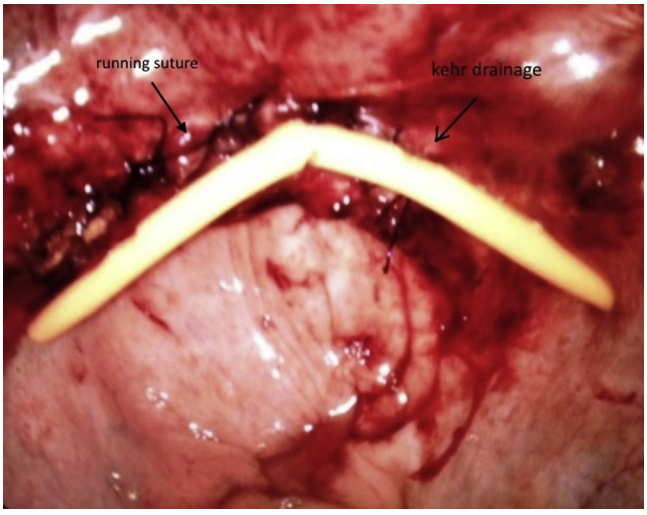

Fig. 3. Suture of vaginal cuff and drainage.

There was no evidence of intra-abdominal or pelvic abscess. The vaginal cuff appeared wide open. The wound edges were hypertrophic but without inflammation or signs of malignancy and the tissue seemed to be viable and proper for suture. The vaginal cuff was mobilized laparoscopically, was closed with a running Vicryl absorbable suture without problem and was catheterized with a Kehr drain (Fig. 3). The operation was ended by a copious irrigation of the abdominal cavity.

The postoperative course was uneventful. The drain as well as the intravenous antibiotics was removed on the third postoperative day and the recovery was supported by laxatives to prevent constipation and straining on stool. The patient remained stable hemodynamically and she was discharged home on the fourth postoperative day. A 6 month follow-up speculum examination revealed a complete healing of the dehiscence without any abnormality and the patient reports lack of any symptom, even after the resumption of her sexual life from 6 weeks after her operation.

3. Discussion

Vaginal cuff rupture and evisceration are a rare surgical complication of pelvic surgery, specifically hysterectomy, which can be even life threatening if it is misdiagnosed. Mainly bowel evisceration can lead to very serious complications as thromboembolism, septicemia, bowel infarction, ileus, bowel necrosis and peritonitis. Early recognition and prompt surgical intervention are imperative