CASE REPORT

Laparoscopically assisted repair of vaginal evisceration after hysterectomy

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SUMMARY

Vaginal evisceration is a rare condition most commonly associated with previous vaginal surgery. It usually presents with vaginal bleeding, lower abdominal pain and a protruding mass, and requires immediate assessment and surgical management to salvage the prolapsed bowel. Any delay in the treatment may result in bowel ischaemia and perforation which is associated with higher morbidity and mortality. We report a case of spontaneous vaginal evisceration during defaecation in a 56-year-old postmenopausal woman 11 months post hysterectomy. This case highlights the benefits of a combined laparoscopic and transvaginal approach in the successful management of this surgical emergency.

BACKGROUND

Vaginal evisceration is a relatively uncommon condition; since the first reported case in 1907,¹ there have been just over 120 cases² in the literature to date. It is frequently seen after vaginal surgery; although the ileum is responsible for most cases of vaginal evisceration, herniated omentum, salpinx and appendices epiploicae have also been reported.³ Prompt surgical treatment is essential to prevent complications of bowel ischaemia and strangulation. Laparoscopic or open abdominal procedures as well as transvaginal approaches have been advocated in previously published reports, but we advocate a combined laparoscopic and transvaginal method with the joint participation of both surgeons and gynaecologists.

CASE PRESENTATION

A 56-year-old postmenopausal woman presented to the emergency department with vaginal bleeding, lower abdominal pain and a protruding mass per vagina. The symptoms occurred following straining on defaecation. She had a total abdominal hysterectomy 11 months ago. Her obstetric history included two pregnancies, one of which was an ectopic pregnancy in 2005 and one normal vaginal delivery in 1999. She was sexually active and had no history of abdominal or vaginal trauma.

On examination, she was haemodynamically stable and had approximately 30 cm of small bowel together with its mesentery, eviscerated through the vaginal vault. There was no evidence of ischaemic changes to the wall of the bowel although it appeared to be slightly dilated, erythematous and oedematous. A large warm moist gauze was placed around the eviscerated intestine.

OUTCOME AND FOLLOW-UP

The patient was transferred to the operating theatre and placed in the Trendelenburg position; an examination under anaesthesia jointly with a gynaecologist revealed a large loop of small bowel protruding per vagina (figure 1). The small bowel was reduced back into the abdominal cavity laparoscopically. Pneumoperitoneum was maintained by inserting surgical packs in the vagina and the small intestine was then thoroughly examined from the ligament of Treitz to the ileocaecal valve with atraumatic laparoscopic forceps. It appeared viable with visible peristalsis and there were no signs of ischaemia or perforation. There was a 6 cm defect at the vault of the vagina (figure 2). A speculum examination did not reveal any associated risk factors for tissue weakness such as enterocoele or malignancy. The vaginal vault defect was repaired vaginally, under direct vision, with interrupted non-absorbable sutures under laparoscopic guidance to ensure that there was no injury to the bowel (figure 3). The patient had an uncomplicated postoperative recovery which was supported with intravenous broad-spectrum antibiotics and laxatives to prevent constipation and straining on stool.

Figure 1 Loop of small bowel protruding per vagina.

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Figure 2 Defect at the vault of the vagina.

DISCUSSION

Vaginal evisceration is a potentially life-threatening surgical emergency that requires immediate recognition and intervention. Evisceration is most likely to occur in women who are

Figure 3 Closure of the vaginal vault defect.

postmenopausal, multiparous and have a history of vaginal surgery.⁴ The tissues of the vulva and the vagina may become thinner, drier and less elastic due to the lack of circulating oestrogens owing to the menopause. Moreover, surgical changes following a hysterectomy result in scarred tissues with suboptimal vascularity and perfusion. In this age group, the precipitating event is most often the result of a sudden increase in intra-abdominal pressure, induced by coughing, defecating or falling, in association with an atrophic vaginal wall which is at an increased risk of rupture.

In premenopausal patients, vaginal evisceration is associated with vaginal trauma following sexual intercourse or foreign body insertion.

Vaginal evisceration after hysterectomy, such as in this case, is a rare complication and is more often seen after vaginal hysterectomy than after other types of hysterectomy.⁵

The primary step in the management of vaginal evisceration is the initial resuscitation with intravenous fluid therapy, analgesia and early antibiotic therapy. In our view, attempts to manually reduce the strangulated bowel back to the abdominal cavity followed by primary transvaginal cuff repair without laparotomy or laparoscopy, as described in other published similar cases,^{6,7} may predispose to pain and discomfort to the patient and most importantly the exerted pressure on the bowel may result to perforation at the site of strangulation. Therefore, emphasis should be placed on immediate surgical repair in order to prevent irreversible bowel ischaemia and peritonitis associated with a prolonged incarceration of the bowel and strangulation.

There are several approaches to surgical management including abdominal (open or laparoscopic), vaginal or combined laparoscopic and transvaginal approaches. These should be tailored to the patient's condition and bowel viability at the time of surgery.

If the protruding bowel is viable with no signs of ischaemia, there is a general consensus that the combined laparoscopic and transvaginal techniques are advantageous as they allow direct visualisation of the small bowel while facilitating closure of the vaginal defect. Laparoscopy is also associated with a shorter hospital length of stay; in cases that bowel resection is required, we advocate that this could be performed extracorporeally though a Pfannenstiel incision after adhesions to small bowel from previous surgery have been divided.⁸ In cases of significant pelvic and intra-abdominal contamination with small bowel contents, a trephine double-barrel ileostomy could be performed as an assisted laparoscopic procedure after adequate irrigation of

Learning points

- ▶ Evisceration is most likely to occur in women who are postmenopausal, multiparous and have a history of vaginal surgery.
- ▶ The primary step in the management of vaginal evisceration is initial resuscitation with intravenous fluid therapy, analgesia and early antibiotic therapy.
- ▶ Reduction of the bowel can either be performed in accident and emergency, but an operative approach has the benefits of no pain or discomfort to the patient as well as adequate bowel inspecting for necrosis or ischaemia.
- ▶ Operative approaches can either be laparoscopic, laparoscopically assisted or laparotomy.

the abdomen and hence avoiding the need to convert to laparotomy.

The vaginal wall defect is then repaired with interrupted synthetic monofilament non-absorbable sutures although there have been studies⁹ which support the use of a mesh to reinforce the integrity of the pelvic floor and reduce the risk of recurrence. However, the segmental small bowel resection during an emergency procedure may be associated with a higher anastomotic leak rate and the presence of a mesh in the pelvis could significantly increase morbidity and mortality. In our patient, the protruding viscus was viable and a combined approach was used to successfully manage this case.

Contributors IN, HK and GJ all wrote the manuscript and researched the background. RK was the supervising author who proofread and made corrections in the manuscript.

Competing interests None.

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