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Vaginal cuff dehiscence resulting in small-bowel evisceration. A case report

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Summary. Vaginal cuff dehiscence is a rare complication of hysterectomies which seems to be more frequent after surgery with laparoscopic suture of the cuff. We present a clinical case of evisceration of the small bowel emerging from vaginal cuff dehiscence, successfully repaired by positioning a low profile polypropylene ePTFE mesh*. (www.actabiomedica.it)

Key words: evisceration, vaginal cuff dehiscence, laparoscopy, mesh

Introduction

Vaginal cuff dehiscence is a rare complication of hysterectomy surgery with an estimated incidence between 0.24 and 0.31% (1-2). Dehiscence can cause the prolapse of the intestinal loops through the vagina in about 70% of cases (3), with a risk of ischemic damage, necrosis, peritonitis and sepsis. Vaginal evisceration is associated with significant mortality risk of 5-6% (4). The factors that can contribute to dehiscence are infection, haematomas, advanced age, collagen illnesses, smoking, sexual relations before healing is complete, previous vaginal plastic surgery, corticosteroid therapy, obesity, radiotherapy, chemotherapy and the type of surgical technique, since it is more frequent after laparoscopic repairs (5-8).

Clinical case

This is the case of a 84 years old patient, gravida 2- para 2, with a body mass index (BMI) of 19.2, who was previously operated on for genital prolapse at the age of 70 with vaginal hysterectomy, bilateral ovarian salpingectomy, uterine sacral ligament suspension (Kelly technique) and at the age of 81 for vaginal prolapse (Lahodny technique). She was referred to us reporting worsening constipation, occasional abdominal pain and vaginal discharge, followed, on the day of hospitalisation, by the appearance of a "lump" at the level of the genitals after painful defecation. Physical examination showed a 30-centimetre prolapse of ileus emerging from the vulva (Fig.1). After having positioned the patient in the Trendelenburg position, the bowel loops were cleaned, a vesical catheter was positioned and an unsuccessful attempt of reducing them was made. The ileal loops were then covered with warm and wet gauze and the patient was prepared for surgery. The surgery procedure was carried out under general anaesthesia with a naval-pubic laparotomy and the ileal loops, which appeared uncompromised, were reduced. The four-centimetre vaginal defect presented atrophic but not necrotic margins and was sutured with non-interrupted 2/0 delayed absorbable suture. After dis-

Figure 1. Bowel evisceration

infection of the abdominal surgical sites and the small bowel loops with betadine* diluted by 50% with saline, an endoperitoneal prosthesis Low-profile polypropylene ePTFE mesh* was positioned in order to reinforce the pelvic floor and the vaginal suture. A trans-parietal drainage was left in place and the abdominal wall was sutured in single layer with poly - 4 - hydroxybutyrate. The postoperative course was complicated by a post-surgical paralytic ileus which spontaneously resolved after 5 days. The patient was discharged on the fourteenth postoperative day with a Karnofsky index of 80% (9). At 1 year follow-up, the patient was well and no sign of recurrence was detected at TC scan.

Discussion

Vaginal cuff dehiscence is a rare but potentially lethal event, whose incidence is difficult to establish.

Indeed, the majority of reports in the Literature are single cases, while only 2 large series are present: a multicentric report of 38 cases out of 12,398 hysterectomies (0.31%) (2) and a single center experience with 28 cases out of 11,606 hysterectomies (0.24%) (10).

The risk factors for dehiscence can be many but have not been proven (5, 6), since the cause is poor healing of the vaginal suture associated with an excessive acute or chronic pressure on the vaginal cuff. However, cases of spontaneous dehiscence have been reported (11). Time lapse between hysterectomy and the appearance of dehiscence can vary significantly, between two weeks and a few years. Dehiscence is more premature in young women and is very often caused by early sexual relations, while in elderly women usually appears late and spontaneously (6).

In the case reported, hypoestrogenism, age-related reduced vascularisation and the two previous vaginal operations certainly contributed to impair the healing of the vaginal suture; moreover, the severe constipation reported by the patient could have promoted dehiscence.

Laparoscopic and robotic surgery approaches seem to involve higher risk of dehiscence, probably because of lesser sensitivity in tying intracorporeal knots and a more difficulty in full thickness suturing (10, 12). Moreover, when the laparoscopic approach is completed with the suture of the cuff through the vagina, the percentage of dehiscence is similar to that of vaginal and laparotomy interventions (13). Other authors, however, do not agree in considering laparoscopy as a risk factor for dehiscence (3, 11, 14).

Preventive measures are represented by a suitable antisepsis and antibiotic prophylaxis, caution in reducing any thermal injuries and bleeding prevention during the procedure; for vaginal suture it is preferable to use a delayed absorbable monofilament suture, trying not to induce ischemia to the tissue, passing the stitch at least 10 mm from the vaginal cuff edge. As the healing of the wound attains about 40% of its final strength in the first postoperative month, it is recommended to avoid sexual intercourse for at least eight weeks from surgery. In case of hypoestrogenism, some authors recommend that the healing be fostered with vaginal estrogen therapy.

The set of symptoms of vaginal cuff dehiscence includes pelvic pain, vaginal bleeding, liquid loss and a sense of vaginal obstruction (12). Diagnosis is clinical with bimanual pelvic examination, specular and ultrasound examination; further exams are required if damage to the bladder or to the intestine is suspected.

Repair techniques must be case-specific. In case of dehiscence without prolapse and without any suspicion of damage to other pelvic organs, the vaginal approach should be preferred; whereas, in other cases, based on the surgeon's experience and on the type of

damage expected, it is necessary to proceed with a laparotomic or laparoscopy approach.

In the presented case, the significant amount of prolapsed bowel loops_prompted the surgeon to perform laparotomy, in order to correctly assess possible organ damage. The repair of the vaginal dehiscence was carried out with a non-interrupted delayed absorbable monofilament suture_in order not to induce ischemia in the tissue. To protect the suture and the pelvic floor and to prevent further prolapse or dehiscence, we implanted a prosthesis with Low-profile polypropylene ePTFE mesh*, anchored to the wall of the small pelvis, whose effectiveness has already been proven in ventral hernia repairs (15).

Conclusions

This clinical case seems to indicate that age, previous vaginal surgery and constipation may represent favouring factors for vaginal dehiscence and intestinal evisceration.

A thorough assessment of the initial symptoms, which were present several days before the event, could have prevented the appearance of evisceration, which significantly increases morbidity and mortality of vaginal dehiscence. The positioning of a prosthetic pelvic mesh is a novel approach able to prevent possible recurrences.

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