

Evisceration as a complication after vaginal hysterectomy – a case report

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SUMMARY

Vaginal evisceration is a very rare gynecological complication, occurring most often after hysterectomy. The article presents a case of evisceration through the vaginal apex in a 61-year old female patient 5 months after vaginal hysterectomy. Repair surgery and resection of a necrotic fragment of the small intestine was performed with success via the laparotomic access.

Key words: vaginal evisceration; hysterectomy; vaginal cuff dehiscence

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INTRODUCTION

Vaginal evisceration, which is estimated to occur in 0.14% [1] to 0.28% [2] of cases, is a very rare gynecological complication, mostly following hysterectomy [3]. Due to the risk of intestinal necrosis, sepsis, deep vein thrombosis and peritonitis, it requires prompt surgical management [4]. The first known case of upper anterior vaginal rupture was reported in 1864 by Hyernaux. In 1901, McGregor presented a case of vaginal evisceration [5–7]. Up until 2011, approximately 127 such cases were reported [3].

CASE REPORT

A 61-year-old patient was urgently admitted to the Unit of Gynecology and Obstetrics of the Regional Specialist Hospital in Tychy, Poland. She complained about the feeling of urinary urgency persisting for the previous 3 days, which resulted in vaginal evisceration during morning micturition. Five months before, the patient had undergone vaginal hysterectomy, anterior and posterior vaginal repair as well as perineoplasty due to partial genital prolapse (with uneventful postoperative period). The patient had had two natural labors. The remaining medical history data were irrelevant. Laboratory tests revealed no abnormalities.

The physical examination demonstrated small intestinal loops protruding from the vulva (approximately 40 cm), with areas of ischemia and cyanosis (Fig. 1.). Peritoneal signs were negative. There were no other abnormalities. Following surgical consultation and a failed attempt to reposition the bowel, the prolapsed intestine was kept irrigated with a saline-saturated wrapping, and a decision about urgent laparotomy was made.

The abdominal cavity was opened with a midline incision, from the pubic symphysis to the navel. Upon opening, the small bowel with the mesentery was found prolapsed outside and the urinary bladder was full (since it was not possible to place a catheter earlier). The bowel was repositioned from the side of the vagina and the mesentery was simultaneously pulled from the side of the abdomen. The whole intestine was repositioned without inflicting damage to the mesentery. Subsequently, the urinary bladder was catheterized, which enabled better view of the surgical field of the vaginal apex through which the evisceration occurred. The vaginal tissues were found very thin, brittle and easy to rupture. The margins of the vaginal apex were held while the prolapsed bowel was withdrawn intraperitoneally. The vaginal cuff was repaired with several figure-of-8 sutures and covered with the fallopian tubes bilaterally. A suture was placed on the round ligaments, thereby covering the vaginal apex and bringing them together. There were no macroscopic changes within the peritoneum and ovaries. Subsequently, the bowel was inspected. Due to the presence of hyperemia with necrosis, it was decided to remove a 10 cm fragment in a 20 cm distance from the Bauhin's valve.

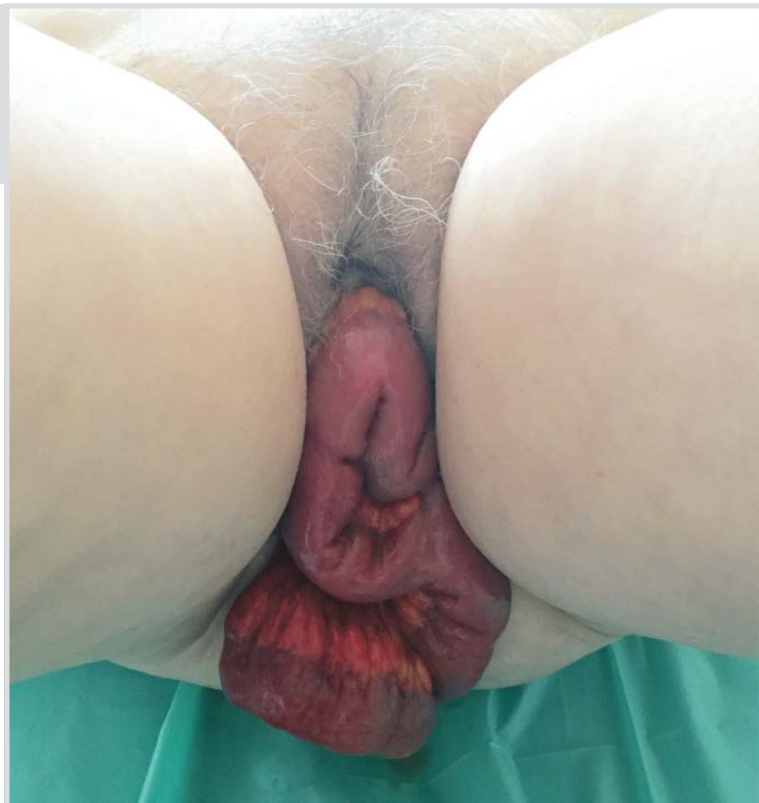
The excised fragment was sent for a histological analysis. The bowel was repaired with a typical "end-to-end" technique. Hemostasis, peristalsis and vascularity were checked – no abnormalities. A latex drain was placed through the abdominal wall to the area of the vaginal cuff. The abdominal wall was closed with a two-layer suture.

Following the surgery, antibiotic therapy was instituted, prophylactic low-molecular-weight heparin was administered and symptomatic treatment was conducted. The postoperative period proceeded without complications. Parenteral nutrition was conducted for 5 days, and drainage for 3 days after the surgery. The patient was discharged in a good overall condition on the 9th day of hospitalization.

DISCUSSION

Vaginal evisceration is a rupture of the vagina in its vault or apex and prolapse of peritoneal contents. Vaginal cuff dehiscence is defined as full-thickness separation (or rupture) of the posterior and anterior edges of the vaginal cuff, either complete or partial, but without peritoneal content prolapse. Vaginal cuff rupture predisposes to evisceration [7,8]. Evisceration

Fig. 1. Evisceration – a complication after vaginal hysterectomy (*own material: Unit of Gynecology and Obstetrics with a Subunit of Gynecologic Oncology, Regional Specialist Hospital in Tychy, Poland*)



usually concerns the small intestine, greater omentum, fallopian tube, appendix or epiploic appendages [9]. The mean age of patients with this complication is approximately 61.8 [3].

The etiology of the condition is unclear. Risk factors of vaginal evisceration include: advanced age, postmenopausal age, hysterectomy, vaginal cuff dehiscence, repair procedures within the pelvic floor, surgeries involving the vagina, enterocele, vaginal cuff prolapse, radiotherapy, long-term use of steroids, chemotherapy, infection or hematoma after hysterectomy, poor surgical technique, smoking, obesity, adnexal tumor compressing the vaginal cuff, connective tissue disorders and hypothyroidism. Triggering factors, in turn, include: vaginal trauma, heightened pressure within the abdomen (e.g. during Valsalva maneuver or defecation – constipation, chronic cough or weight lifting), rape, vaginal manipulation with surgical tools, presence of a foreign body in the vagina (e.g. a vibrator) and sexual intercourse, particularly before complete healing [7,9,10,11]. In patients with dehiscence, the healing process can be prolonged due to a longer inflammatory phase [12]. A case of vaginal evisceration of the small intestine without previous history of surgery has been reported [11].

The main risk factors that make up a triad include: postmenopausal atrophy (estrogen deficiency leads to the weakening of pelvic structures and vaginal wall), history of vaginal surgery (decreased vascularity within the scar) and enterocele (further stretching of the weakened and atrophic vagina) [7]. It is believed that hysterectomy can alter the vaginal axis, making it shortened or more vertical, which results in its losing its valve-like mechanism. This makes the vaginal cuff more vulnerable to each episode of heightened pressure in the abdominal cavity [7].

Vaginal cuff dehiscence and evisceration has been reported to occur after vaginal, abdominal and laparoscopic hysterectomy. Hur et al. stated that this complication may be more common after laparoscopic procedures (4.93%) compared with abdominal (0.12%) and vaginal approaches (0.29%) [1]. Adgi et al. indicated a similar relationship and reported the incidence of 1.14% for laparoscopy, 0.14% for vaginal approach and 0.10 for laparotomy [13]. Other authors have not found relationships with the surgical approach [2] or pointed to vaginal hysterectomy as a risk factor [14]. Maciel and Freitas [15], in turn, list laparoscopy-specific

factors as probable causes of an increased risk of vaginal cuff dehiscence after laparoscopic procedures. These are:

1. The use of energy sources for colpotomy, which may result in tissue destruction below the incision. This can potentially increase the risk of tissue necrosis and lead to worse healing of the vaginal cuff compared with the use of a scalpel or scissors.
2. Laparoscopic magnification of the surgical field, which may distort the view and result in the placement of sutures too close to the vaginal cuff edges or failure to achieve full closure.
3. The technique of laparoscopic suturing which requires advanced training to achieve secure knots.

However, the role of these factors remains unclear [13,16]. Moreover, laparoscopic hysterectomy is probably associated with the fact that evisceration occurs sooner after surgery [3]. Based on data collected by Ricotta et al., it can be assumed that the median time of evisceration is approximately 72 months from abdominal hysterectomy, 48 months from vaginal hysterectomy and 4.5 months from the laparoscopic procedure [3]. According to Gandhi, these time intervals amounted to 6.5, 34 and 3 months, respectively [7]. Due to the increasing number of laparoscopic procedures, the incidence of this adverse event is also projected to increase [2,13].

There have been several cases of vaginal evisceration without the history of genital surgery, usually caused by trauma [11,16,17]. The site that is the most vulnerable to injury is the posterior vaginal fornix due to a thinner layer of fascia in this area [16]. Symptoms that cause patients to report to hospital include: pelvic or perineal pain, feeling of resistance in the vagina and perineum as well as vaginal bleeding. Moreover, acute abdominal pain caused by bowel obstruction, peritonitis and septic shock can also be observed [3,14].

The management in vaginal evisceration should primarily involve stabilizing the patient. Then, a full medical history should be obtained and a physical and pelvic examination should be performed. Basic laboratory tests should be ordered. The bowel should be wrapped with sterile packs moist with warm physiological saline. The treatment should also involve intravenous fluid administration, analgesia and preventive broad-spectrum antibiotic therapy. Imaging should be considered to rule out a foreign body. The importance of a multidisciplinary

disciplinary approach, particularly involving gynecological and surgical cooperation, is emphasized. Subsequently, the condition of the intestine must be assessed. If peristalsis is retained, there is no evidence of necrosis or no peritoneal signs, the patient should be placed in the Trendelenburg position and an attempt should be made to reposition the bowel into the peritoneal cavity using moist gauze in order to preserve its viability [7]. If this is ineffective, a prompt surgical repair should be conducted by laparotomy [3,4,7,16].

As stated in the literature reports, laparotomy for surgical repair of these complications has been the most common procedure. There have been reports of effective vaginal, laparoscopic or combined management of evisceration [3,14]. Certain authors are of the opinion that the best method in uncomplicated cases is the combined laparoscopic and vaginal technique since it enables direct visualization of the small intestine and facilitates closure of the vaginal defect, which translates to shorter recovery. These authors also underline that careful selection of patients for such a procedure is crucial [18]. Vaginal withdrawal of the prolapsed intestine is usually ineffective [4,7,11,16]. Laparotomy allows inspection and washing of the abdominal cavity as well as possible bowel resection and mesh application [3]. The usage of a mesh strengthens the pelvic floor and minimizes the risk of recurrence. Synthetic materials are not recommended in patients with infection or its higher risk as well as in those with bowel resection. It seems that using meshes of biological materials could minimize this risk but they are expensive and, to date, their usage for surgical repair of vaginal evisceration has not been reported [3].

Despite the fact that approximately 20% of patients require bowel resection [19] and the overall mortality associated with bowel evisceration reaches 6–10% [4], complications after repair surgeries are rare and concern approximately 15% of patients [19]. Of 39 cases reported within the past 10 years, there have been 3 cases of early recurrences, 2 cases of wound infection and 1 case of bowel obstruction due to adhesions. There have been no cases of postoperative death [3]. Potentially, a delay in surgical management can cause shock, infection, peritonitis, bowel obstruction, necrosis, bowel perforation, sepsis, deep vein thrombosis and embolism [4,16]. Prompt diagnosis and intervention minimize morbidity and mortality.

CONCLUSION

Vaginal evisceration is a rare but severe postoperative complication. Due to the greater and greater number of laparoscopic procedures, the incidence of this adverse event is projected to increase. It requires prompt intervention, cooperation of various specialists and is a challenge of a surgical team. Correct diagnosis and proper management reduce the number of complications.

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