

# Tardive transvaginal small bowel evisceration after colpohysterectomy: a case report of a rare surgical emergency

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## Abstract

Transvaginal small bowel evisceration is a rare surgical emergency after gynaecological surgery with around 100 cases described in literature from 1864. Its diagnosis is merely clinical. The surgical treatment is time-dependent because of the risk of acute small bowel ischemia. A 71-year-old female presented in our emergency room complaining abdominal pain, vomiting, and small bowel evis-

ceration through the vagina. She suffered gynaecological prolapse and underwent transvaginal hysterectomy four years earlier. At the clinical examination, intestinal loops were oedematous, dusky, vascular sufferance, and without peristalsis. An urgent laparotomy was performed to reduce the prolapsed bowel, resect the ischemic loop, and vaginal cuff closure. Transvaginal bowel evisceration is a delay complication after hysterectomy. It is a life-threatening condition that requires prompt recognition and surgical management.

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## Introduction

Transvaginal small bowel evisceration is an uncommon surgical emergency that requires an early diagnosis and multidisciplinary management in order to avoid bowel ischemia, sepsis, and death.<sup>1,2</sup>

This condition was firstly described by Hyernaux in 1864. Since then, around 100 cases were reported in the international literature, making the incidence of this entity difficult to determine.<sup>1</sup>

Transvaginal evisceration can be a serious complication after hysterectomy, with high incidence in robotic and laparoscopic surgery. Its aetiology is multifactorial, and it seems to be different in pre and post-menopausal women.<sup>3</sup>

The diagnosis is clinical, and the pathognomonic sign is the transvaginal evisceration of bowel loops.<sup>2</sup>

We describe a case of a 71-year-old woman with a spontaneous transvaginal small bowel evisceration through the vagina, resulting in acute bowel ischemia in emergency setting.

This case report was prepared following the CARE Guidelines.<sup>4</sup>

## Case Report

A 71-year-old Caucasian female presented in our Emergency Department complaining abdominal pain, vomiting and small bowel prolapse per vagina after having shower in the morning. No history of sexual intercourse, trauma or other trigger factors were referred.

She underwent transvaginal colpohysterectomy, right salpingo-oophorectomy, right sacrospinous colposuspension and cystopexy for severe pelvic organ prolapse (POP) four years earlier. Patient's medical history consisted of hypertension, diabetes mellitus type 2, hiatal hernia, gastroesophageal reflux disease (GERD) and cholelithiasis.

Patient's vital signs were stable. Her abdomen was soft, with mild lower abdominal tenderness, no peritonism, and hypoactive peristalsis. Physical examination revealed about 50 cm of small bowel with vascular sufferance protruding through her vaginal prolapse. Bowel loops appeared thickened, oedematous, dusky, with no peristalsis. A mild bleeding from the vaginal orifice was present.

Her blood tests were normal. No radiological imaging was per-

formed as the diagnosis was clear at physical examination. Multidisciplinary discussion was performed between general surgeons and gynaecologists to plan the operation. The eviscerated bowel was wrapped in laparotomic gauzes soaked in warm NaCl 0.9% solution, and the patient was immediately carried to the theatre. Antibiotic therapy with Cefazolin 2 g and Metronidazole 500 mg was started intravenously.

Surgical procedure started with a median explorative laparotomy. The eviscerated small bowel tract prolapsed through a wide vaginal vault defect generated an incarcerated hernia with consequent intestinal obstruction. The vaginal vault showed wide vascular suffrance with consequent weakness of surrounding tissues, probably due to previous surgical procedures, allowing the development of the defect. Firstly, the vaginal prolapse was reduced. Then, an incision on the anterior wall of the vaginal vault was performed to reduce the prolapsed bowel into the abdominal cavity. An accurate examination of the whole bowel was performed. Therefore, 58 cm of necrotic small bowel were resected, and ileo-ileal anastomosis was performed.

Margins of the vaginal vault were ischemic, and the surrounding tissues were inflamed and weak. The gynaecological procedure consisted of colpectomy (including the described defect) and vaginal closure with single suture stitches. Two surgical drains were placed: in Douglas and near the ileo-ileal anastomosis. Antibiotic therapy was continued postoperatively.

The length of stay was uneventful, and the patient was discharged in POD 12 in good clinical conditions. The gynaecological post-operative examination showed regular surgical outcomes. The patient was discharged with an antimycotic topic therapy and the recommendation of avoid sexual activity for two months.

The histological examination showed ileal necrosis and vaginal inflammation associated with necrosis. The last surgical follow-up visit was performed one month after surgery with no signs of relapse.

## Discussion

Transvaginal evisceration of intraperitoneal organs is an unconventional clinical presentation that general surgeons have to manage. Its incidence is difficult to determine due to the lack of data.

This entity is more common in postmenopausal females with history of gynaecological surgery (75%) complicated by vaginal cuff dehiscence or concomitant pelvic organ prolapse.<sup>1,5</sup> The main risk factors are infections, haematoma, and vaginal wall atrophy after surgery. Conversely, trans-vaginal evisceration in premenopausal females is rare, and it is related to vaginal trauma and sexual activity.<sup>5,6</sup>

Risk factors are smoking, diabetes mellitus, chronic constipation, vaginal cuff atrophy, vaginal infections, radiotherapy, malnutrition, and gynaecological prolapse.<sup>5,6</sup> Frequently, the trigger factor of the trans-vaginal evisceration is the sudden raise of the intra-abdominal pressure (trauma, coughing, chronic constipation, and vomiting).<sup>1</sup>

Vaginal cuff dehiscence (VCD) is a complication following abdominal or transvaginal hysterectomy procedure. Its incidence is 0.032%, with higher rates in laparoscopic and robotic procedures.<sup>7</sup> According to statistics, the posterior fornix of the vagina is the most frequent site of VCD.<sup>5</sup>

Transvaginal bowel evisceration can occur in a highly variable timeframe, from 5 days to 30 years after surgery,<sup>5</sup> with a median time of 20 months.<sup>2</sup> Based on literature data, this variability seems to be related to the surgical technique (open, laparoscopic, or robotic). More studies should be performed to better clarify these aspects.

The terminal ileum is commonly involved in the prolapse

because of its long mesentery and mobility. Nevertheless, cases of prolapse of omentum, appendix, sigmoid bowel, epiploic appendices, and salpinx are also described in the international literature.<sup>5,6,8</sup>

Clinical presentation is typical, permitting to make diagnosis with the patient's medical history and physical pelvic examination.<sup>8</sup>

Radiological imaging is not necessary to make diagnosis of transvaginal evisceration but should be useful to plan the procedure. However, because its management is strictly time-dependent, surgery should be performed as soon as possible.<sup>2</sup> Any delay in diagnosis or treatment could lead to serious complications as gut ischemia, sepsis, and death. According to the international literature, morbidity and mortality are respectively 6-8% and 15-20%.<sup>6</sup>

When the diagnosis of transvaginal bowel evisceration is carried out, a meticulous assessment of the viability of the herniated viscera is mandatory. If the eviscerated bowel has no signs of ischemia, the first recommendation is to replace it manually into the abdomen through the vaginal cuff. When this is not possible, the prolapsed bowel should be covered with a moist saline wrap, and then the reduction should be performed in the theatre. The emergency-room management includes intravenous fluids, intravenous broad-spectrum antibiotics, and placement of urinary catheter.<sup>7</sup> The key point is to transport the patient as soon as possible in the theatre, where a multidisciplinary management between gynaecologists and general surgeons should be performed.

In the international literature, different surgical techniques are described: transvaginal, transabdominal, combined abdominal-vaginal, and laparoscopic, without differences in terms of complications and recurrences.<sup>6,9</sup> The surgical approach should be tailored to each patient, depending on their clinical presentation, the vitality of the prolapsed bowel, the possibility to reduce the evisceration through the vaginal cuff, and surgeons' expertise and skills.

In early presentations, when the prolapsed bowel is usually vital, pink, and peristaltic, the surgical procedure consists in bowel reduction through the vaginal cuff followed by gynaecological repair. When the eviscerated bowel shows ischemic signs, a resection must be performed followed by intestinal anastomosis.

In our case the eviscerated bowel loops were oedematous, dusky, and with no peristalsis (Figure 1).



**Figure 1.** Ischemic eviscerated small bowel loops at pelvic examination.

We performed a combined surgical procedure with both transabdominal and transvaginal approaches by a multidisciplinary equipe of gynaecologists and general surgeons. A median laparotomy was used by the general surgeons to reduce the eviscerated loops into the abdomen, then the ischemic bowel was resected, and an intestinal anastomosis was performed. Finally, the vaginal cuff was closed by the gynaecological team.

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## Conclusions

Considering the rarity of this condition, this case report is intended to be anecdotal. Spontaneous transvaginal small bowel evisceration is an extremely rare surgical emergency that occurs more often in postmenopausal women with history of hysterectomy. The diagnosis is clinical, and the timing of the treatment is crucial to avoid complications like bowel ischemia and sepsis. The management is operative, and the surgical procedure should be individualized and carried out as soon as possible. A multidisciplinary discussion involving general surgeons and gynaecologists is important to achieve the best outcome.

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