



Case report

Uterine perforation and bowel incarceration following a second trimester abortion

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ABSTRACT

Introduction: Uterine perforation is a rare but potentially life-threatening complication of elective abortion, often occurring without immediate symptoms.

Case report: This case report describes a 32-year-old woman who developed small bowel incarceration within the uterine cavity following a second-trimester abortion. She presented five days post-procedure with acute abdominal pain, nausea, and vomiting. Physical and laboratory examinations indicated elevated white blood cell count and C-reactive protein levels, while imaging studies, including CT scans, revealed a dilated small bowel loop incarcerated within the uterus. Surgical intervention was performed, identifying a uterine defect and an incarcerated small intestine, which was well vascularized. After reducing the bowel and repairing the uterine perforation, the patient made a full recovery.

Discussion: Uterine perforation during abortion has a reported incidence of 0.05 % to 1.9 %, with second-trimester procedures associated with higher complication rates. This case underscores the importance of recognizing such rare complications, as symptoms like pain, vomiting, and fever can delay diagnosis. Differential diagnoses include retained products of conception, pelvic inflammatory disease, and nongynecological causes of abdominal pain. Imaging, particularly CT scans, is essential for diagnosing uterine perforation and bowel incarceration. Treatment typically involves timely surgical intervention to prevent further complications such as bowel necrosis, infection, or death. Strategies to reduce the risk of uterine perforation include careful preoperative evaluation, slow cervical dilation, and meticulous surgical technique.

Conclusion: This report highlights the significance of early diagnosis and intervention to reduce morbidity and mortality associated with uterine perforation following abortion.

1. Introduction

While elective abortion is generally regarded as safe, it can lead to serious complications such as infection, hemorrhage, uterine atony and uterine perforation [1]. This perforation may not be recognized during the procedure, and patients might manifest symptoms of this complication days or even weeks afterward. This case highlights the critical importance of early detection of uterine perforation after an induced abortion to prevent potential complications that could develop subsequently.

This work has been reported in line with the SCARE criteria [2].

2. Case report

A 32-year-old woman, who is G3P1 with history of cesarean section, presented to the emergency department with acute upper- abdominal pain associated with nausea and vomiting for the past 24 h. She reported that she underwent an induced abortion at 14 weeks of amenorrhea five days before, and there were no issues. On physical examination, she was afebrile with normal vital signs, the abdomen was mildly distended with flatus and diffuse tenderness. An internal pelvic examination revealed a normal -appearing cervix with no evidence of bleeding or cervical tenderness. Laboratory analysis revealed elevated white blood cell count (15,000/ml) and elevated C-reactive protein (150 mg/dl). Abdominal radiography revealed multiple air-fluid-levels. CT scan without contrast showed a dilated small bowel upon an incarcerated loop in the uterus.

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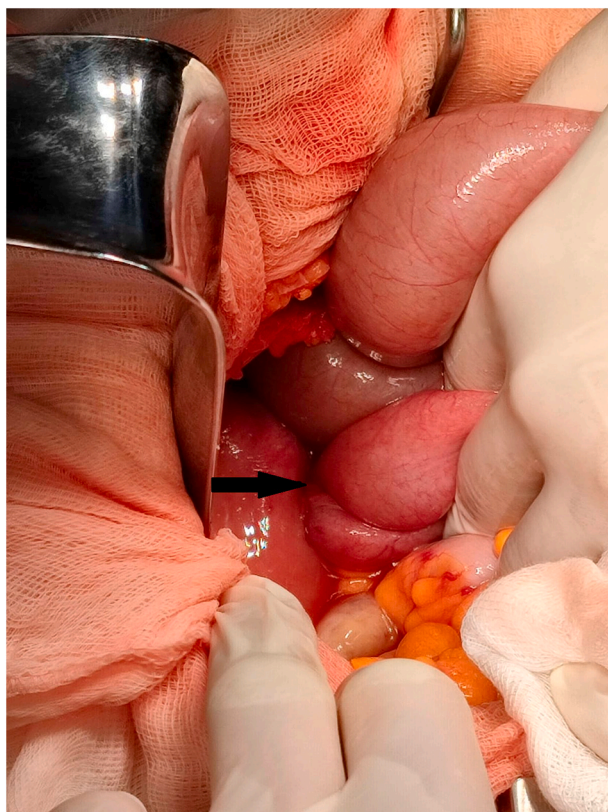


Fig. 1. Shows incarcerated small intestine (black arrows).

Therefore, uterine perforation with incarceration of the small intestine was suspected. After resuscitation, an exploratory laparotomy was performed. A defect in the lower segment of the uterus with an incarcerated small intestine was found (Fig. 1). The bowel was partially incarcerated, and it was well vascularized (Fig. 2). Therefore, we reduced the loops and repaired the uterine defect with sutures using absorbable thread (Fig. 3). After the surgery, the patient's symptoms were relieved, and she underwent a complete recovery.

3. Discussion

Uterine perforation is a rare complication of induced abortion with a reported rate of between 0.05 % and 1.9 % [3]. Complications are dominated by vaginal, cervical or uterine laceration, hemorrhage, endometritis and incomplete removal of pregnancy tissue [4]. This case report is important because the incidence of uterine perforation may be grossly underestimated. Kaali et al. suggested that perforation goes undetected in most instances [5]. Uterine perforation during a cervical dilatation and endometrial curettage can have severe consequences, but it is often managed conservatively. The key factors in managing this complication are identifying patients who are at higher risk for perforation and ensuring early recognition during the procedure. Increased risk of perforation has been associated with increasing maternal age, increasing parity, retroverted uterus, history of prior abortion or cesarean section and history of previous cone biopsy. In addition, abortion in the second trimester is associated with higher rates of complications compared to terminations performed in the first trimester as in our case [6]. During the perioperative period, uterine perforation can be suspected if there is significant bleeding, or the defect may be clearly identified.

Its short-term consequences may be life-threatening due to hemorrhage. Treatment options may include expectant management, repairing the tear, or in some cases, performing a hysterectomy. Other serious

consequences do occur such as intestinal herniation with necrosis requiring bowel resection, infection or even death. Rupture of the uterus in future pregnancies may be a long-term complication [7]. In our case, the loop had good vitality, so we simply reduced the incarcerated bowel and repaired the perforation. This case underscores the significance of being mindful of such complications following curettage to minimize the damage. Patients with uterine perforation containing the incarcerated bowel may present with non-specific symptoms including pain, fever, vomiting, flatus and distension which can lead to a delay in surgical therapy. A post-abortion perforated uterus can be differentially diagnosed with retained products of conception, pelvic inflammatory disease, and a range of non-gynecological sources of abdominal pain. However, if imaging studies reveal small bowel obstruction and abnormal uterine contents, this complication should be strongly considered [8]. Imaging studies can be highly valuable in diagnosing incarcerated intrauterine intestine. Dunner et al. were the first to report such a case in 1983, using ultrasound for diagnosis which showed round cystic structures within the uterine cavity [9]. CT scan evaluation plays a crucial role when ultrasound results are unclear or if there is a suspicion of non-gynecological pathology. The first reported CT scan diagnosis of incarcerated bowel in a uterine perforation was performed by Dignac et al. in 2008. While the uterine wall may obstruct the view of intra-uterine bowel loops, Dignac et al. highlight that the bowel's mesentery, because of its fatty composition, can be clearly seen on a CT scan and should serve as a warning sign for the presence of intrauterine bowel [10]. In our case, there was significant intrauterine hemorrhagic debris 5 days after the abortion, and both the ultrasound and CT scan suggested a linear defect in the uterine wall. The uterine air and fluid levels on CT scan were also consistent with intrauterine bowel. Bowel incarceration should be considered if a patient develops mechanical ileus shortly after an elective abortion. Treatment involves timely surgical intervention to reduce morbidity and mortality rates. To reduce the risk of perforation, it is important to first conduct a bimanual examination to evaluate the size and position of the uterus. Careful sounding and inserting dilators just beyond the internal os are essential steps. Applying gentle traction on the cervix with a tenaculum can help minimize angulation, and slow, gradual dilation is advised, with each dilator left in place for a few seconds before moving to the next [11].

4. Conclusion

While rare, elective pregnancy terminations can lead to serious and potentially life threatening complications. Uterine perforation during an abortion is often asymptomatic and can usually be managed conservatively. However, if bowel herniates through the uterine defect, it may cause obstruction and strangulation.

CRedit authorship contribution statement

Sebai Amine: conceptualization, data curation, redaction.
 Zaiem Aida: conceptualization, data curation, redaction.
 Atri Souhaib: conceptualization, data curation, redaction, project manager.
 Ben Mahmoud Ahmed: resources, visualization.
 Haddad Anis: supervision, validation, visualization.
 Kacem Montassar: supervision, validation, visualization.

Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Ethical approval

Our institution require no ethics approval for case reports reporting on a single case.

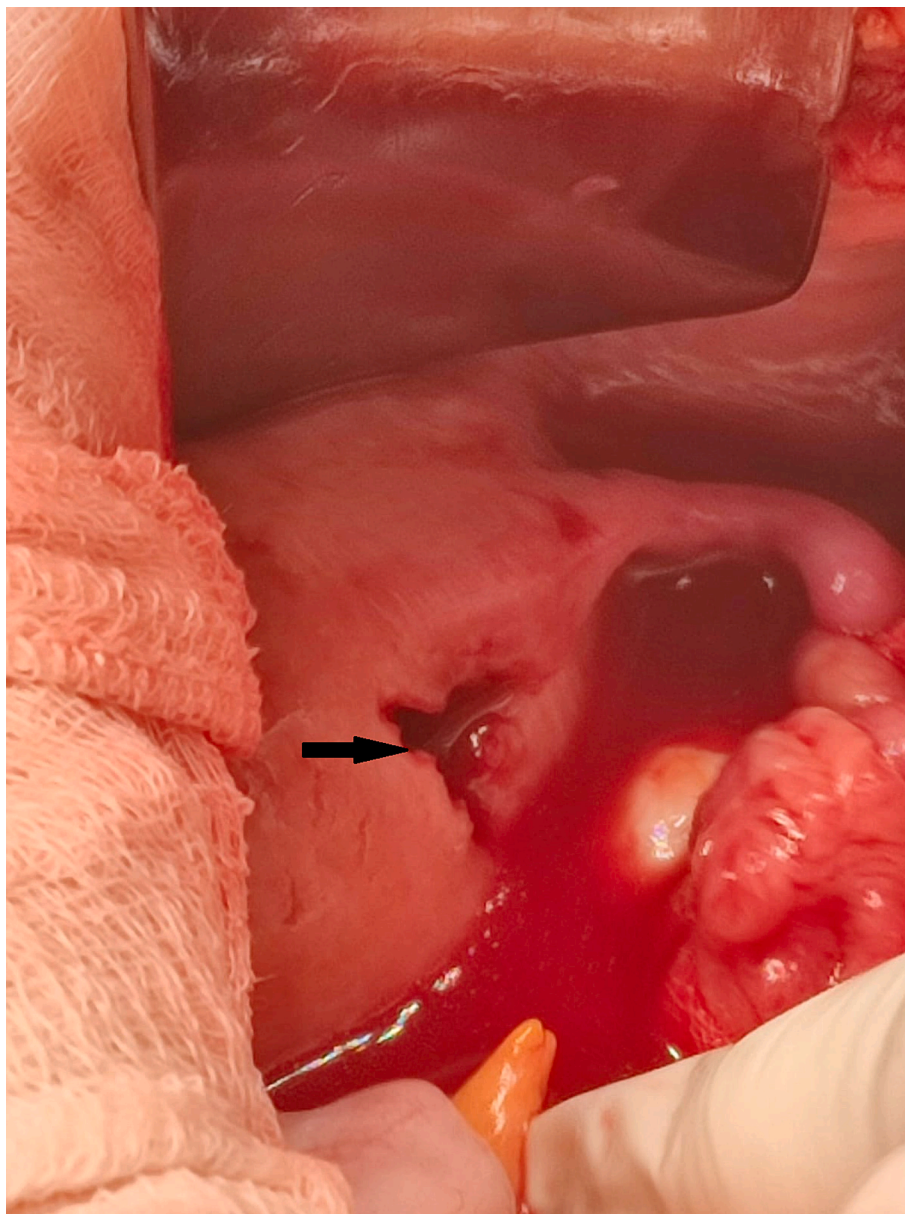


Fig. 2. Shows uterine perforation (black arrows).

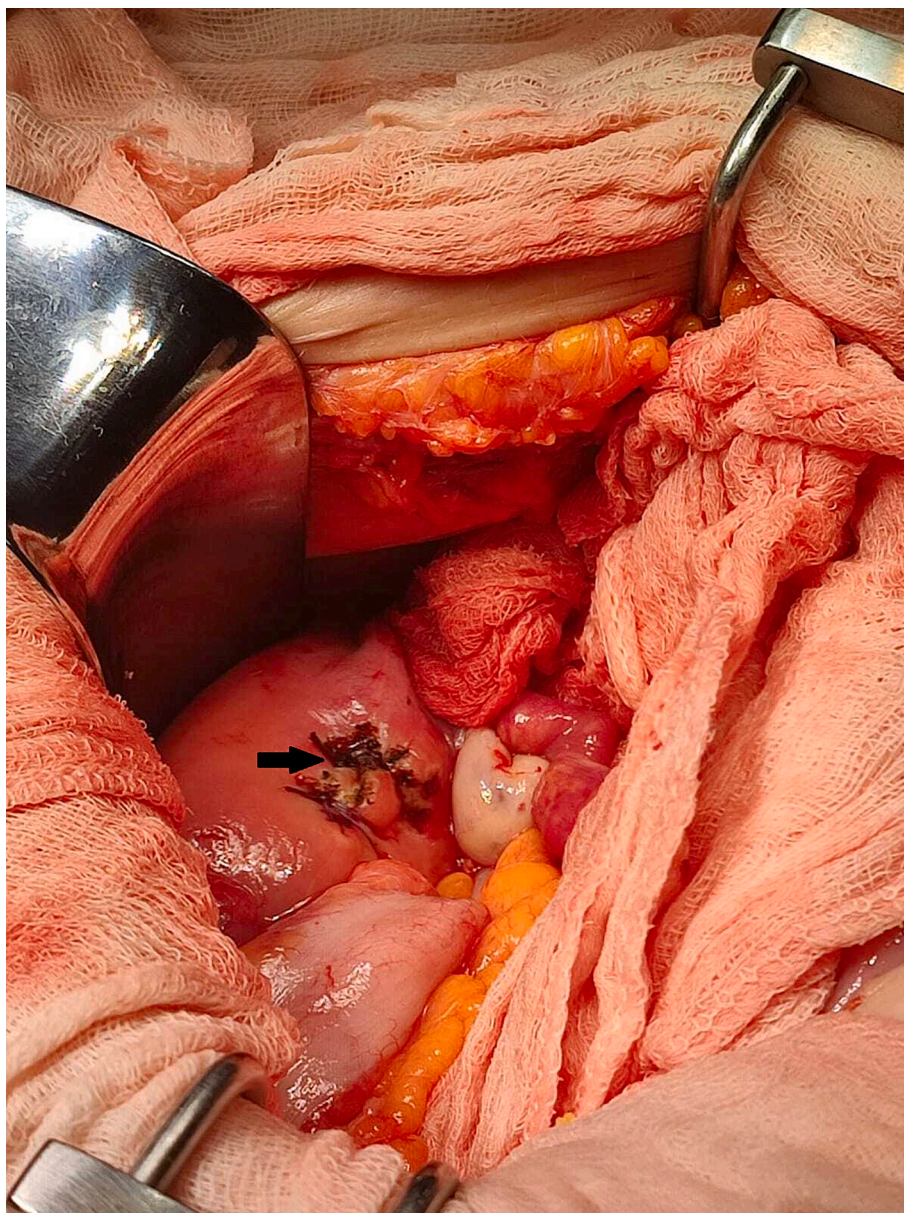


Fig. 3. Shows the uterine perforation after repair (black arrows).

Guarantor

Sebai Amine
Zaiem Aida.

Research registration number

Not applicable. This is not a research study. It is report about one case.

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Declaration of competing interest

All authors declare that they have no conflicts of interest.

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