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Case Report

BOWEL OBSTRUCTION DUE TO SIGMOID COLON ENTRAPMENT TO INTRAUTERINE AFTER CURETTAGE PROCEDURE

[1]Andika Ilham Rahmatullah[*], [2]Wahyu Purwohadi
Email (Corresponding Author) : [*]andika.rahmatullah@med.uad.ac.id
[1]Faculty of Medicine, Ahmad Dahlan University, Yogyakarta, Indonesia
[2]Tjitrowardojo District Hospital, Purworejo, Jawa Tengah, Indonesia

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ABSTRACT

Uterine perforation represents an uncommon yet potentially severe complication of uterine curettage, as it may involve intra-abdominal organs and result in life-threatening outcomes. Timely identification and appropriate management are essential to prevent serious morbidity. We report a 37-year-old woman who presented with abdominal distension, inability to pass gas, and absence of defecation three days after undergoing uterine curettage for retained placenta. Abdominal X-ray suggested large bowel obstruction. Exploratory laparotomy revealed sigmoid colon entrapment within a uterine perforation. The bowel was viable and successfully reduced, followed by uterine repair. The patient had an uneventful recovery and was discharged in good condition. Uterine perforation can manifest with delayed and nonspecific clinical signs, making diagnosis challenging. While the small intestine is more frequently affected, the occurrence of sigmoid colon entrapment within a uterine defect is exceptionally uncommon. Diagnostic imaging, particularly computed tomography (CT), can assist in identifying the condition; nevertheless, surgical exploration remains the gold standard for establishing the diagnosis and providing definitive management. This case highlights the need to consider uterine perforation accompanied by bowel incarceration in patients who develop bowel obstruction symptoms following curettage. Prompt diagnosis and early surgical management are essential to minimize complications and ensure optimal patient outcomes.

INTRODUCTION

Uterine curettage is a commonly performed procedure in obstetrics and gynecology, typically indicated for retained products of conception, post-abortion management, or pregnancy termination. Although rare, uterine perforation can occur, with an estimated incidence of 0.8–6.4 per 1,000 procedures. Such perforations may go unrecognized during the intervention, and

related symptoms or complications can manifest days or even weeks afterward. In some cases, intra-abdominal organs such as the small intestine, appendix, or omentum may prolapse through the uterine defect, resulting in clinical signs of obstruction or incarceration[1–3].

Perforation of the uterus during curettage may affect nearby pelvic organs or tissues, either through direct trauma or by pulling them into the uterine cavity. Injury to these surrounding structures can occasionally lead to acute, life-threatening complications that demand urgent medical intervention. Although exceedingly rare, one potential outcome is the incarceration of the omentum or intestinal loops within the uterine cavity following perforation during intrauterine procedures[2,3].

The clinical manifestations of this condition are frequently nonspecific or may even be absent, which makes establishing the diagnosis challenging. The interval between the initial procedure and a definitive diagnosis can vary widely, from a few hours to several years. To the best of current knowledge, no previous reports have specifically documented cases of uterine perforation complicated by sigmoid colon incarceration after surgical intervention[2,3].

This is a rare case that a loop sigmoid colon entering the uterine perforation and being bowel entrapment, so we will discuss the diagnostic and management of that case.

CASE PRESENTATION

A 37-year-old woman came to the hospital with complaints of abdominal bloating, inability to pass gas, and cannot defecate for the past day. Three days before, the patient underwent curettage due to retained placenta three weeks after a spontaneous delivery. The patient did not report any fever, nausea, or vomiting. The patient has no history of abdominal surgery or laparotomy. Physical examination showed that vital signs were stable, the patient's blood pressure was 125/78 mmHg, heart rate 97 beats per minute, respiratory rate 20 breaths per minute, body temperature 36.7°C, and oxygen saturation 97% on room air, abdominal distension was evident (Figure 1), bowel sounds were increased, and there was a metallic sound. Rectal examination revealed a collapsed rectal ampulla.

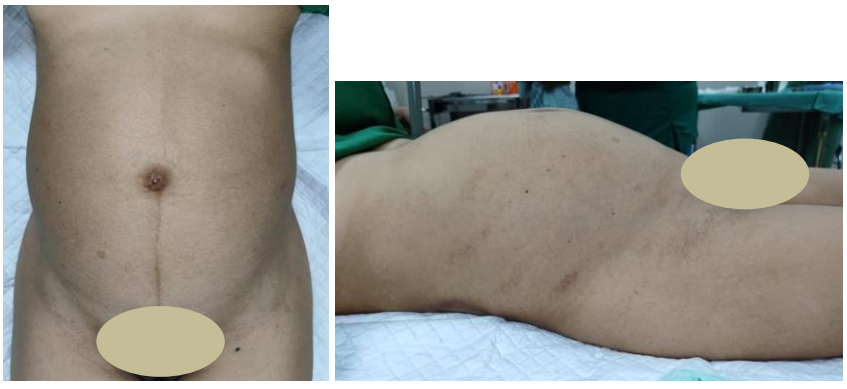

Figure 1. Clinical photos of the abdomen

In the emergency room, the patient underwent plain abdominal x-rays in 3 positions, which showed dilation of the intestinal system up to the descending colon with the rectum not filled with air, and showed an air fluid level with the impression of large bowel obstruction (Figure 2).

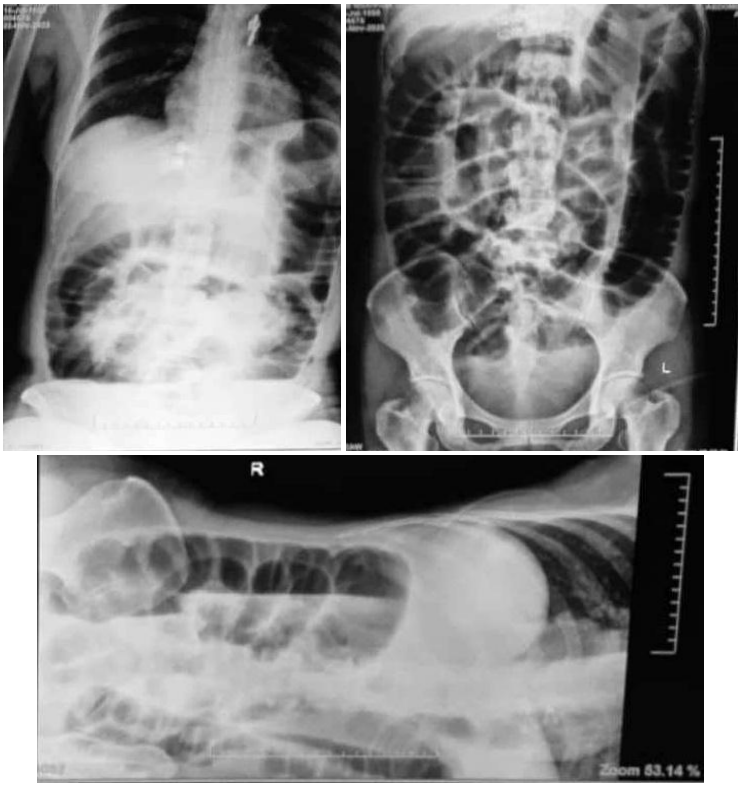

Figure 2. Plain abdominal x-rays

A nasogastric tube and urinary catheter were placed for monitoring and management purposes. The patient then underwent exploratory laparotomy, and findings showed dilated intestinal system up to the descending colon, with evidence of sigmoid colon strangulation entering the intrauterine space that experienced perforation (Figure 3). Sigmoid was released from the strangulation, and an evaluation of the strangulated segment showed it was still viable and without perforation. Subsequently, closure of the uterine perforation and closure of the surgical wound were performed. After surgery, the patient was able to pass gas and have bowel movements, and was discharged 2 days after surgery in good condition without complications (Figure 4).

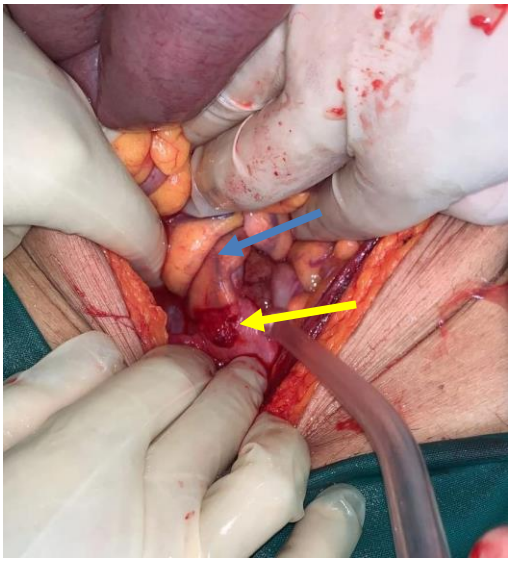

Figure 3. Sigmoid entrapment (blue arrow) to intrauterine (yellow arrow)

Figure 4. Sigmoid after being released from the intrauterine, still viable.

DISCUSSION

Uterine perforation represents an uncommon complication of induced abortion, with reported incidence rates ranging from 0.05% to 1.9%. The most frequently encountered complications in such procedures include lacerations of the vagina, cervix, or uterus, as well as hemorrhage, endometritis, and incomplete evacuation of gestational tissue[1].

Uterine perforation that occurs during cervical dilatation and endometrial curettage can lead to serious complications, though many cases can be managed conservatively. Effective management relies on identifying individuals at greater risk of perforation and promptly recognizing the event during the procedure. Factors that increase the likelihood of perforation include advanced maternal age, multiparity, a retroverted uterus, a history of abortion or cesarean delivery, and previous endometrial biopsy[1].

Serious complications may arise, including intestinal herniation with subsequent necrosis that necessitates bowel resection, infection, or even fatal outcomes. Among the bowel segments, the ileum is most frequently affected when uterine perforation occurs, and in rare instances, the appendix has been reported to become trapped within the perforation site[3]. In this case, the sigmoid loop had good vitality, so we simply reduced the incarcerated bowel and repaired the perforation. In a previously documented case, omental tissue was found within the uterine perforation, with one of its bands constricting a segment of intraperitoneal small intestine. The extent of injury determines the required surgical approach, which may involve resection of a substantial portion of the bowel, with or without the need for diversion[3,4].

Large bowel obstruction (LBO) can present acutely with cramp-like abdominal pain, abdominal distension, and cessation of stool and flatus passage. Vomiting is less common compared to small bowel obstruction. In certain instances, symptoms develop gradually, resulting in a subacute form of the condition. The most frequent clinical features include the absence of flatus (90%) and/or fecal output (80.6%), along with abdominal distension (65.3%). The causes of LBO may be structural such as tumors, hernias, or volvulus or functional, as seen in pseudo-obstruction. Although the presentation often includes abdominal pain, distension, and constipation, the exact manifestations depend on the underlying etiology and the location of the obstruction[5–7].

Imaging modalities play a crucial role in identifying cases of intrauterine bowel incarceration, particularly when clinical findings are inconclusive or when non-gynecological pathology is suspected. The first documented diagnosis of bowel incarceration within a uterine perforation using computed tomography (CT) was reported by Dignac et al. in 2008. Although visualization of bowel loops within the uterus may be partially obscured by the uterine wall, Dignac and colleagues emphasized that the mesentery, owing to its fatty nature, can often be clearly visualized on CT scans and should alert clinicians to the possibility of intrauterine bowel entrapment. Consequently, CT imaging is frequently required, as it can identify the underlying cause of large bowel obstruction, such as occult hernia, detect inflammatory or ischemic changes, and assess potential metastatic disease. Magnetic resonance imaging (MRI) may also be beneficial

for detecting omental incarceration due to its superior soft-tissue contrast, although its high cost and limited availability in em ergency settings restrict its routine use[5].

In the present case, the diagnosis of bowel incarceration was suggested by plain abdominal radiography, although the exact underlying cause could not be determined until exploratory laparotomy was performed. Identifying the etiology of colonic distension solely from X-ray findings can be difficult. Standard imaging typically begins with supine and upright or decubitus abdominal radiographs, which may show colonic dilatation with a possible transition zone at the obstruction site and an absence of gas in the rectum or distal bowel. Air-fluid levels are often visible within the colon. Additional radiographic indicators, such as pneumoperitoneum or the presence of gas within the bowel wall or portal venous system, may suggest necrosis or perforation[5,8]. A previous study reported that radiographic evaluation had a markedly greater sensitivity for identifying bowel obstruction compared to clinical assessment alone 74% versus 57%, respectively ($P < 0.01$). Nevertheless, the positive predictive value showed no significant difference between clinical evaluation by itself and when combined with plain radiography. In another review involving 140 patients with suspected large bowel obstruction, abdominal radiographs demonstrated a sensitivity of 84% and a specificity of 72%[9,10].

Uterine rupture can resemble various clinical conditions that present as an acute abdomen, and in some cases, it may produce only subtle or minimal symptoms despite significant underlying pathology. Failure to recognize this possibility can lead to serious and potentially irreversible complications. Uterine perforation following dilatation and curettage (D&C) is typically identified either immediately after the procedure or within a few days, while delayed presentation is considered exceptionally uncommon[11].

In this case, the incarcerated bowel symptoms present after 3 days of the procedure. 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[12].

The assessment and treatment of large bowel obstruction (LBO) constitute an essential component of both general and colorectal surgical practice. This condition frequently necessitates urgent operative intervention and carries a considerable mortality risk, estimated between 9.8% and 20%. Determining whether a patient requires conservative or surgical management can be challenging. In general, surgical intervention should be performed within 24 hours for pediatric patients, within 48 hours for individuals with a previously unoperated (virgin) abdomen or those of younger age, and within 3 to 5 days of admission for adult patients with LBO[7].

Large bowel obstruction is a serious surgical emergency that requires prompt intervention because of the potential for sepsis, dehydration, and hemodynamic instability. Exploratory

laparotomy is commonly employed as the definitive treatment. Studies have shown a higher rate of bowel resection in patients who experience delays before surgery. Specifically, only 12% of those operated on within 24 hours of admission required bowel resection, compared to 29% among patients whose operations were delayed beyond 24 hours. Once a clinical diagnosis of large bowel obstruction is made, surgical exploration allows identification of the precise cause and nature of the obstruction. Therefore, early diagnosis and timely surgical management are crucial to reducing complications and improving outcomes[5,13,14,15].

CONCLUSION

Uterine perforation after curettage is an uncommon yet potentially fatal complication that can present with delayed and nonspecific clinical features. This report describes a rare case of sigmoid colon incarceration within a uterine perforation, leading to large bowel obstruction. Early identification of obstructive symptoms, appropriate imaging evaluation, and timely surgical exploration were crucial for confirming the diagnosis and avoiding further morbidity. Prompt surgical management enabled successful reduction of the entrapped bowel and repair of the uterine defect, resulting in a favorable clinical outcome.

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