


## CASE REPORT

# Atypical presentation of ileocecal volvulus in a postpartum woman: a case report

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## Abstract

Volvulus appears with unusual symptoms in pregnancy and postpartum, and if the clinicians do not consider it, the patient becomes complicated quickly. It seems that volvulus may cause obstetrics complications such as preterm delivery.

## KEYWORDS

ileocecal volvulus, postpartum, pregnancy

## 1 | INTRODUCTION

Although the incidence of cecal volvulus is rare, pregnancy may be a potential risk factor that may directly affect fetal and maternal outcomes. Volvulus diagnosis is often a delay because of its nonspecific and varied presentation from intermittent episodes of abdominal pain to an acute abdomen. Indeed, the presentations may be similar to the common gastrointestinal complaints in pregnancy and puerperium. We report a postpartum woman with unexpected hemorrhagic shock that was undergone expedited urgent abdominal laparotomy with diagnosis of as ileocecal volvulus. Hence, considering cecal volvulus as a differential diagnosis of the acute abdomen in pregnancy and puerperium and being familiar with its clinical presentation may help the interdisciplinary

team including the general surgeon, the gynecologist, and the anesthesiologist to act timely to manage such cases.

Intestinal obstruction (IO) in pregnancy is uncommon, and rarer of that is cecum volvulus with an incidence rate of 1/2500-1/3500.<sup>1</sup> Cecal volvulus incidence enhances in the third trimester of the pregnancy and puerperium when a quick change occurs to the uterine size.<sup>2</sup>

Volvulus diagnosis is often with delay in a pregnant woman due to common signs and symptoms of IO with routine complaints of pregnant women including abdominal pain, nausea, vomiting, and even constipation. Besides, the presentation of cecal volvulus varies from intermittent episodes of abdominal pain to an acute abdomen. An atypical presentation may be manifested in young patients with recurrent abdominal pain attacks with resolution due to spontaneous deterioration.<sup>2</sup>

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We report a postpartum woman presented with unexpected cyanosis and hemorrhagic shock that was undergone urgent abdominal laparotomy with diagnosis of an ileocecal volvulus.

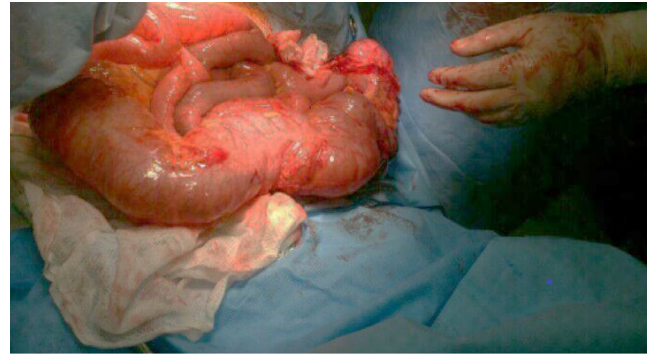
## 2 | CASE REPORT

A 30-years-old gravid 1 female with twin pregnancy referred on 23th of her gestational age with a mild ambiguous abdominal pain, nausea, and vomiting. She experienced intermittent sialorrhea and vomiting from 2 months ago that was no bile or bloody vomiting and underwent an appendectomy with McBurney incision 1 month ago, but the symptoms remained persistent. She had an uncomplicated pregnancy and denied any significant medical or surgical history or substance use.

In her physical examination, she appeared pale but aware. The vital sign was as following: blood pressure: 110/80 mm Hg, respiratory rate: 16 per minute, and body temperature: 37°C. In the abdominal examination, her fundal height was measured to be 26 weeks. She had no abdominal tenderness, rebound tenderness, or distension, although the moderate to good uterine contractions were palpable.

In the vaginal examination, the clinician felt the fetus's shoulder as a presentation part with cervical dilatation of 4 cm, effacement of 50%, and intact membrane. The last ultrasound examination (1 week before her admission) revealed a live dichorionic-diamniotic twin pregnancy at 22 weeks with a cephalic-cephalic presentation. Besides, the placenta was anterior and the amniotic fluid was normal. The twin weights were 450 and 470 g, respectively. The patient was admitted promptly. The fetal heart rates of both fetuses were heard. She received a bolus of intravenous fluid, and 12 mg betamethasone was intramuscularly injected. The head of labor informed the pediatrics and the operating room staff to be prepared and ready for possible delivery of premature newborns. Four hours after admission, she delivered vaginally a 550 gr transverse and a 530 gr cephalic fetus with Apgar score 1 in the first minute. The resuscitation team was immediately involved, but the babies did not survive.

After delivery of the fetuses, the placenta was extracted, and the uterus was massaged that felt firm and contracted with no extra hemorrhage. She was observed in labor, and 4 hours after the delivery, she suddenly became cyanotic with a BP of 50 mm Hg with O<sub>2</sub> saturation of 76%. The code was restored immediately. Two 18-gauge intravenous lines were inserted immediately, and serum therapy was perfused to reach a BP of 70/50 mm Hg. The coordination was made with the laboratory to perform a cross-match and prepare the blood products. She felt a little nervous with a sudden abdominal pain that radiated to her right shoulder. In the abdominal examination, the uterus was contracted, and no vaginal bleeding was observed. She was admitted immediately to the operation room



**FIGURE 1** Postpartum cecal volvulus

with the diagnosis of an acute abdomen. Ultrasonography in the operating room demonstrated a massive fluid in the abdominal and pelvic cavity with an intact uterine contour.

Under general anesthesia, she underwent an abdominal laparotomy with midline incision in the presence of a general surgeon and a gynecologist. During the abdominal inspection, a long ileocecal segment was observed to be cyanotic. The cecum and ileum were not fixed. A complete volvulus of dilated ileum was identified around the congenital band that was predisposed to the volvulus (Figure 1). About 2000 mL of serosanguinous fluid was removed from the peritoneal cavity. Following resection of the band and detorsion of the ileocecal segment, a part of the ileum was recovered within 20 minutes and the cyanotic segment of 90 cm length was resected and ileostomy was done. The cavity was then washed with 5 liters of fluid. She was admitted to the intensive care unit, and a broad-spectrum antibiotic was administered to her. The postoperative course was uneventful. The anastomosis was performed after 3 months.

## 3 | DISCUSSION

Bowel ischemia has been frequently reported to directly affect fetal and maternal outcomes. All maternal mortalities are resulted from a delayed diagnosis and surgical intervention after 48 hours. Maternal survival has improved with introducing volvulus in pregnancy, but still, the high rates of maternal and fetal mortalities are detectable.<sup>3</sup> The overall maternal and fetal mortality rates caused by volvulus are 13% and 20%, respectively. In this case, volvulus risk in the postpartum period is deemed to increase due to colon distortion caused by quick changes in uterine size after delivery.<sup>4</sup>

Volvulus is commonly associated with the three signs of pain, abdominal distention, and obstipation. Its usual secondary symptoms include nausea, vomiting, and hypokinetic or hyperkinetic bowel sounds. These are some nonspecific symptoms that are not uncommon in the pregnancy and postpartum period. The origin of abdominal pain cannot be easily differentiated due to the similarity between the visceral

innervations of the genital tract and those of the gastrointestinal system.

Moreover, abdominal distention may be related to abdominal tenderness interpreted as fundal tenderness and thus an unreliable sign for postpartum volvulus since IO typically occurs posterior to an enlarged uterus.<sup>5</sup>

Cecal volvulus can be diagnosed through abdominal plain X-ray screening with a sensitivity of 95%. Abdominal ultrasonography is applicable in cecal volvulus since being non-invasive and widely available. In our case, ultrasonography revealed a massive peritoneal fluid.<sup>6</sup>

Most cases of cecal volvulus need an urgent laparotomy. Though, possible nonoperative management through colonoscopy is not recommended due to its high rate of failure. Surgical treatment of cecal volvulus may encompass untwisting the bowel, decompressing the distended segments, removing the devitalized tissue, and preventing recurrence. Cecal volvulus may be treated based on such surgical techniques as coecopexy, coecostomy, and resection with ileostomy or primary anastomosis. Except for an emergency case, primary intermittent cecal volvulus can be managed by laparoscopic coecopexy as an alternative to laparotomy.<sup>2</sup>

Cecal volvulus in pregnancy is an unusual cause of colonic obstruction. As an emergency case, it should be quickly investigated via radiology and diagnosed through physical examination. Any delay in the diagnosis may cause maternal and fetal complications. In this case, labor pains and acute abdominal pain became simultaneous, and it was not clear which trigger the other. A high incidence of clinical suspicion and timely surgical intervention are the keys to a favorable outcome, which is always achieved via surgical treatment.

## 4 | CONCLUSION

Considering cecal volvulus as a differential diagnosis of the acute abdomen in pregnancy, and puerperium and be familiar with its clinical presentation, may help the interdisciplinary team including the general surgeon, the gynecologist, and the anesthesiologist to act timely to manage such cases.

## CONFLICT OF INTEREST

Not declared.

## AUTHOR CONTRIBUTIONS

MS: designed the work. MG: designed the work and drafted the manuscript. EF and MAH: edited the manuscript and interpreted the data. MS: interpreted the data. MS and MT: edited the manuscript.

## ETHICAL APPROVAL

This study was performed according to the Helsinki statements, and the personal data of the patients did not appear for anyone. Informed consent was received from the patient for using her data.

## DATA AVAILABILITY STATEMENT

Data are available due to the request.

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