

## INTERNAL HERNIA IN PREGNANCY: A RARE CASE WITH CRITICAL INSIGHTS INTO DIAGNOSIS AND SURGICAL INTERVENTION

**Dr. Lamiaa Elsebay**

Assistant Professor, Al Faisal University, Consultant Obstetrician and Gynecology, Specialized Medical Center Hospital

### **Abstract:**

This is a rare case study for a 25-year-old expectant mother, gravida 2 para 1+0, with a history of irritable bowel syndrome (IBS) and previous abdominal surgeries.

The patient's condition was further complicated by an episode of loose stools, followed by an absence of bowel movements or flatus, indicating a possible intestinal obstruction. This acute presentation was a stark contrast to her usual IBS symptoms and an episode of similar abdominal pain one month prior that resolved without intervention. A recent visit to a local medical center had led to the administration of corticosteroids under the presumption of labor pains, aiming to advance fetal lung development.

The common symptoms of intestinal obstruction in pregnancy include abdominal pain (98%), vomiting (82%), and constipation (30%). Abdominal tenderness and abdominal peristalsis are observed in 71% and 55% of the patients, respectively

There is no agreed treatment strategy for patients presenting with SBO in pregnancy. Contemporary literature suggests that patients with confirmed adhesional obstruction may be managed conservatively in the first instance

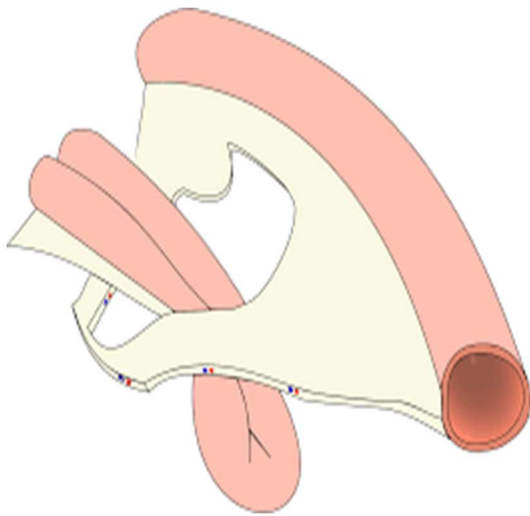
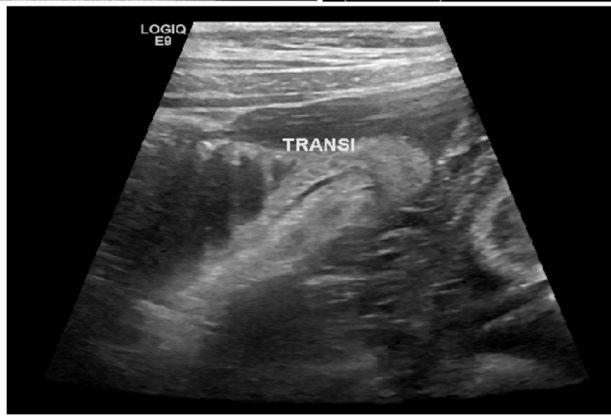
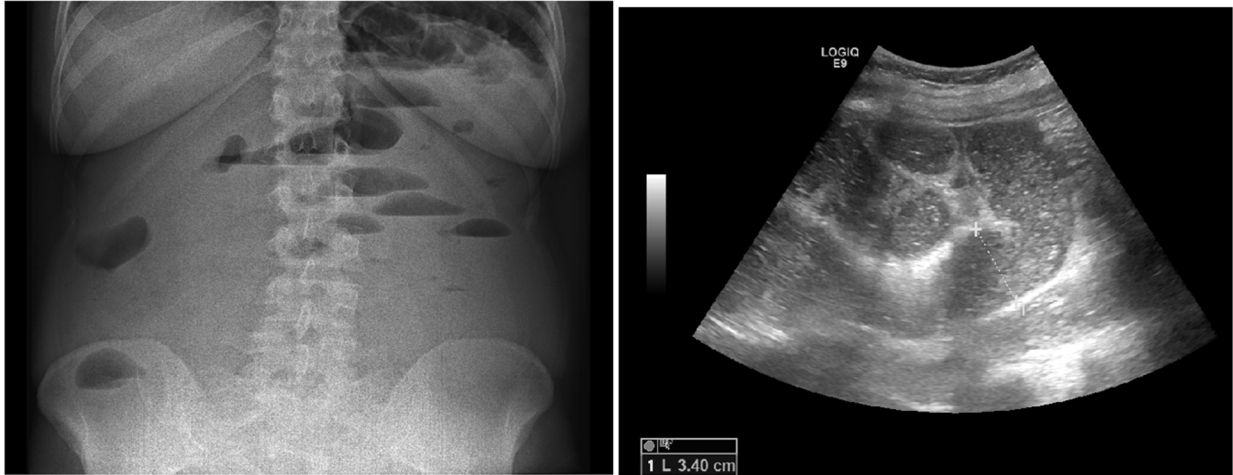
**Keywords:** Hernia, Pregnancy, Diagnosis, Surgical Intervention

### **Introduction:**

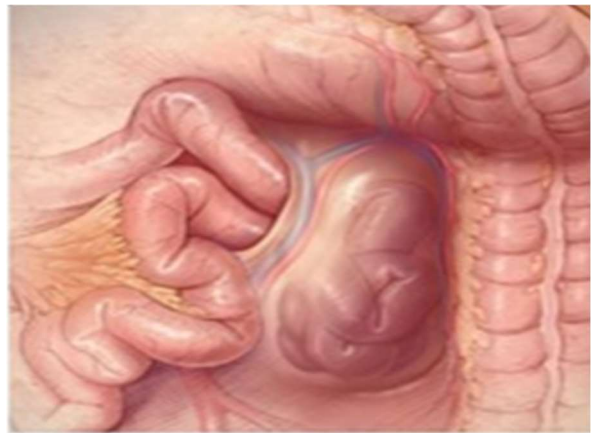
A 25-year-old expectant mother, gravida 2 para 1+0, with a history of irritable bowel syndrome (IBS) and previous abdominal surgeries, presented with acute epigastric pain and vomiting at 30 weeks' gestation. Her pain, described as diffuse and crampy, escalated over three days, proving resistant to over-the-counter analgesics. The pain was accompanied by vomiting—severe, projectile, and bilious—and was not alleviated by cessation of oral intake. Despite these symptoms, there was no report of labor contractions, vaginal bleeding, or abdominal distension. A recent visit to a local medical center had led to the administration of corticosteroids under the presumption of labor pains, aiming to advance fetal lung development. The patient's condition was further complicated by an episode of loose stools, followed by an absence of bowel movements or flatus, indicating a possible intestinal obstruction. This acute presentation was a stark contrast to her usual IBS symptoms and an episode of similar abdominal pain one month prior that resolved without intervention. The complex clinical picture necessitated a thorough evaluation to differentiate between common gastrointestinal disturbances associated with her known IBS and emergent conditions requiring surgical consideration.

A gravida 2 para 1+0 woman at 30 weeks' gestation with acute abdominal symptoms was examined. The clinical picture was significant for dehydration and pronounced pain, without fever. Vital signs remained within normal limits. Abdominal tenderness was noted, and a small incisional hernia was palpable in the right iliac fossa, with the fundal height corresponding to the gestational period. Laboratory analysis showed elevated white blood cells, predominantly neutrophils, and ketonuria, suggesting physiological stress or dehydration. Pancreatic enzymes were marginally elevated. Hepatic and renal profiles were within normal ranges, indicating no immediate organ dysfunction. Fetal monitoring demonstrated a reassuring heart rate without uterine activity, implying stability. Ultrasound imaging revealed dilated fluid-filled small intestinal loops, while an erect abdominal X-ray did not demonstrate free air, but confirmed dilated loops with air-fluid levels. No signs of incarceration were detected upon hernia site ultrasound. A transvaginal scan affirmed a closed cervix, contributing to the exclusion of premature labor in the differential diagnosis. This complex presentation necessitated an integrated diagnostic approach to differentiate between obstetric and surgical emergencies.

The multidisciplinary team, including general surgery and gastroenterology, suspected a small bowel obstruction secondary to adhesions. The patient underwent conservative treatment with IV hydration and electrolyte management. Despite initial conservative measures including nasogastric decompression, her condition did not improve, prompting repeat imaging that suggested ongoing obstruction. The decision for an emergent exploratory laparotomy was taken. During surgery, adhesive bands causing an internal hernia with an incarcerated bowel loop were identified and resolved. Post-operatively, the patient's condition improved, with the return of bowel function and well-tolerated diet progression. Fetal status remained stable, and the patient was discharged in good condition on the third postoperative day.



Illustrations of internal hernia



internal hernia

## Literature review

Intestinal obstruction complicates about 1 in 1500 pregnancies. (1) It is associated with a maternal mortality rate 6–20%, while fetal loss occurs in 26–50% (2). Adhesion from previous abdominal surgery, which is implicated in 60–70% of cases of mechanical obstruction, is the most common etiology of this condition. An additional 25% of cases result from volvulus, while intussusception causes 5% of cases. (3,4) 6% of obstructions occur during the first trimester, 27% during the second, 44% during the third and 21% post-partum (5). Obstruction is associated with the first pregnancy after an operation, presumably when adhesions are first tested (6)

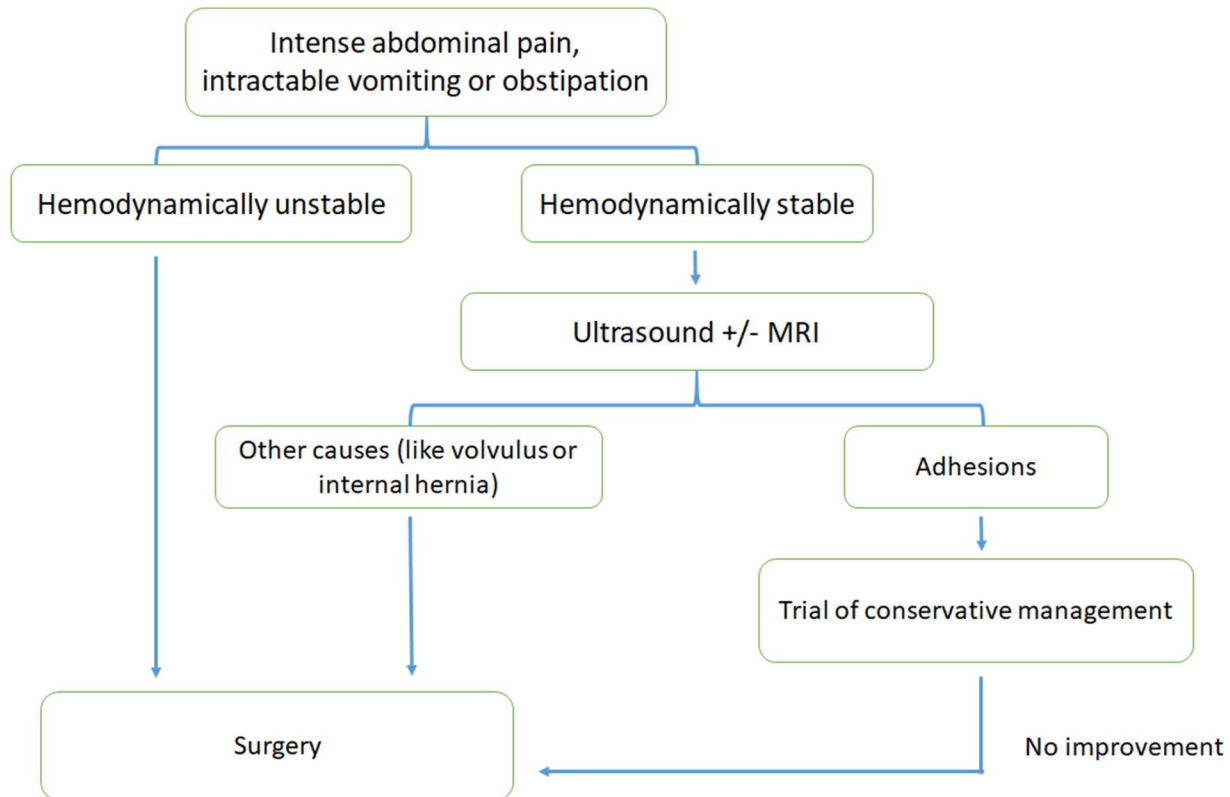
An internal hernia is defined as an herniation of the viscus through an opening (acquired or congenital) in the peritoneal cavity which could be intermittent or persistent. (7) The opening can be either acquired, such as a postsurgical, traumatic, postinflammatory defect or congenital, including both normal apertures, such as the epiploic foramen, and abnormal apertures arising from anomalies of internal rotation and peritoneal attachment. (8) Although internal hernias have an overall incidence of less than 1%, they constitute up to 5.8% of all small bowel obstructions, which, if left untreated, have been reported to have an overall mortality exceeding 50%, especially if there is strangulation.(9,10) Some suggest that the increased abdominal pressure and the cranial intestinal displacement caused by uterine enlargement increase the likelihood of the bowel becoming trapped in an internal hernia. (11,12,13)

The common symptoms of intestinal obstruction in pregnancy include abdominal pain (98%), vomiting (82%), and constipation (30%). Abdominal tenderness and abdominal peristalsis are observed in 71% and 55% of the patients, respectively. (14) Abdominal pain, distention, vomiting are not uncommon in pregnancy but intractable vomiting, intense abdominal pain, and constipation would prompt rapid evaluation. (15) Obstipation is characteristic of prolonged obstruction; however, bowel contents below the blockage may pass intermittently (16)

Ultrasound is the initial imaging study of choice as it is safe and could rule out intestinal obstruction with sensitivity of 89% and specificity of 100%. Ultrasound would show fluid filled dilated bowel loops. (17) Plain abdominal radiography can be helpful for making the diagnosis. Although the reported sensitivity in pregnant patients has been found to be low. Radiographies would reveal multiple air fluid levels. (18) CT scan is of limited value in pregnant patients as the uterus may displace the intestine and make interpretation difficult Furthermore, exposing the fetus to radiation should be avoided.(19) MRI has excellent soft tissue contrast and avoids the risks of ionising radiation. This makes it a useful tool for imaging the small bowel and diagnosing small bowel obstruction (SBO) in pregnancy. (20)

There is no agreed treatment strategy for patients presenting with SBO in pregnancy. Contemporary literature suggest that patients with confirmed adhesional obstruction may be managed conservatively in the first instance but with a low threshold for progressing to surgery. In other cases, such as small bowel volvulus or internal hernia, there is no role for conservative treatment and prompt surgical intervention following resuscitation is recommended. (21) Recent

studies have shown that open or laparoscopy surgery can be done safely during any trimester of pregnancy (22,23) In the third trimester of pregnancy and in cases where there is significant amount of distended small bowel, laparoscopy may be difficult and open surgery may be more appropriate.(24)



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