

Ileosigmoid knotting in pregnancy

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Abstract

Acute abdomen is a significant diagnostic and therapeutic challenge in pregnant females. The incidence of acute abdomen reported in literature is about 1 in 500–635 pregnancies. Ileosigmoid knotting (ISK) is a rare cause of intestinal obstruction characterized by wrapping of the ileum around the base of the sigmoid colon, forming a mechanical bowel obstruction with rapid progression to bowel gangrene. The mortality rate of ISK with bowel gangrene is reportedly as high as 20% to 100%. Because the knot involving the ileum and sigmoid colon can be difficult to untie, this condition usually requires laparotomy. Our patient was managed by exploratory laparotomy with resection of gangrenous ileum with end-to-end ileo-ileal anastomosis with sigmoidopexy and the post-operative period was uneventful.

Keywords: amenorrhoea, Ileosigmoid knotting, gangrenous, laparos to my, entero – enteros to my, resuscitation, sigmoidopexy.

Clinical case history

A 35 years old female, case of 6 months amenorrhoea [G5P4L4], presented to surgery emergency, GMC Jammu with complaints of pain abdomen and vomiting for 2 days. Pain was sudden in onset, colicky in character, involving the whole abdomen, mild in intensity, gradually progressive with abdominal distension, non-radiating, aggravated by meals, with no diurnal variation or postural relation and associated with constipation. Patient experienced multiple episodes of bilious vomiting, non-projectile, contained ingested water and was non-foul smelling. She gave history of fever over last 2 days.

There was no history of chronic medication or surgical intervention in the past. On examination, she was ill-looking, pale, febrile with low volume pulse and pulse

rate of 112 beats per minute, BP measuring 100/60mmHg, respiratory rate 28 breaths per minute, SpO2 96% at room air. Abdomen was distended, tenderness and rebound tenderness were present with abdominal guarding with reduced bowel sounds. Per rectal and per vaginal examination revealed no significant details. Her lab parameters were: TLC=23000, Hb=7.8g%, Serum urea=64, Serum creatinine=2.2. X-ray abdomen showed no air fluid levels or gas under diaphragm. USG abdomen showed gravid uterus with single live intrauterine foetus; mild ascites with low level mobile internal echoes with evidence of sluggish to and for peristalsis of visualized large bowel loops with maximum caliber of 2.7 cm and visualized jejunal loops appear collapsed. The patient was vigorously managed by fluid resuscitation and oxygen inhalation.

She was planned for operative intervention within 4 hours of arrival and underwent exploratory laparotomy with resection of gangrenous ileum with end-to-end ileo-ileal anastomosis with sigmoidopexy for ileo-sigmoid knotting causing gangrene of most of the ileum leading to acute intestinal obstruction. Post-operatively, she was managed with i. v. fluids, antibiotics and blood and FFP transfusion. USG for foetal well-being was done at regular intervals to ensure foetal wellness. Post-op period was uneventful and she was discharged on the 12th post-op day in a stable condition and followed up in OPD.

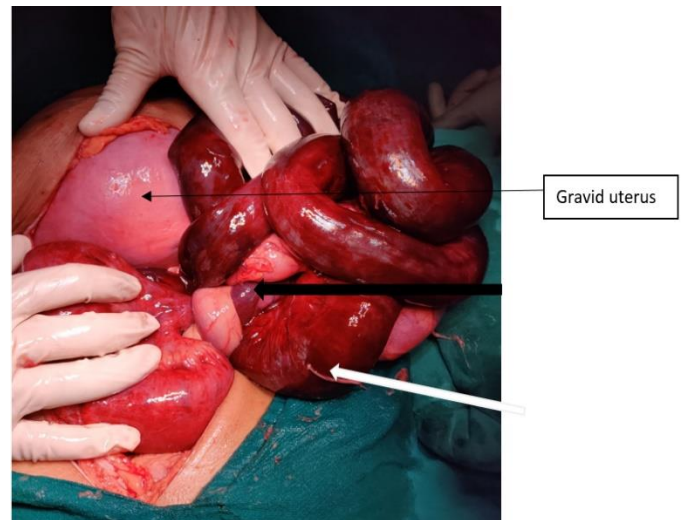


Figure 1: Ileosigmoid knotting in 6 months pregnant female (white arrow showing gangrenous ileum and black arrow showing Ileosigmoid knotting).



Figure 2: Resected gangrenous ileum.

Discussion

Acute abdomen is a significant diagnostic and therapeutic challenge in pregnant females. The incidence of acute abdomen reported in literature is about 1 in 500–635 pregnancies. Adhesions are the most common cause of intestinal obstruction in pregnancy occurring in 58% of cases. 70% of these patients will have a history of previous abdominal or pelvic surgery such as an appendectomy or several episodes of pelvic inflammatory disease. The remaining documented

causes of intestinal obstruction in pregnancy are volvulus (24%), intussusception (5%) and Ileosigmoid knotting (3.2% to 5.9%). Symptoms include colicky abdominal pain, abdominal distension, constipation and vomiting. Clinical signs include asymmetrical abdominal distension, visible peristalsis and increased or reduced bowel sounds. If the gut is gangrenous, there may be tenderness, guarding, rebound tenderness and melanotic stools per rectum.

The Ileosigmoid knotting (ISK) is a rare cause of intestinal obstruction characterized by wrapping of the ileum around the base of the sigmoid colon, forming a mechanical bowel obstruction with rapid progression to bowel gangrene. The mortality rate of ISK with bowel gangrene is reportedly as high as 20% to 100%. Because the knot involving the ileum and sigmoid colon can be difficult to untie, this condition usually requires laparotomy.

Factors predisposing to ISK in pregnancy include hypermobile bowel with elongated mesentery and a narrow base, relaxed abdominal wall predisposing to bowel torsion, consumption of high bulk diet in the presence of empty small bowel, adhesions, internal hernias, malrotation of the gut and Meckel's diverticulum. Reluctance to perform radiological investigations during pregnancy lead to delay in the diagnosis.

Investigations for ISK include:(a)Plain erect abdominal radiograph which may show dilated sigmoid colon with multiple small intestinal air-fluid levels (b)Barium or water soluble contrast enemas that show obstruction in the lumen of the sigmoid but they are contraindicated in patients with peritonitis, bowel perforation and gangrene (c) Abdominal CT may show twisted and dilated sigmoid with whirled sigmoid mesentery as well as twisted and dilated small gut (d) Flexible sigmoidoscopy

may show spiral sphincter-like twist of the mucosa but it does not give any information about the small bowel. However, these investigations were not done in our patient since she had obvious features of acute abdomen that warranted exploratory laparotomy.

Management of patients with ISK involves adequate fluid resuscitation, correction of electrolyte derangements, placement of a nasogastric tube, nil per os, and intravenous broad - spectrum antibiotics. During emergency laparotomy, untwisting the knot is difficult and there is risk of bowel perforation.

Thus, en-bloc resection of the gangrenous bowel is recommended. Entero - enterostomy and primary anastomosis of the sigmoid or colostomy may be performed. In our patient, we resected the gangrenous ileal segment and created ileo-ileal anastomosis with sigmoidopexy.

In non-gangrenous cases, one may carefully untwist the knot and perform a volvulus preventing procedure (such as mesopexy or mesoplasty).

Conclusion

Ileosigmoid knotting is a rare event in pregnancy whose preoperative diagnosis requires a high index of suspicion.

It should be managed by aggressive resuscitation, appropriate radiological investigations and an expeditious operative management.

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