

**Case Report**

**LARGE INTESTINAL OBSTRUCTION DURING PREGNANCY IS STILL ALIVE AS RARE SURGICAL EMERGENCY**

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**ABSTRACT**

Intestinal obstruction in pregnancy is uncommon, but is associated with significant maternal and fetal morbidity and rare mortality. The delay in diagnosis is due to nonspecific symptoms and a disinclination to carry out radiological investigations in pregnancy. We report a rare case of transverse colon and descending colon malpositioning, leading to intestinal obstruction in third trimester of pregnancy. Surgical intervention was done and the patient had a successful recovery. With this case we would like to emphasize the need for thorough investigations and clinical suspicion of rare causes of acute abdomen in pregnancy.

**CASES**

23 year old gravid 2, abortion 1 at 32 weeks gestation came with history of pain in the right lower abdomen with 20 episodes of loose stools. History revealed that patient was known epileptic on treatment with levipril. There was history of decreased fetal movement on admission. After medical opinion patient was treated as a case of g2a1 with 32 weeks of gestation with acute gastroenteritis with antibiotics, iv fluids, betamethasone 12mg (to enhance the lung maturity of fetus) in spite of treatment her symptoms persisted and surgical opinion was taken. Surgical opinion (day 1) advised to continue the same treatment. Systemic investigations are within normal limits except for leucocytosis (13,000 cl/cmm).

In spite of conservative treatment patient had persistent symptoms and re-evaluated by general surgeons. USG day 2 revealed dilated loops of large bowels with free fluid in pouch of Douglas and peritoneal cavity. Impression of acute large bowel obstruction of infective etiology. Patient was continued with antibiotics, iv fluids, nasogastric aspiration, serial USG follow up.

Patient had relief of symptoms for few hours followed by recurrence. USG on day 3 (after recurrence of symptoms) showed dilated whole of right colon (7.8 cm) with no peristalsis in that segment, loops contained fluid with air. Diagnosis of obstruction of transverse colon of unknown etiology was made.

Patient posted for exploratory laparotomy (indication obstruction of transverse colon of unknown etiology): abdomen opened by midline vertical incision, the view of abdomen was compromised by gravid uterus so caesarian section was undertaken and abdomen was re-evaluated and dilated caecum, ascending colon noted. There was malpositioning of transverse colon and descending colon. Right hemicoectomy with ileotransversal anastomosis done and abdomen was closed.

Post operative period was uneventful. Patient discharged with baby.

**DISCUSSION**

The incidence of intestinal obstruction during pregnancy rose throughout the 20th century. In the presurgical era, cases were cited as infrequently as 1 in every 68,000 deliveries. Since the 1940s, however, the incidence has increased to 1 in 2,500 to 3,500 deliveries (Davis and Bohon, 1983). This change reflects the increased number of laparotomies in young women and the prevalence of postoperative adhesions during pregnancy. Adhesions are the commonest cause of IO in pregnancy and account for more than half the causes found at laparotomy. The incidence and complication rates increase with gestational age, particularly in the third trimester. The risk of gestational IO increases as the uterus enlarges. Other causes include volvulus (23%), intussusception (5%), hernia (3%), carcinoma (1%), appendicitis (1%), and idiopathic "ileus" (8%) (Perdue *et al.*, 1992). Although uncommon, IO in pregnancy carries significant maternal (6%) and fetal (26%) mortality (Perdue *et al.*, 1992). Often, this is

### **Case Report**

due to delay in diagnosis and treatment. Furthermore, there is a reluctance to utilise radiation-based investigations. This was the first case of IO in pregnancy recorded in our hospital in the last 10 years (2500 deliveries annually).

Obstruction during pregnancy classically presents during three peak periods because of the change in the interrelationship between the abdominal viscera caused by the gravid uterus. The first peak occurs during the fourth to fifth months of gestation as the uterus becomes an intra-abdominal organ, stretching any previously formed adhesions. The second peak occurs during the eighth to ninth months, when the fetal head descends into the pelvis, decreasing the uterine size. The third peak occurs after delivery as the sudden decrease in uterine size drastically changes the association of adhesions to surrounding bowel. The incidence of adhesion-related obstruction is highest during the first pregnancy after an operation, when the association between the viscera and adhesions is initially tested (Hill *et al.*, 1976; Davis and Bohon, 1983).

### **Presentation and Diagnosis**

Symptoms of intestinal obstruction are similar to those in the nonpregnant patient and commonly include abdominal pain and vomiting. In our case it manifested as gastroenteritis. Proximal small bowel obstruction results in short periods between vomiting episodes with poorly localized, crampy upper abdominal pain. Colonic obstruction can present with less frequent feculent vomiting and lower abdominal pain. Findings on physical examination such as abdominal distention are often difficult to evaluate because of the gravid uterus. Constipation, although characteristic of distal obstruction such as sigmoid volvulus, may not occur with proximal obstruction. Laboratory studies, although useful to rule out other conditions, are not reliable enough to be considered diagnostic of obstruction. Significant leukocytosis can occur with necrosis and bowel strangulation, but mild elevations are not definitive because of the physiologic leukocytosis of pregnancy in our case leukocytosis (13, 000 cl/cmm). Tachycardia and hypotension are also late signs suggesting bowel compromise and shock.

The murky clinical picture combined with the tendency to treat the progressive vomiting as a normal part of pregnancy and crampy abdominal pain as early contractions lead to a delay in presentation and diagnosis. The median time from the onset of symptoms to admission in one series was 48 hours, and the median time from admission to a necessary laparotomy was also 48 hours. This delay in diagnosis and treatment contributed to excessive maternal and fetal mortality (Perdue *et al.*, 1992). Abdominal pain and vomiting in a pregnant patient with an abdominal scar should raise the serious suspicion of small bowel obstruction.

If intestinal obstruction is suspected, upright and flat films of the abdomen are the diagnostic studies of choice. Although some authors (Davis and Bohon, 1983) believe that radiographs are nonspecific early in obstruction, serial films obtained every 4 to 6 hours usually show progressive changes confirming the diagnosis. Small bowel obstruction gives the appearance of a progressive stepladder formation with dilatation and multiple air-fluid levels. Large bowel obstruction can produce a similar picture or reveal a grossly dilated bowel loop suggestive of volvulus. Contrast studies are also useful, and a "bird's bill" shape of contrast with gradual narrowing after a barium enema can be diagnostic of colonic volvulus, whereas dilute diatrizoate (Gastrografin) or barium by mouth can usually differentiate partial from complete obstruction. Fetal radiation risks from the plain radiographs are negligible and greatly outweighed by those from the possibility of misdiagnosis.

### **Treatment**

The initial treatment for bowel obstruction in the pregnant patient is no different from that of a nonpregnant patient. Nasogastric tube decompression and fluid resuscitation are the cornerstones of therapy. By the time an obstruction is visible on plain film, the fluid deficit from vomiting and intraluminal losses is estimated at 1, 000 to 1, 500 mL. In advanced cases of dehydration presenting with tachycardia and hypotension, fluid losses may be as high as 4 to 6 L (Davis and Bohon, 1983). Prompt fluid resuscitation is essential in the pregnant patient because compromise of uterine blood flow leads to fetal distress and demise.

### **Case Report**

Surgical intervention plays a prominent and earlier role in the management of the pregnant patient with bowel obstruction. Although adhesion-related small bowel obstruction in the nonpregnant patient usually resolves with nasogastric decompression and fluid administration, numerous series have documented failure of conservative management of small bowel obstruction in the pregnant woman. Of all patients, 89% to 100% eventually require an operation, and 13% to 23% require resection of gangrenous bowel at the time of laparotomy (Perdue *et al.*, 1992; Meyerson *et al.*, 1995). Based on these outcomes, some have stated that once the diagnosis of small bowel obstruction is made in a pregnant patient, the only role of nasogastric decompression and fluid resuscitation is to prepare the patient for an operation (Meyerson *et al.*, 1995). Cecal volvulus is also treated surgically, and although sigmoid volvulus in the nonpregnant patient can be managed with sigmoidoscopic decompression and placement of a rectal tube, the large gravid uterus may act as a mechanical impediment to detorsion. A laparotomy is usually necessary for treatment (Perdue *et al.*, 1992; Hill *et al.*, 1976).

A generous midline incision allows for maximum exposure of the abdomen with minimal manipulation of the uterus. During lysis of small bowel adhesions, bowel viability must be carefully assessed. Definitive management of cecal volvulus requires resection of necrotic cecum or detorsion and cecopexy. Sigmoid volvulus should also be treated by resection if necrotic, but simple detorsion and placement of a rectal tube can be performed if the sigmoid is viable. Although resection of the redundant sigmoid is the definitive treatment for this disease, it can be delayed until the postpartum period. Aggressive surgical treatment has been credited with reducing the maternal and fetal mortality rates from 20% and 50%, respectively, in the 1930s to 6% and 26% today (Hill *et al.*, 1976). Increased awareness of this disease and expeditious management can reduce those rates even further.

### **Conclusion**

IO in pregnancy is rare. A high degree of suspicion is crucial, especially in patients with previous abdominal surgery. The high morbidity and mortality rates meant that radiological investigations and surgery should not be delayed. An additional learning point from this case would be that in an obstetric patient without any surgical history who presents with abdominal pain, one should always consider rarer surgical causes other than merely obstetric or gynaecological causes of pain.

### **REFERENCES**

- Davis MR and Bohon CJ (1983).** Intestinal obstruction in pregnancy. *Clinical Obstetrics and Gynecology* **26** 832–842.
- Hill LM and Symmonds RE (1976).** Small bowel obstruction in pregnancy: a report and review of four cases. *Obstetrics & Gynecology* **49** 170–173.
- Meyerson S, Holtz T and Ehrinpreis M et al., (1995).** Small bowel obstruction in pregnancy. *The American Journal of Gastroenterology* **90** 299–302.
- Perdue PW, Johnson HW Jr and Stafford PW (1992).** Intestinal obstruction complicating pregnancy. *American Journal of Surgery* **164** 384–388.