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## CASE STUDY

# A RARE CASE OF MESOCOLIC HERNIA CAUSING INTESTINAL OBSTRUCTION LEADING TO PERFORATION

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**ABSTRACT**

Internal hernia may be either congenital or acquired. Its incidence has been reported to be 1-2%. Herniation may be persistent or intermittent. Internal hernia is a rare cause of small bowel obstruction with a reported incidence of 0.2-0.9%. The most common type is paraduodenal. Less common types include mesocolic hernia, which occurs following abdominal surgery. We report a case of mesocolic hernia in a young patient, which presented as intestinal obstruction leading to perforation without any prior abdominal surgeries.



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## INTRODUCTION

Internal hernias are uncommon and the herniation occurs through a defect, which is Congenital or created during previous surgery. The presentation can be varied from chronic Recurrent abdominal pain to acute intestinal obstruction and internal hernias are the cause in 5.8% of acute small-bowel obstruction. 1 electively, contrast enhanced CT is the Investigation of choice while in emergency settings and diagnosis is made at laparotomy.

## CASE REPORT

A 15 year old female with complaints of abdominal distension and recurrent episodes of vomiting and constipation since 3 days which were sudden in onset progressive in nature. History of similar complaints in the past since 1 yr intermittently. No history of undergoing any operative procedures in the past. On examination patient was dehydrated and abdomen was distended with a tympanic note on percussion and on auscultation no bowel sounds could be heard.

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On digital rectal examination a mass could be felt high up on right side. Laboratory findings were normal. Ultrasound abdomen revealed a huge right ovarian mass. X ray erect abdomen showed multiple air fluid level suggesting intestinal obstruction. Exploratory laprotomy by a midline vertical incision was done which revealed a thick walled capsule encasing a part of duodenum, whole of jejunum, and ileum and right colon. Ironically uterus ovary and adnexa were found to be normal. On opening the sac Ileal Volvulus was found with 2 perforations located 60 cms from the ileo caecal junction. Resection and end to end anastamoses of ileum was done along with excision of rest of the sac. Post operative period was uneventful and recovery good in the follow up period.

## DISCUSSION

Internal hernias are rare and found in 0.2-0.9% of population; they can be congenital or acquired (Blachar *et al*., 2001). They occur at various sites like paraduodenal (53%), pericaecal (13%), foramen of Winslow (8%), transmesentric and transmesocolic (8%), intersigmoid (6%) and retro-anastamotic (5%), trans omental (1-4%), supravesical and pelvic (6%) (Kohli *et al*., 2006). Right paraduodenal hernia occurs when the bowel herniates through Waldeyer's fossa (a defect in the jejuna mesentery) posterior to the superior mesenteric artery

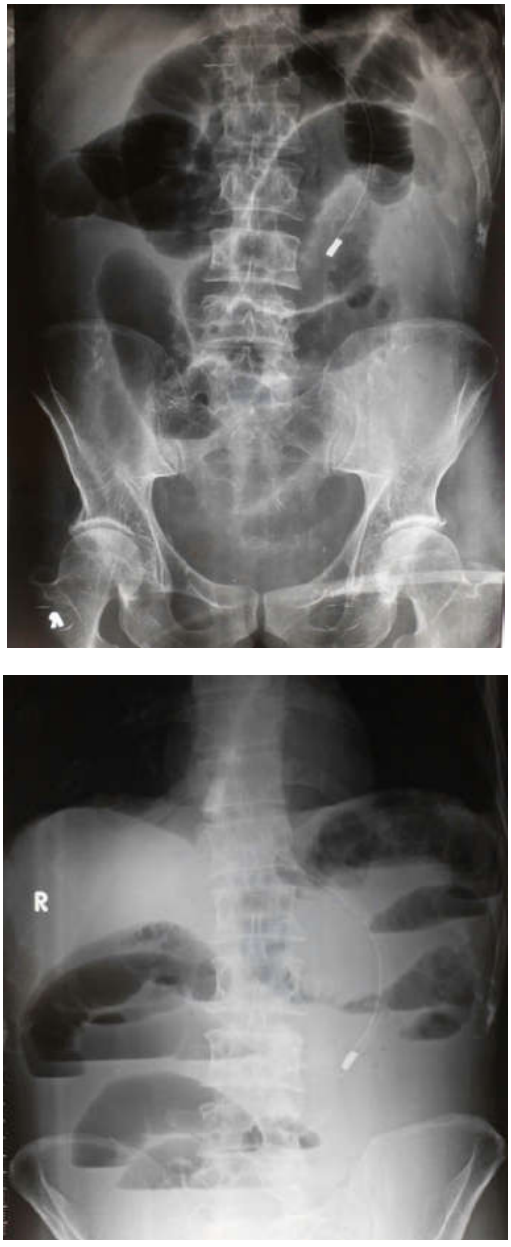


Fig. 1. X- ray erect abdomen showing multiple air fluid levels and a sac

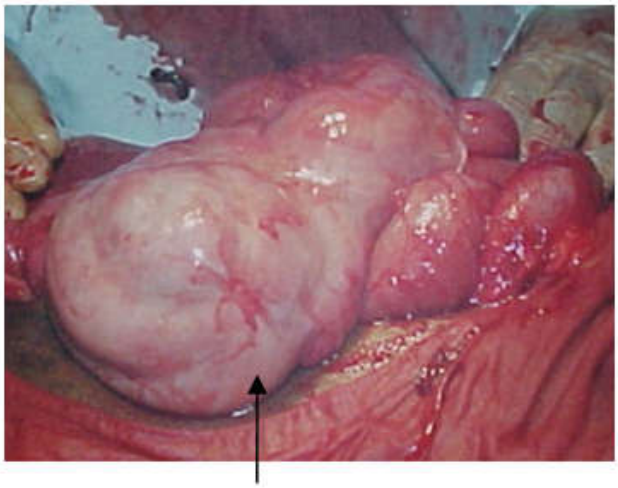

Fig. 2. Thick walled sac

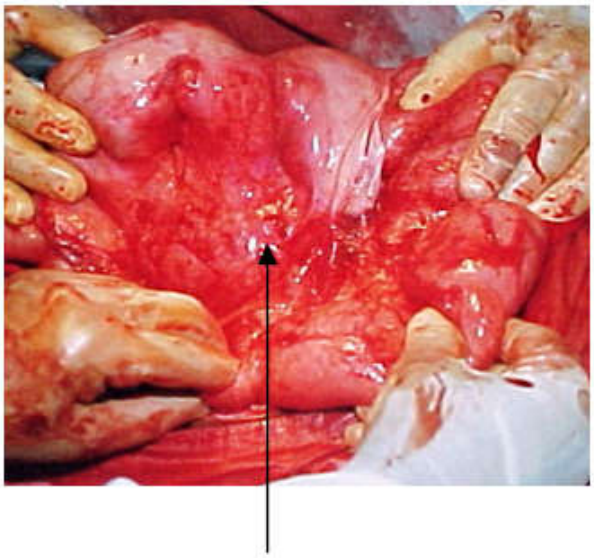

Fig. 2A. Dilated bowel loops after opening sac

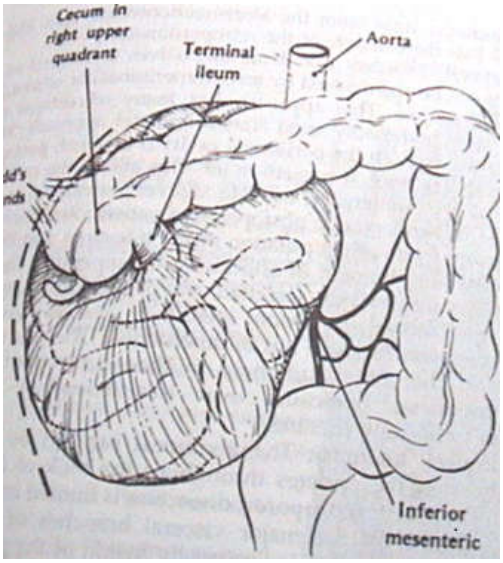


Fig. 3a. Rt Mesocolic Hernia

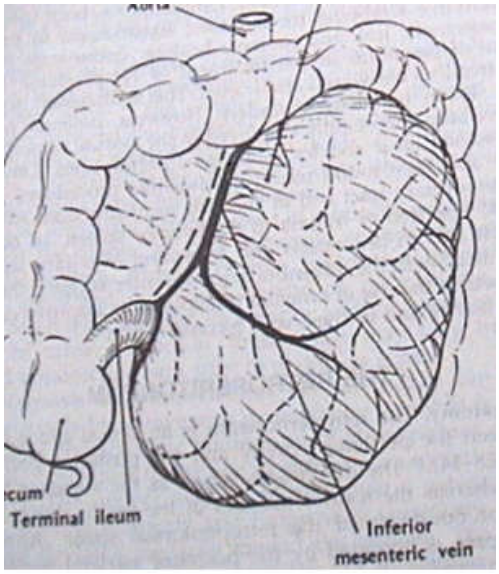


Fig. 3B. Lt Mesocolic Hernia

and inferior to the third part of duodenum, into the right half of the transverse mesocolon or behind the ascending colon (Scheepers, 2006). Embryologically, at 6 weeks, the mid gut herniates into the umbilical cord and rotates $90^0$ in it, while returning back it again rotates $90^0$ and finally another $90^0$ in the abdomen to rotate a full $270^0$ counter clock wise around the superior mesenteric artery; if the pre arterial segment fails to rotate the small bowel is entrapped in the right mesocolon and a right Para duodenal hernia results (Scheepers, 2006). It is also called as mesenteric parietal or congenital mesocolic hernia.

The presentation can be varied from recurrent abdominal pain with nausea, vomiting and upper abdominal discomfort to acute intestinal obstruction; 5.8% of acute intestinal obstruction are caused by internal hernias (Zissin *et al*., 2005). This condition, if not diagnosed timely, can result in increased morbidity and mortality. CT scan is the investigation of choice in elective settings, but in emergent situations like intestinal obstruction, diagnosis is made at laprotomy.

Treatment described at laprotomy is reduction of contents if possible, otherwise incising the neck of the sac, taking care of the nearby superior mesenteric vessels and reduction (Huang *et al*., 2005 and Parmar and Parmar, 2010). The redundant sac is closed or widened. Right mesocolic herniation is repaired by displacing the colon towards the right side and leaving the small bowel on the right side (Munir *et al*., 2004). In our case jejunum, ileum and part of right colon were contained in the peritoneal sac in the fossa of waldeyer and there were two perforations located 60 cms away from the ileocaecal junction within the sac along with the leaked fluid from the perforation. As it was contained within the sac there were no signs of perforation peritonitis. Although paraduodenal hernias are known, the literature is silent about the presentation with a complication like perforation peritonitis within the sac.

**Conclusion**

Right paraduodenal hernias are a rare cause of intestinal obstruction and those along with a perforation are a very rare entity. These conditions are difficult to diagnose in emergency settings. They carry a high mortality and morbidity rates therefore early intervention is required and treatment includes urgent laprotomy with reduction of the contents of the sac and obliteration of redundant sac.

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