

## **Ileal Volvulus Causing Displacement of the Liver: Case Report.**

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**Abstract:** Small bowel volvulus is a life threatening surgical emergency presenting as small bowel obstruction. We present a 31 year old lady, who developed intestinal obstruction due to ileal volvulus causing displacement of right lobe of the liver as evident in the pre-operative X ray of abdomen and CECT. A CT scan on 10<sup>th</sup> post-operative day showed liver in the normal anatomical position. To our best knowledge, there are no previous reports of ileal volvulus causing the liver displacement and therefore we report this case.

**Keywords:** Volvulus, Small bowel volvulus, Displacement of liver.

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### **I. Introduction**

Small bowel volvulus is an uncommon but important cause of small intestinal obstruction. It often results in ischemia or even infarction. It may occur at any age. Delay in diagnosis and surgical intervention increases morbidity and mortality rates<sup>3</sup>. We report a case of small bowel volvulus causing displacement of the liver to the opposite side. Patient underwent Emergency Laparotomy with Small bowel resection and anastomosis for the same. A follow-up CECT abdomen was taken during post-operative hospital stay, which revealed shift of the liver back to its original position.

### **II. Case Report**

A 31 year old lady presented to our casualty with complaints of intermittent colicky pain abdomen of 1 month duration and multiple episodes of bilious vomiting on the day of admission. She had sudden increase in pain from the morning, on the day of admission. The pain was mainly over the upper abdomen and was more on lying down. She gives no history of constipation.

Clinical examination was conclusive of an abdominal pathology. X ray of abdomen supine showed grossly dilated small bowel loops. Contrast Enhanced CT abdomen revealed evidence of volvulus with luminal dilatation of about 11-12 cm, with air fluid level noted in the right subdiaphragmatic space. Bowel appeared to be intruded between the right kidney and the liver through the Morrison pouch region displacing the liver to the left side. The right lobe of liver was pushed to the left sub diaphragmatic space. Caecum and volvulus occupied the right sub diaphragmatic space. Mild to moderate free fluid was present in the right paracolic gutter.

Patient underwent Emergency Laparotomy with Small bowel resection anastomosis under General Anesthesia. Post-operative recovery was uneventful. A follow-up CECT abdomen was taken for evaluation of post operative pain, which revealed shift of the liver back to its original position.

### **Histopathology report:**

**Micro:** Sections from the larger segment of small intestine show necrosis of mucosa. Neutrophilic exudate in lumen and oedema and acute inflammation of sub mucosa noted. Section from one resected margin shows serosal hemorrhage. Section from other resected margin shows acute inflammation, oedema and congestion.

### **III. Discussion**

Volvulus is a special form of closed loop mechanical intestinal obstruction. It results from abnormal twisting of a loop of bowel around the axis of its own mesentery. Clinically, there are differences in presentation and treatment depending on grade of obstruction (partial, complete) and the segment involved.

The types and incidence of intestinal volvulus are age related and demonstrate wide demographic differences.<sup>2</sup>SBV may occur at any age, although the primary variety mainly occurs in children and young adults.<sup>1,4</sup> In contrast, secondary SBV is uncommon in those under 40 years of age, with a peak incidence in the 6th to 8th decades. Males predominate in both primary and secondary SBV.<sup>5,6</sup>

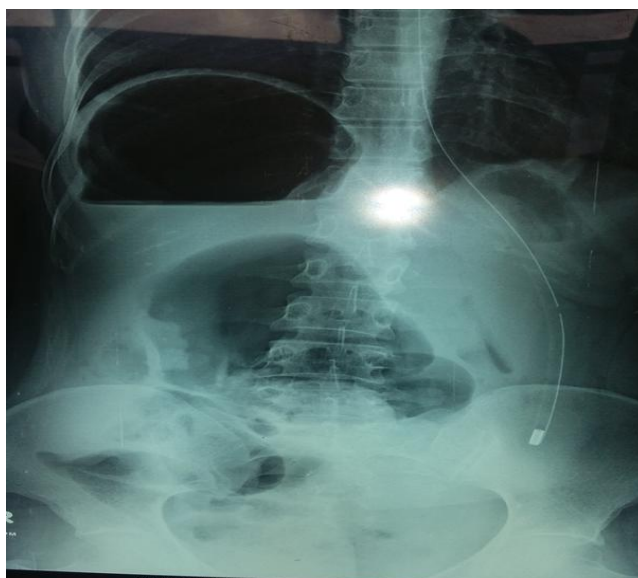
In adults, volvulus of colon, sigmoid colon in 70 to 80 %, and the caecum in 10% to 20% of cases, is common<sup>7</sup>. Volvulus of the small intestine, however, is relatively rare in contrast.<sup>2</sup>Rarely, a compound volvulus of small and large bowel (ileo-sigmoid knot) has been reported. Ballantyne reported the various frequencies as

follows: sigmoid colon 60.9%, cecum 34.5%, transverse colon 3.6%, and splenic flexure 1%<sup>1</sup>. Based on the cause, small bowel volvulus can be differentiated into primary and secondary type.<sup>8</sup> Primary small bowel volvulus occurs in a normal abdominal cavity with no underlying anatomical abnormalities or predisposing factors. Secondary small bowel volvulus occurs in the presence of predisposing factors, either congenital or acquired.

One study was reported which showed displacement of the liver by a sigmoid volvulus. In our case, it was a small bowel volvulus causing the displacement of the liver which got corrected by itself to normal position after surgical correction of the volvulus.

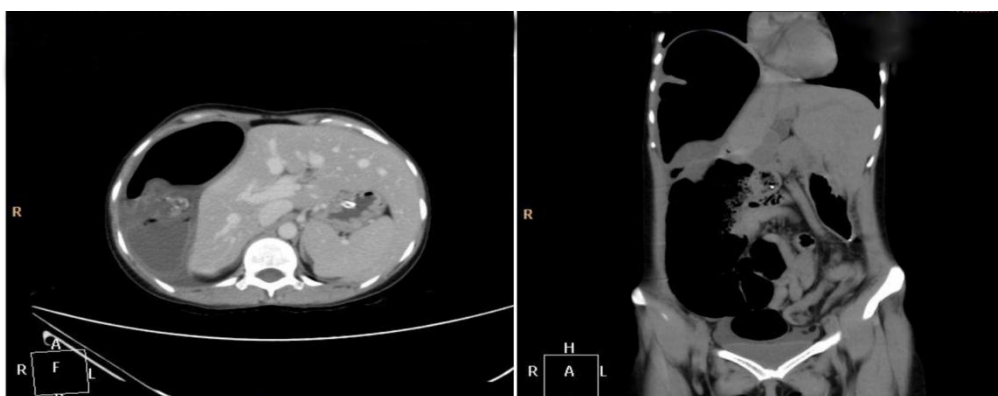
#### IV. Conclusion

Abdomen is a Pandora's box that would humble many a brilliant clinician. Radiograph showing possible air under right diaphragm was a loop of dilated ileum with closed loop obstruction due to ileal volvulus. In our case the volvulating segment had produced so much intra abdominal pressure as to push the right lobe of liver across the midline and once surgical correction was done, the liver promptly returned back to its orthotopic position. The possibility of the extent of pressure exerted by the volvulating segment can also produce a scenario similar to abdominal compartment syndrome and its complications, should be kept in mind. It cannot be over emphasized again the importance of surgical idiom that says 'the sun should not both rise and set' on a case of unrelieved acute intestinal obstruction.



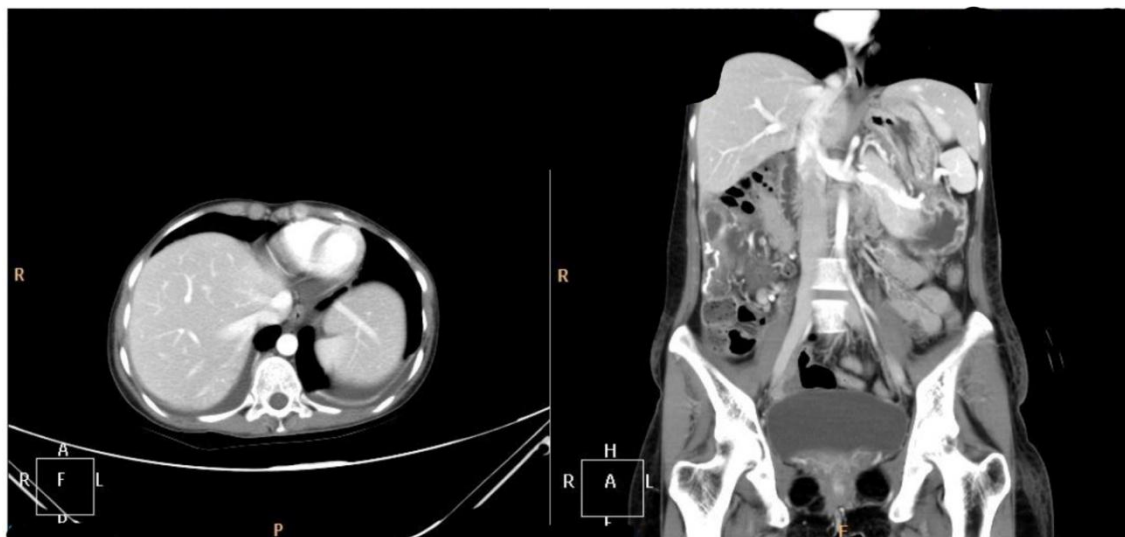
Pre-operative abdominal plain film obtained in the upright position showing dilated bowel loops.

Pre operative CECT of abdomen:



Right lobe of liver is pushed by the small bowel volvulus.

Post operative CECT of abdomen:



Post op, liver has come back to the normal position.

**Abbreviations:**

SBV: Small bowel volvulus.

**References**

- [1]. 1.Saich F .the high incidence of intestinal volvulus in Iran 1969;10;838-41
- [2]. 2. Ellis H. Acute intestinal obstruction. In Schwartz SI, Ellis H, ed.
- [3]. 3.Maringot's Abdominal Operations, 9th Edition. Volume 1, Chapter
- [4]. 4.The Royal College of Surgeons of Edinburgh, J.R.Coll.Surg.Edinb.,44; 3: 150-5
- [5]. 4.Deutsch AA, Eviator E, Gutman H, Reiss R. Small bowel obstruction: a review of 264 cases and suggestions for management. Postgrad Med J 1989; 65: 453-67
- [6]. 5.McDonald IO, Hawker DBG. Small bowel volvulus: the commonest abdominal emergency in Nepal. Bristol Med Chir J 1980;95: 4-8
- [7]. 6.Duke JH, Yar MS. Primary small bowel volvulus: cause and management. Arch Surg 1977; 112:685-688
- [8]. 7.Holder WD. Intestinal obstruction. GastroenterolClin North Am
- [9]. 1988; 17(2):317-340
- [10]. 8.Frazer RC, Mucha P, Farnell MB, van Heerden JA. Volvulus of the
- [11]. small intestine. Ann Surg 1988; 208:565-568.
- [12].

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