

# Small Bowel Herniation into the Lesser Sac with Early Ileal Perforation - A Rare Case Report

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## ABSTRACT

**Introduction:** Internal hernia refers to the protrusion of an abdominal viscus through the peritoneum or mesentery into a compartment within the abdominal cavity. To the best of our knowledge, though internal hernias are reported with intestinal obstruction and strangulation, perforation with lesser sac hernia reports are very rare.

**Case report:** Herewith We describe the case of a 22-year-old man who presented to our hospital complaining of abdominal pain in whom a plain abdominal radiograph revealed small bowel gas with multiple airfluid levels, suggesting intestinal obstruction and emergency laparotomy was done and was diagnosed as internal herniation of Ileum into the foramen of Winslow in through the lesser omentum with the complication of perforation. Approximately 25 cm of ileum was found to have herniated.

**Conclusion:** Although, lesser sac herniation of ileum is a rare phenomenon, anticipating it while doing an emergency laparotomy for acute abdomen is necessary to prevent morbidity and mortality.

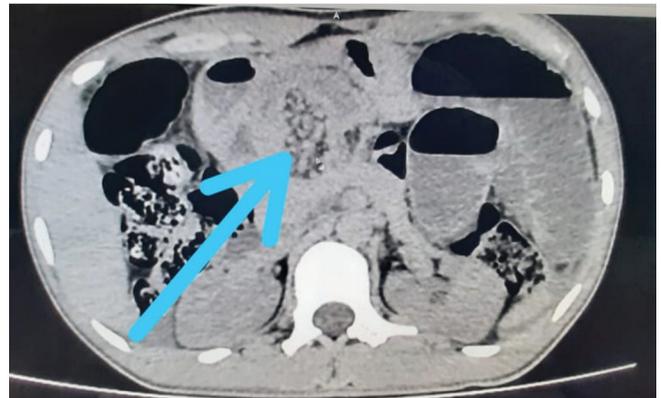
**Keywords:** Intestinal Obstruction, Ileal Herniation, Lesser Sac, Foramen of Winslow, Perforation

The patient had no visible abdominal surgical scars. Hematological and biochemical investigations were within normal limit except for leucocytosis.

A plain film of the abdomen demonstrated multiple dilated fluid filled small bowel loops with an air-fluid level in the



**Figure-1:** Xray abdomen erect showing dilated bowel shadows and air fluid level suggestive of intestinal obstruction.



**Figure-2:** CT abdomen showing bowel loops in the lesser sac.

## INTRODUCTION

Internal herniation is an uncommon cause of intestinal obstruction, accounting for less than 1% of cases.<sup>1,2,3</sup> Herniation via the gastroepiploic foramen (foramen of Winslow) accounts for 8% of internal hernias<sup>1,2,4,5</sup> and usually involves a loop of small bowel, caecum or greater omentum.<sup>1,4,6,7</sup>

## CASE REPORT

A 22 year old male patient came to the emergency casualty with history of pain abdomen and distension for 2 days. there was history of non-bilious vomiting, more than 3 episodes per day for 2 days and constipation and obstipation for 2 days. there was no history of fever, loose stools or melaena. He had no prior surgical procedures or history of abdominal trauma and he had no medical comorbidities. he was a cannabis drug abuser for a duration of 6 months and he was a chronic smoker and occasional alcoholic.

On clinical examination, conscious, oriented, afebrile, no pallor, no icterus, no clubbing, edema and lymphadenopathy. Cardiovascular and respiratory examinations were normal.

Vital signs were all within normal limits. On physical examination, the abdomen was distended, diffuse tenderness, umbilicus normal in position, no visible peristalsis bowel sounds absent, no organomegaly. Bilateral hernia orifices free and on digital rectal examination, rectum was normal.

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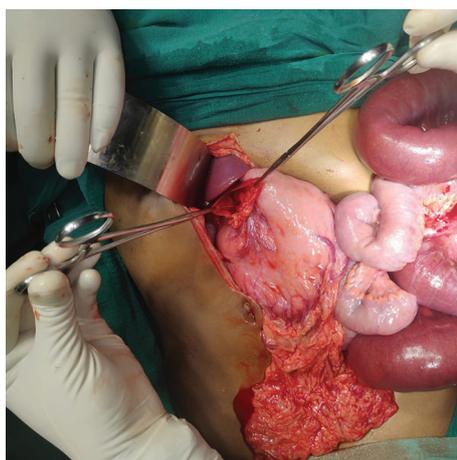
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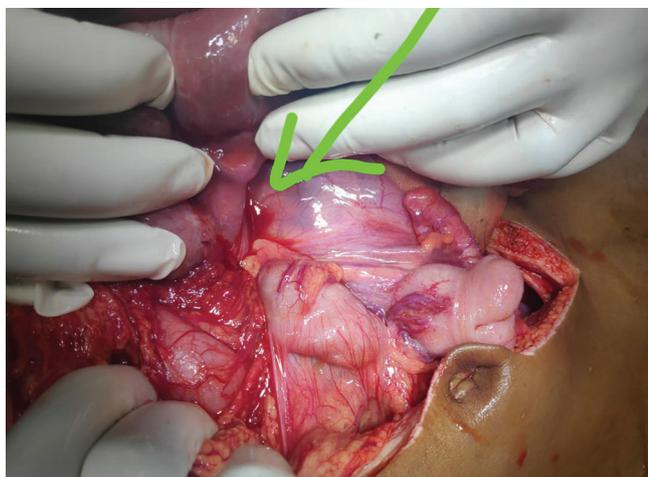
epigastrium and on the right side of the abdomen, suggesting intestinal obstruction (Fig. 1). A computed tomography (CT) scan of the abdomen revealed (Figs. 2) poorly enhancing mesenteric arcade with non enhancing bowel loops noted in lesser sac. Jejunal and proximal ileal loops appears dilated with maximum diameter measuring 5 cm with collapse of large bowel loops. Mesenteric thickening noted adjacent to stomach. Lesser sac hernia was suspected. An internal hernia with strangulation of the small bowel in the lesser sac was suspected.

Emergency laparotomy done under general anaesthesia with appropriate fluid resuscitation, approximately 25 cm of ileum was herniated into the lesser sac through a 2.5cm defect in the lesser omentum and it came out through the greater curvature. Proximal bowel loops appeared dilated. A perforation of size 0.5 x 0.8 cm was noted in the herniated ileum 25cm from the ileocaecal junction. Appendix was enlarged and inflamed. caecum and ascending colon was mobile.

Herniated part (fig-3,4) of the ileum released, reduced, perforated ileal part was resected and end to end anastomosis was done with 3.0 vicryl. Appendicectomy was done. Caecum and ascending colon was placed in to their corresponding anatomic position in right lower quadrant. Caecopexy was performed using 2.0 vicryl sutures. Post-operatively patient



**Figure-3:** Herniation through a defect in the omentum



**Figure-4:** Ileal herniation into the lesser sac

was transferred to SICU (Surgical intensive care unit). Post operative recovery was good. Patient recovered uneventfully and discharged on POD 9.

## DISCUSSION

Internal hernias are protrusions of the viscera through a peritoneal or mesenteric opening, with the herniated viscera remaining within the abdominal cavity. Openings have normal (foramen of Winslow), paranormal (paraduodenal, ileocecal, supramesocolic fossa), and abnormal (transomental defect) anatomies.<sup>8,9</sup> Based on autopsy studies, the overall incidence of internal hernias is 0.2%–0.9%.<sup>8</sup> Internal hernias constitute up to 0.6%–5.8% of all intestinal obstructions.<sup>10,11</sup> Hernia mortality may exceed 45%.<sup>10,11</sup> Timely diagnosis is crucial because internal herniae are associated with a high mortality rate.<sup>15</sup>

Lesser sac herniation is a rare occurrence, accounting for 8% of internal hernias and less than 0.1% of all abdominal hernias. Approximately two-third of lesser sac herniations contain the small bowel alone.<sup>13,14</sup> The risk factors for lesser sac herniation include: a common intestinal mesentery; ascending colon that is not attached to the parietal peritoneum; a long small bowel mesentery; and an enlarged epiploic foramen or lesser sac.<sup>15</sup> In addition, increased intra-abdominal pressure was thought to play a role.<sup>16</sup> This disease has a male preponderance, affecting males 2.5 times more frequently than females,<sup>17</sup> with the greatest incidence between 20 and 60 years of age and a reduced likelihood at extremes of age.<sup>18</sup>

## CONCLUSION

Although lesser sac herniation containing the ileum is a rare phenomenon, anticipating it while doing an emergency laparotomy is necessary to prevent morbidity and mortality. Timely diagnosis is important and management includes surgical reduction and bowel decompression and resection of the non-viable bowel to prevent mortality. The subtle findings associated with this important condition should not be overlooked when interpreting CT scans in patients with symptoms and signs of an acute abdomen.

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