



## CASE REPORT

# Rare cause of ileus in the mesenteric cavity of terminal ileum: A report of three cases

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## Abstract

Internal herniation is one of the rare reasons of intestine clog, which is hard to diagnose and usually needs an urgent surgical treatment. We report 3 patients with internal herniation in the mesenteric cavity of the terminal ileum. Besides intestinal congestion, they also had peritoneal irritation. Laparotomy revealed that herniation caused disorder in nutrition of the intestine and necrosis. The patients underwent subtotal small intestine resection and were discharged 10, 12 and 14 d after operation.

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**Key words:** Intestinal herniation; Ileus; Therapy

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## INTRODUCTION

Internal herniation in intestine or in mesenteric cavities is a rare cause of intestinal congestions, accounting for less than 1% of intestinal congestions<sup>[1]</sup>. Among the internal herniations, transmesenteric hernias constitute 12% of all intestinal hernias, 53% of intestinal hernias are seen in ileocecal area. In such hernias, there is no hernia bladder. Since the mesenteric cavities are narrow, strangulation is commonly seen and usually requires a surgical treatment<sup>[1,2]</sup>.

## CASE REPORT

The first case was a 63-year-old male patient with the

complaint of common abdominal pain, intestinal gas and constipation, nausea and vomiting for 3 d. Physical examination revealed abdominal distension, defence, rebound tenderness and hypoactive bowel sounds. Other examinations were normal with no sign of previous abdominal surgery.

Laboratory examinations showed 11 000/mm<sup>3</sup> leucocytes, 450 mg/dL glucose, 64 mg/dL BUN, 0.9 mg/dL creatine, other routine laboratory examinations were normal. Plain X-ray of the abdomen revealed a common air-fluid level on small intestine (Figure 1).

The second case was a 23-year-old male patient with the complaints of common abdominal pain, nausea, vomiting, intestinal gas and constipation. He had no history of any abdominal surgery. Physical examination showed abdominal sensitivity, defence and rebound tenderness, but no bowel sounds. Other examinations were normal. Laboratory examinations revealed 17 000/mm<sup>3</sup> leucocytes, other laboratory examinations were normal. Plain X-ray of the abdomen showed a common air-fluid level in small intestine.

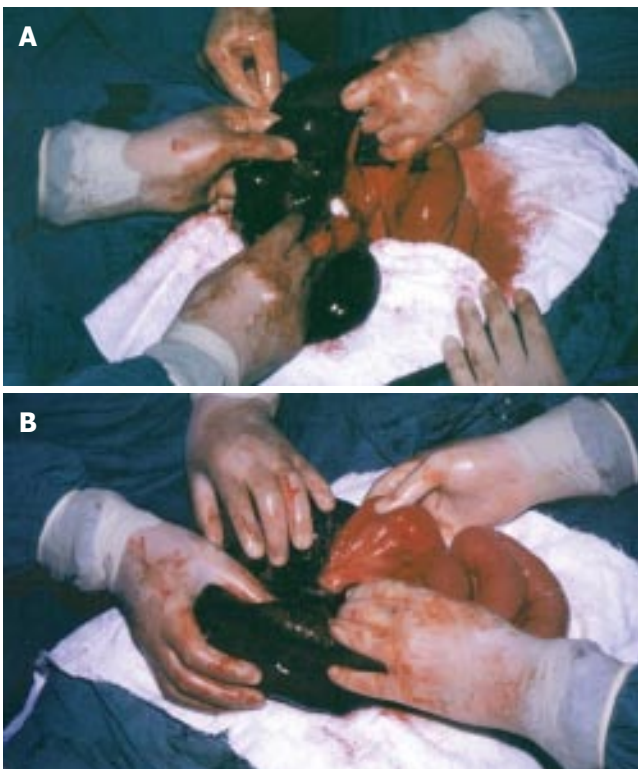
The third case was a 69-year-old male patient with the complaint of common abdominal pain, intestinal gas and constipation for a day. Physical examination showed abdominal distension and rebound tenderness, and a 10 cm × 10 cm mass in the lower right quadrant with hypoactive bowel sounds. Other examinations were normal. Laboratory examinations revealed 15 700/mm<sup>3</sup> leucocytes, 82 mg/dL BUN, 0.7 mg/dL creatine. Plain X-ray of the abdomen, especially in the lower right quadrant displayed an intensified multiple air-fluid level in small intestine. All the three patients underwent surgical treatment with a pre-diagnosis of acute abdomen. Abdominal examination showed that most of the small intestines were passing through the cavity in the terminal ileum with a total disorder of nutrition and necrosis (Figures 2 and 3). All patients who underwent subtotal small intestine resection had diarrhea after surgery. They were treated with changed diet and medicine, and discharged 10, 12 and 14 d after operation.

## DISCUSSION

The most common reason for intestinal congestion is the adhesions due to previous surgical operations (64%-79%)<sup>[1]</sup>. The other reasons are incarcerated hernias in the abdominal wall, invagination, inflammatory bowel disease, trauma, bile stones, congenital atresia or stenosis, meckel diverticulum and internal herniations<sup>[3,4]</sup>.



**Figure 1** Plain X-ray of the abdomen.

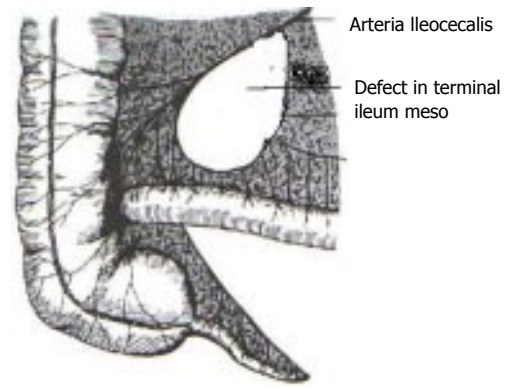


**Figure 2** Disorder of nutrition(A) and necrosis (B) in terminal ileum.

Internal herniation, one of the rare causes, occurs as a result of herniation of the abdominal organs in openings or cavities of the peritoneum<sup>[5]</sup>. Herniations are mostly due to anatomic structures such as paraduodenal fossa, and epiploic foramen, defects in mesentery and falciform ligaments<sup>[3]</sup>.

Also, intestinal rotation anomalies and peritoneal adhesions are causes of intestinal obstruction<sup>[6]</sup>. The most common internal herniations according to their anatomic localizations are classified as follows: paraduodenal hernia, foraminal and pericecal, intersigmoidal, transmesenteric, transomental and retroanastomotic hernia<sup>[5-8]</sup>. Mesenteric defect in the terminal ileum was found in our three patients who had no previous abdominal surgery or organ anomaly.

Internal herniations may cause chronic digestion disorders, postprandial pain and repetitive intestinal congestion.



**Figure 3** Defect in mesenteric cavity of terminal ileum (modified from figure published on Ankara Cerrahi Dergisi 2001; 3: 214).

Pain can be stopped by changing position. Vomiting is a common symptom and a quarter of the patients may have constipation. When the patients are given medical treatment due to these complaints, they sometimes can develop peptic ulcer or bile and biliary tract disease<sup>[5]</sup>. Physical examination may show abdominal distension<sup>[1]</sup>. The findings of laboratory and radiology support the diagnosis of intestinal congestion<sup>[9]</sup>. Although no repetitive intestinal congestion was found in our patients, all of them had the main symptoms of intestinal congestion, such as abdominal pain, distension, intestinal gas, constipation, nausea and vomiting. In the preoperative period, the diagnosis is intestinal congestion, but it is almost impossible to diagnose internal herniation. Acute abdomen may develop into acute intestinal angina or malignancy in old patients, in which case laparotomy should be considered. Laparotomy can be performed in young patient with ileus and acute abdomen.

In conclusion, abdominal front wall herniation or malignancy should be considered first in adult patients with intestinal obstruction and previous surgical operations. Intestinal congestion may be caused by internal herniation in patients without such symptoms.

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