

# Diagnostic Images of the Transmesenteric Hernia: A Case Report

## 影像診斷腸繫膜疝氣：病例討論

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### ★ Introduction

An internal hernia means the protrusion of a viscus through a congenital or pathogenic aperture and into a compartment in the abdominal cavity. Transmesenteric hernia accounts for 5-10% of all internal hernias. [1][2] We present a rare case of 56-year-old male without past history of previous surgery or abdominal trauma and diagnosed as transmesenteric hernia by preoperatively MDCT.

### ★ Key words

Internal hernia, transmesenteric, MDCT

### ★ Clinical Presentation

A 56-year-old man without a history of surgery or abdominal trauma history presented with sudden onset of epigastric dull pain for several hours. Short of breath and cold sweating also developed. Physical examination revealed rebounding pain and muscle guarding. Leukocytosis with left shift (WBC: 10790/ul, Seg: 80.6%) was noted. Mild elevated total bilirubin (1.49 mg/dl) with normal Alk p-tase, amylase, lipase and troponin-I were also noted.

### ★ Image Study

Plain films revealed no dilated bowel loops or intraperitoneal free air. Sonogram showed gallstones with mild swelling of gallbladder wall. Computed tomography (CT) showed some cluster of dilated, unopacified, fluid filled small bowel loops with mural thickening and relatively poor enhancement were incidentally found. There were two small bowel loops with a beak like appearance and blurred mesenteric vessels converge radically toward one point. There was small amount of ascites. Closed loops obstruction of small bowel was highly suspected. (Figure 1)

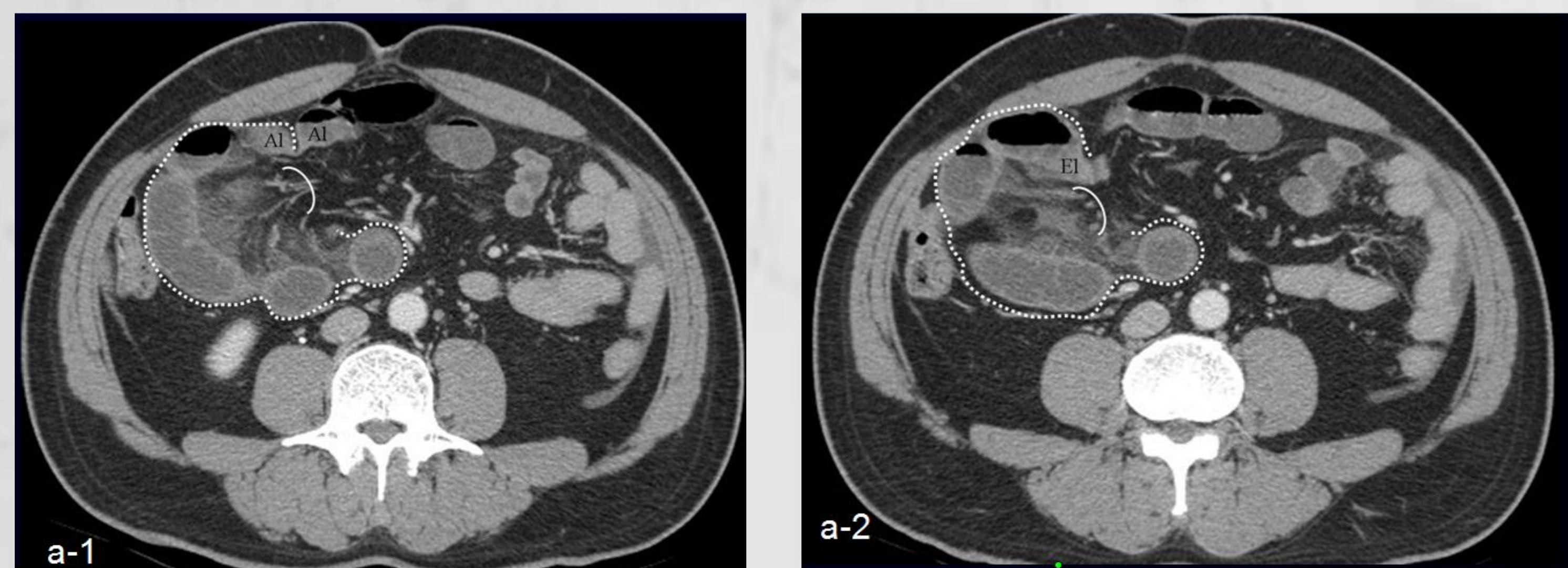


Figure 1. Axial (a-1, a-2), coronal (a-3) CT revealed cluster of small bowel loops (dotted line) transited through mesenteric defect (curve line). Note the closely apposed afferent (AI), efferent (EI) loops and accompany vessels also transited through mesenteric defect.

### ★ Management and Treatment

Emergent operation was performed for possible ischemic change of small bowel.

The patient received laparotomy later. A segment of small bowel protruding into a defect in the mesentery near the Treitz ligament with congestive change and no peristalsis were noted. Segmental resection with end-to-end anastomosis and repair of the defect in mesentery were done.

### ★ Follow-up

The patient was discharged one week later with well-healed wound and no complication. After discharge, he returned for follow-up in our clinics once per week for one month with no episode of internal hernia.

### ★ Discussion

Hernias account for approximately 10% of all cases and are the third leading cause of intestinal obstruction. [3] 0.6% to 5.8% of cases with small bowel obstruction caused by congenital and acquired internal hernias. [4] In all internal hernias, transmesenteric hernia accounts for 5-10%. [1][2] 65% of this kind of internal hernia occurred at adults. [5][6] Most of the adult patients have past history of previous surgery, abdominal trauma or intraperitoneal inflammation. [1] However, our patient has no past history of previous surgery abdominal, abdominal trauma neither repetitive obstructive symptom such as nausea, vomiting or abdominal pain.

Clinical symptoms, physical examination and lab data showed nonspecific findings. In the images of CT, there is a segment of small intestine showing a beak sign at two points, which could be defined as a closed loop. And sac-like clustering of the intestine was also noted. These findings indicated internal hernia. [7] Blurred mesenteric vessels converge radically toward one point. In addition, blurred converging mesenteric vessels plays an important role in diagnosis of transmesenteric hernia. [8]

The defects of this kind of internal hernia are often near the ligament of Treitz or the ileocecal valve. It is rather small and absent of a hernial sac. In our patient, the defect was near the ligament of Treitz. Since the defect is often rather small, the incidence of strangulation and intestinal gangrene is relatively high. The mortality rate of patients treated with or without surgery is 50% to 100%, respectively. [1] In our patient, segmental resection of the non-viable part of small bowel was also performed. He got well after the surgery without any complications. It is due to early diagnosis via MDCT that promote early surgical intervention.

Operative management includes reduction of herniated bowel loops with resection of the non-viable segments. The defect of internal hernia should be closed after reduction and resection was completed to prevent recurrent internal hernia. The goals of the operative management are to diagnose and resolve the source of obstruction, resect the nonviable segment and minimize the possibility of an incidental enterotomy. [9] Assessment may be particularly challenging when relief of incarcerated segments of bowel loops without resection.

Transmesenteric hernia mostly developed after surgeries. The incidence of transmesenteric hernia in patients without history of operation and related to congenital mesenteric defect as a sequela of ischemia as we presented above is rare. However, this diagnosis should always be kept in mind. When the patient had nonspecific symptoms, signs and laboratory data, computed tomography would be a excellent tool for surveying. The earlier we diagnosed, the less possibility of complications occurred.

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