

## ACUTE SMALL BOWEL OBSTRUCTION CAUSED BY TRANSMESENERIC HERNIA STRANGULATION IN A YOUNG MAN: A CASE REPORT.

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### ABSTRACT

We report a rare case of a young patient (20-year-old) with a transmesenteric hernia leading to small bowel obstruction and intestinal necrosis. An intestinal resection removed the necrotic portion and the mesenteric defect. Then, an immediate end-to-end anastomosis was realized. Transmesenteric hernia is a rare but serious entity. The surgical management must be rapid because of the increased risk of intestinal necrosis.

**Keywords:** intestinal necrosis, transmesenteric hernia, small bowel obstruction.

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\*\*\*\*\*Published in Marsh 10, 2020.

doi: 10.46327/msrjg.1.000000000000213

doi url: <https://doi.org/10.46327/msrjg.1.000000000000213>

### INTRODUCTION

An internal hernia is a protrusion of a viscus within the peritoneal cavity. The herniation can appear through a normal or an abnormal aperture in the peritoneum or the mesentery. Transmesenteric hernias are so exceptional that there are not enough cases reported in the literature to specify their incidence. Transmesenteric hernia, when strangulated, is a rare cause of small bowel obstruction, which can lead to intestinal necrosis. We report a case of a young patient (20-year-old) with a mesenteric hernia of the ileum.

### CASE REPORT

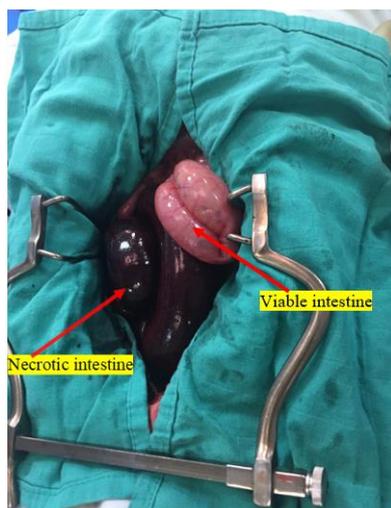
A 20-year-old man was admitted to the emergency department because of abdominal pain, bilious vomiting, and failure to pass feces for 2 days. On admission, he was hemodynamically stable, the temperature was 37.6°C, pulse 98/min, respiratory rate 28/min, and blood pressure 130/80 mmHg. The abdomen was slightly distended with generalized tenderness and guarding. Auscultation disclosed a silent abdomen. The rectal examination was normal. Laboratory investigations showed that the white blood cell count was 12800/mm<sup>3</sup>, and the

hemoglobin level was 12.8g/dl. Blood results also revealed Hyponatremia, hyperkalemia, and hypochloremia. The plain abdominal X-ray showed increased intestinal gas, and gas-fluid levels in the middle of the abdomen (**figure 1**) without any sign of pneumoperitoneum.



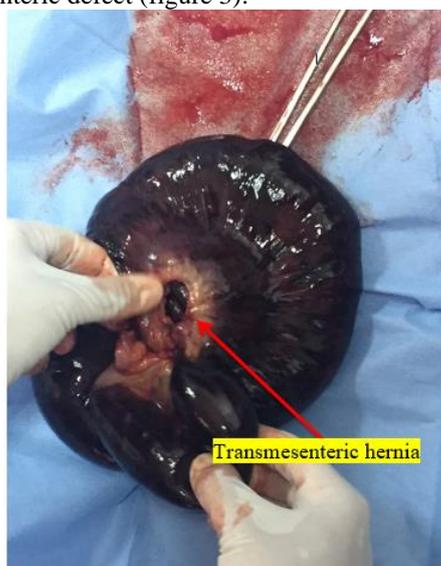
**Figure 1:** Plain abdominal X-ray showing small bowel obstruction.

To not delay the treatment, given the importance of the occlusive table and the speed of its installation, we did not realize a computed tomography scan. An emergency operation was performed after correction of dehydration and electrolyte disorder. At laparotomy, a 50 cm long necrosed ileal loop was found incarcerated in a small transmesenteric opening (figure 2).



**Figure 2:** Intra operative photo showing the necrosed ileal loop.

The hiatus (of 3cm diameter) was situated 40 cm from the ileocolic valve. Intestinal resection was performed, removing the necrotic portion and the mesenteric defect (figure 3).



**Figure 3:** Intestinal resection removing the necrotic guts and the mesenteric defect.

An immediate end-to-end anastomosis was also performed. The postoperative course was uncomplicated, and our patient was discharged from the hospital in stable conditions 4 days later.

## DISCUSSION

Most of the transmesenteric hernias have been described at a pediatric age because of the hypothesis of a congenital origin of the defect [1]. However, this pathology can affect patients of many ages [2, 3]. We report a case of a young patient (20-year-old) with a transmesenteric hernia involving the ileum.

Transmesenteric hernias are so exceptional that there are not enough cases reported in the literature to specify their incidence. The incidence of internal hernia as a cause of acute bowel obstruction is between 0.9% and 1.78% [4].

Transmesenteric hernias are almost located in an avascular triangular area, between the mesenteric superior artery and the ileo-caeco-appendicular axis. The defect is usually unique, and there is no sac: the hernia consists of the protrusion of a loop of bowel through the defect in the mesentery [5].

The clinical symptoms may be non-specific: they generally point to an acute small bowel obstruction [1]. Plain abdominal X-ray can be useful in the diagnosis, and according to a number of publications CT scan is recommended for diagnosis of the lesion [1, 6]. CT scan shows the presence of small bowel fixed and thickened behind the mesentery, itself projected forward.

Regarding the surgical treatment, laparotomy is still recommended (acute small bowel obstruction). However, the laparoscopic approach, not described to date, seems particularly interesting in this indication, both in terms of diagnostic and therapeutic. However, the laparoscopic approach could be considered only when there is no intestinal necrosis. The reduction maneuver consists of a progressive reduction of the guts herniated by gentle traction. It is then advisable to close the mesenteric breach by separate points, taking care not to damage the mesenteric vessels that most often border the defect.

In the case of intestinal necrosis (as for our patient), surgical treatment meets the usual criteria for resection.

## CONCLUSION

Internal hernias such as transmesenteric hernia are rare. They can lead to an acute small bowel obstruction in young adults. Surgical management must be rapid because of the increased risk of intestinal necrosis.

**Patient Consent:**

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

**Competing Interests:**

All authors declare no competing interest.

**Funding sources:** None.

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