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Transmesenteric Internal Hernia Bowel Obstruction: Case Report

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Abstract **Case Report**

Internal hernia through a mesenteric defect or transmesenteric hernia is a rare cause of acute intestinal obstruction. It is most often diagnosed intraoperatively. Knowledge of the clinical features of this type of obstruction is useful in making a preoperative diagnosis. We present a case of acute intestinal obstruction caused by a transmesenteric hernia. We discuss the clinico-radiological features of this rare form of internal hernia.

Keywords: Internal hernia, transmesenteric hernia, acute intestinal obstruction.

INTRODUCTION

Internal abdominal hernias are a rare pathological entity [1]. They account for between 0.5% and 5.8% of acute intestinal obstructions [2]. An internal hernia is defined as the displacement of one or more abdominal viscera through an intra-abdominal orifice [3]. It is a little-known pathology whose diagnosis is increasingly confirmed preoperatively and by abdominal CT scan [4, 5]. We report the case of a transmesenteric internal hernia diagnosed intraoperatively in a 54-year-old patient.

OBSERVATION

A 54-year-old patient with no specific medical or surgical history was admitted to the surgical emergency department of the Marrakech University Hospital for abdominal pain. The pain, which had been present for 48 hours, was diffuse and progressively increasing in intensity, accompanied by vomiting, cessation of bowel movements and gas, with no fever. Physical examination revealed a non-scarring abdomen, mild abdominal meteorism, diffuse abdominal tenderness and tympany.

The hernial orifices were free and the rectal exam was normal. There were no signs of peritoneal irritation. Biological investigations revealed no abnormal basal values.

A radiograph of the abdomen without preparation showed hydroaerobic levels that were wider than they were high (Figure 1). However, abdominal computed tomography revealed mechanical bowel obstruction upstream of areas of hypogastric calibre disparity, with radial arrangement of the coves and convergence of the mesenteric folds towards a vortex image with signs of distress (Figure 2).

An exploratory laparotomy, which was indicated and carried out, revealed a transmesenteric hernia with necrosis of some of the incarcerated loops (Figure 3). The combination of these data suggested the diagnosis of a transmesenteric internal hernia. The patient's surgical management was based on disintercellation of the herniated intestinal portion and partial resection of the mesentery. The immediate and short-term postoperative course was straightforward.

Figure 1: ASP: hydroaeric level wider than it is high, indicating a bowel obstruction

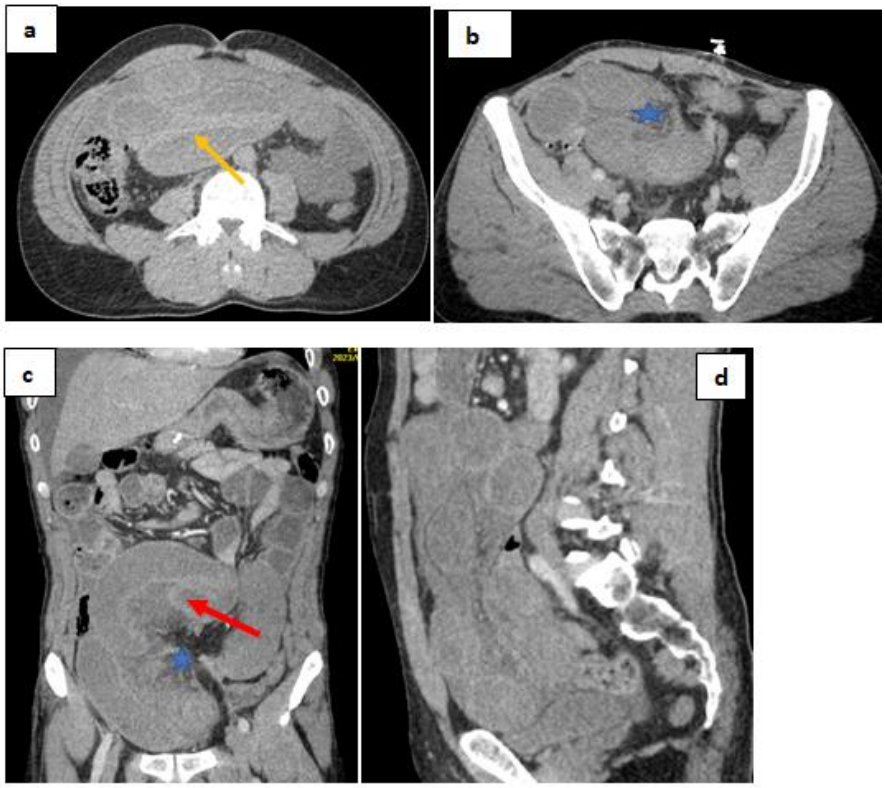

Figure 2: Abdominal CT scan without and with PDC injection: Mechanical bowel obstruction upstream of areas of hypogastric caliber disparity with radial arrangement of the coves (red arrow) and convergence of the mesenteric folds towards a vortex image (star) with signs of suffering (yellow arrow: spontaneously dense appearance)

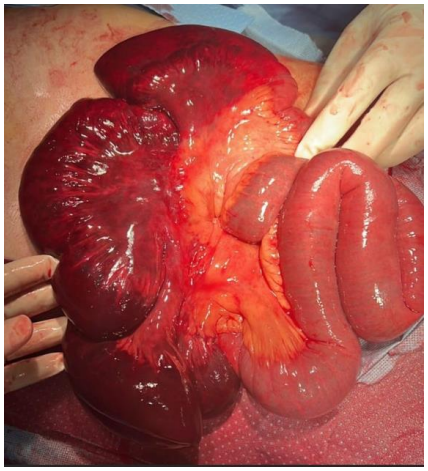

Figure 3: Intraoperative: Trans mesenteric internal occlusion with necrosis of some incarcerated loops

DISCUSSION

Internal hernias are a rare cause of acute bowel obstruction [1, 2]. They account for approximately 5% of all causes of acute intestinal obstruction [1]. They are usually diagnosed intraoperatively [2, 5]. However, with the development of medical imaging, in particular CT and MRI, preoperative diagnosis is now possible.

As a result, knowledge of the different types of internal hernia is of prime interest. Diagnosis of intestinal obstruction by internal hernia requires perfect knowledge of the anatomical variety involved [6]. Several anatomical forms of internal hernia have been reported. Transmesenteric hernias are defined as protrusion of an intra-abdominal viscera through a defect in the mesentery or mesocolon [4]. This variety accounts for less than 5% of internal hernias [1, 9, 7].

In 2007, in a series of 14 cases, Armstrong stated that preoperative diagnosis of internal hernias was virtually impossible [1]. However, several authors have now demonstrated the effectiveness and reliability of abdominal CT not only for confirming the diagnosis of intestinal obstruction, but also for determining the location and type of internal hernia [2, 4, 5, 10]. A few CT scans were performed [2]. Our patient had no history of abdominal surgery. The diagnosis of internal hernia can therefore be accepted. Transmesenteric hernia occlusion occurs mainly in children [8]. Its occurrence in adults is extremely rare. Intestinal necrosis was noted in our observation. This may be due to the late diagnosis.

CONCLUSION

Internal abdominal hernias are rare, but should be considered in the presence of any acute intestinal obstruction in a patient who has never undergone surgery. They are often revealed by intestinal obstruction and confirmed during exploratory laparotomy.

Nowadays, internal abdominal hernias are increasingly diagnosed preoperatively, thanks to the widespread use of abdominal CT scans for occlusive syndromes. They are treated as an emergency, either by laparotomy or laparoscopy.

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