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Congenital internal hernia through defect in the falciform ligament in adult: A case report and review of the literature

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ABSTRACT

INTRODUCTION: The incidence of occlusion syndrome caused by internal hernia is very rare, in particular when the defect is congenital discovered in adults with no previous abdominal surgery.
PRESENTATION OF CASE: We present a case of a 31 year-old female patient who presented with acute abdominal pain and mechanical obstruction. The patient had never undergone abdominal surgery.
DISCUSSION: On diagnostic laparoscopy, it was found a herniation of a loop of small bowel through a hole in the falciform ligament. The obstruction was solved by the division of part of falciform ligament without intestinal resection.
CONCLUSION: Internal hernia is a very uncommon pathology, most often discovered in pediatric age because of congenital abnormalities, it must be included in the differential diagnosis in adults. Preoperative diagnosis is difficult. The diagnostic laparoscopic approach has shown to be the best.

1. Introduction

An internal abdominal herniation is a protrusion of an abdominal organ, through a mesenteric or peritoneal hole [1], they have no sac and can include the colon, the omentum and most often the small bowel [2]. Internal hernia is rare, estimated to be 2% of all causes of internal obstruction [3], and among these through the falciform ligament is extremely uncommon. Internal abdominal hernia can be constitutional related to congenital defects or complete failure in the embryological development [4–6], acquired related to trauma and iatrogenic caused by surgical procedures. Except urgency, clinical presentation is often aspecific: chronic digestion disorders, pain after feeding, mild abdominal pain due to intermittent bowel obstruction [7,12]. The symptoms may mimic peptic ulcer, biliary pathologies and abdominal angina [8]. Therefore preoperative diagnosis is uncommon, Ct scan is routinally performed in Emergency Department.

2. Case report

31-year-old woman was admitted to the Emergency department with complaints of: epigastric pain with nausea, suddenly arised and no associated with feeding and central abdominal distension. No other relevant history, except of previous episodes of abdominal pain, treated with antispastic drugs. Per abdomen, distension and pain in the epigastrium at the palpation were present, bowel sounds were present in all quadrant of the abdomen with hyperperistaltism in epigastrium. The systemic examination was normal.

2.1. Investigations

Complete blood count: leukocytosis (12,36 × 10E9/L)with neutrophilia (10,90 × 10E9/L); routine biochemistry showed increased values of LDH (221 U/L) and CPK (242 U/L); X-ray, chest: negative; abdomen: gas distension of some intestinal loops in epigastric and right-hypochondriac region with a single air-fluid level in epigastric region; computed tomography: interposition of right colon between anterior abdominal wall and liver. Gas distension of some ileal loops which are located between liver and anterior abdominal wall; in left paramedian area one of these loops has thickened wall and perivisceral fluid and appears to reduce its caliber.

2.2. Treatment

The patient was started on conservative management, i.e. nil by mouth, intravenous fluid. Pain was resistant to antispastic and antalgic drugs (included Morphine intramuscular). She did not improve her condition and after 8 h the abdominal pain and the lab exams went worse, so the decision for diagnostic laparoscopy to be performed was taken, after collegial discussion with radiologists. Findings of laparoscopy: the introduction of the first trocar with open technique throught the umbelica allows the discovering of distended small bowel loops, herniated small bowel loop through a

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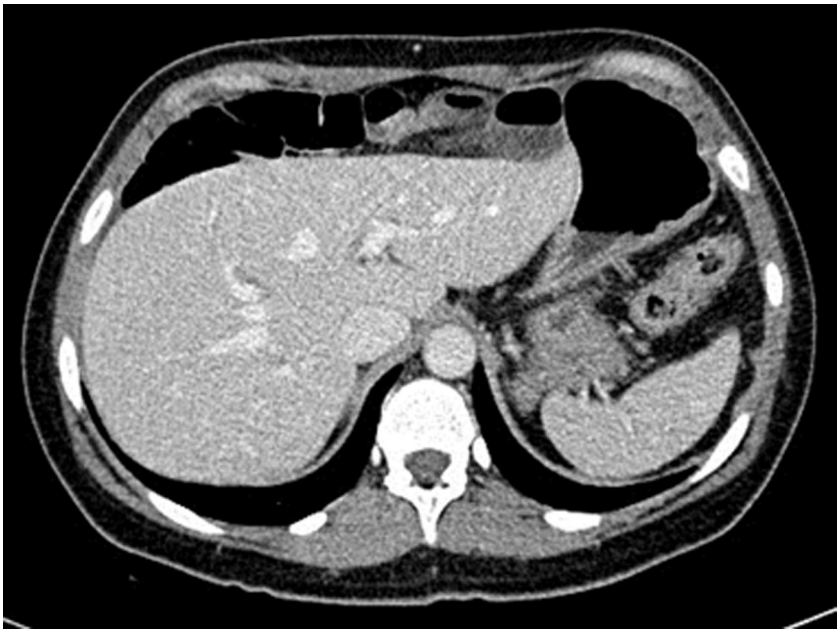

Fig. 1. CT scan: interposition of right colon between anterior abdominal wall and liver. In left paramedian area one of these loops has thickened wall and perivisceral fluid and appears to reduce its caliber.

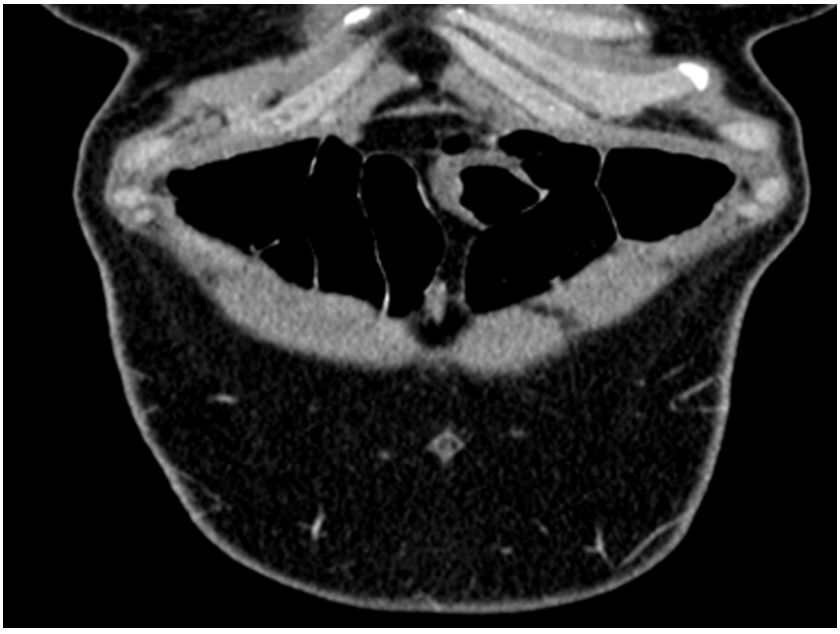

Fig. 2. CT scan: Gas distension of some ileal loops which are located between liver and anterior abdominal wall.

defect in the anterior part of falciform ligament causing a mechanic occlusion, the involved loop appeared to be suffering for venous stasis because of initial strangulation of the vascular axis. It was necessary to introduce other two trocars, both under-mesocolic on the transverse umbelicar line on the two sides laterally to the margin of the rectus muscle. Using the monopolar crochet, the section of fibrous enveloping ring released the loop, which seems to recover with adeguate vascular supply. The falciform ligament was cut and the free margin was ligated with endoloop, in order to reduce the possibility of recurrence. The patient had an uneventful post-operative recovery. She was discharged in the third post-op day (Figs. 1–3).

3. DISCUSSION

An internal hernia is a pathological protrusion on an abdominal organ through a normal or abnormal hole within the boundaries of the peritoneal cavity. The incidence of internal hernia is 0.2–2% [3] and among these hernia through the falciform ligament is very rare and accounts for 0.2% [9], caused by malformation and incomplete development of the falciform ligament. Most of the time this defect is discovered during pediatric age. Instead in adult the most frequent cause of abdominal hernia is iatrogenic defect created post laparoscopic surgery (in particular cholecystectomy, bariatric and gastro-esophagus procedures) during insertion of the port cannula