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Case Report

Laparoscopic management of left paraduodenal hernia: a rare case report

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ABSTRACT

An internal hernia is any protrusion of a solid organ or a hollow viscus through a defect within the abdominal cavity. Paraduodenal hernias are rare, but are the most common variety of internal hernias. We present a rare case of a left sided paraduodenal hernia in a 26 years old otherwise healthy male who presented in emergency department with intermittent colicky upper abdominal pain. Left paraduodenal hernia was diagnosed pre operatively in a computer tomography scan. Hence patient was offered a laparoscopic repair. Our search via online search engines revealed very few case reports of Paraduodenal hernias which were repaired laparoscopically. We believe that in expert hands, paraduodenal hernias should be managed with laparoscopic technique as it significantly reduces morbidity and hospital stay.

Keywords: Internal hernia, Left paraduodenal hernia, Laparoscopy, Rare

INTRODUCTION

Paraduodenal hernia is a rare internal hernia accounting for 0.9% of all intestinal obstructions in which small bowel is incarcerated within peritoneal cavity near ligament of Treitz.[1-3] Clinical diagnosis of paraduodenal hernia is difficult. They have a very peculiar radiological finding which allows definitive diagnosis to be made. In this case report, we describe a patient who was preoperatively diagnosed with left Paraduodenal hernia and underwent successful laparoscopic repair.

CASE REPORT

A 26 years old gentleman with no past medical or surgical history presented in emergency department with abdominal pain, vomiting and upper abdominal fullness. He was suffering with intermittent colicky abdominal pain in epigastric region which occurred occasionally since past 8 years. Pain was associated with an upper abdominal fullness and sometimes followed by bilious vomiting. During these years he consulted many physicians and was investigated with Esophago-gastro-duodenoscopy and ultrasound examination of abdomen. All these investigations showed nearly normal findings. Patient presented to our centre with above mentioned history. On presentation, he was hemodynamically stable and an abdominal examination revealed soft abdomen with upper abdominal fullness. No lump or any organomegaly was found on examination. Later a contrast enhanced CT scan was performed with intravenous contrast, images of which are shown below.

A left sided paraduodenal hernia without intestinal obstruction was diagnosed pre operatively based on the CT scan findings. Patient was planned for laparoscopic surgery.

Operative procedure

The key steps in the surgery mainly comprised of Reduction of the hernial content and primary closure of the hernia defect.

Figure 1: CT image of the patient showing small bowel loops in the left paraduodenal region located anterior to the pancreas and posterior to the stomach s/o - internal hernia.

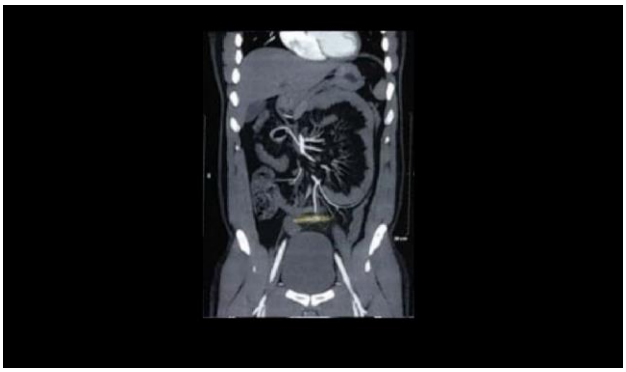

Figure 2: Coronal view of abdominal computed tomography scan showing internal hernia.

Figure 3: Intraoperative picture showing the left paraduodenal hernia with jejunum as content.

Course in the hospital

The patient recovered well in the postoperative period. Liquids were initiated 6hours after the surgery and patient was discharged on postoperative day 1. One month follow up shows no recurrence of symptoms.

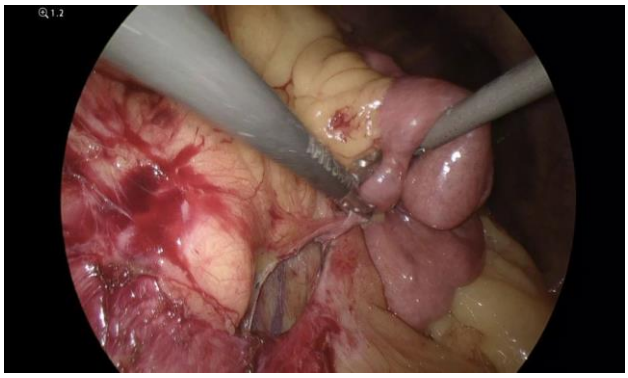

Figure 4: Intraoperative picture after reduction of the hernial content. IMV can be seen forming the left border of the defect.

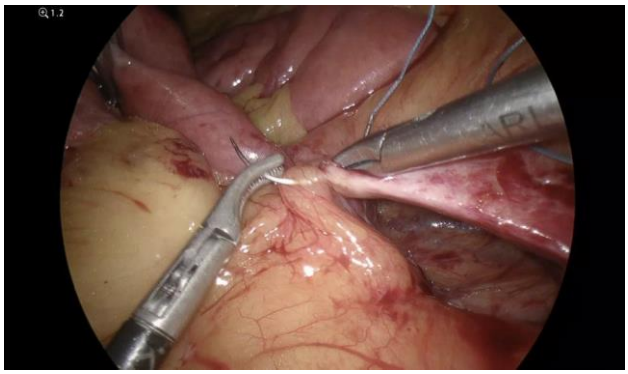

Figure 5: Intraoperative picture showing closure of defect with Ethi bond 2-0 suture.

DISCUSSION

An internal hernia is defined as a hernia formed by the protrusion of a viscus through a peritoneal or mesenteric aperture, leading to its encapsulation within a compartment of the abdominal cavity. Internal hernias account for (0.2-0.9%) of intestinal obstructions.[1-3] Between (10-50%) of internal hernias are discovered during unrelated abdominal surgeries or at autopsy. Based on an analysis of 467 cases, Hansmann and Morton classified the internal hernias into the following 7 groups, based on location: paraduodenal, foramen of Winslow, pericecal, intersigmoid, transmesenteric, transomental and retroanastomotic.

Paraduodenal hernias are rare variety of internal hernias, but among internal hernias they account for approximately (30-53%) of all internal hernias.[4] There are two varieties of paraduodenal hernia known: right sided (into fossa of Kolb) and left sided (into fossa of Landzert).[4] Left sided are 3 times more common than right, more common in men and are mostly congenital.[2,4] They have a variable spectrum of presentation. Many cases remain asymptomatic until they are detected

incidentally in CT scans performed for other reasons, intraoperatively during surgery for other cause or during an autopsy.[5] Some cases present with an acute intestinal obstruction or as chronic intermittent abdominal pain typically after large meals.[6] In our case patient had the latter scenario where he was suffering with chronic abdominal pain. Pre-operative diagnosis is difficult because this condition gives non-specific features on a plain abdominal radiograph and a grossly normal ultrasound of abdomen. Although a radiograph may reveal fluid filled stomach or dilated small bowel loops in an ovoid mass lateral from the midline. But it needs a very high suspicion for such a diagnosis. CT scan of abdomen shows cluster of small-bowel loops, mainly at the level of the ligament of Treitz or behind the pancreas enclosed in a sac like structure.[7,8]

Once diagnosis is made, treatment should be promptly planned as per the presentation of patient. Surgical exploration is mandatory. Exploration can be performed by a laparotomy or laparoscopy.[6,9] Typical steps of the surgery involve reduction of the small bowel from hernial sac and repair of the hernial defect with sutures.[6] Removal of the hernia sac remains a controversial as it is a part of transverse mesocolon and its removal may impair its vascularity.[6] In our case, hernia sac was not removed and the hernial orifice was closed primarily using Ethi bond 2-0.

There are very few case reports, case series and systematic studies which have been conducted on this rare ailment. A case report by Harbin was the first publication (1982) of an internal hernia diagnosed by CT scan which described a mass of encapsulated and dilated small bowel loops displacing the right ureter laterally in a case of right paraduodenal hernia.[7] Later in 1992, Olazabal et al reported a case of 57 years old man who presented with non-obstructive left paraduodenal hernia with a discussion of CT findings in the same.[8]

A case report by Fukunaga et al, 51 years old man, diagnosed with left paraduodenal hernia was managed laparoscopically with reduction of herniated small bowel loops followed by closure of hernial defect by endo suturing.[1] Post-operative period was uneventful and patient was discharged on post-operative day 7.

Dayananda et al published a pictoral essay in Indian Journal of Radiology and Imaging on paraduodenal hernias.[10] This article deals with relevant anatomy and CT correlation of paraduodenal hernias.

Kuzinkovas et al reported a case of a left paraduodenal hernia as a coincidental finding in a patient who underwent a laparotomy for a suspected sigmoid tumour.[3] In this case hernial sac was opened, entire small bowel was reduced and sac was excised and plicated. Patient made smooth recovery and had uneventful post-operative course at 12 months follow up post operatively.

Hussein et al reported a case of 59 years old woman, diagnosed with left paraduodenal hernia was laparoscopically explored.[6] Herniated bowel loops were reduced followed by a closure of hernial defect by endo-suturing. Post-operative period was uneventful with intake of clear liquids orally on post-operative day 1 and discharge on second day.

A similar case report by Siddika et al where a 35 years old male was found to be suffering with left paraduodenal hernia while he was being evaluated for trauma to the abdomen.[2] Retrospective questioning of the patient revealed that he was suffering with recurrent vomiting and chronic colicky abdominal pain after large meals. Patient was electively planned for surgery and laparoscopic reduction and repair of hernia was done. Patient was discharged on post-operative day 3. He showed no recurrence of symptoms on 3 years follow up.

Mehra et al reported two cases of right sided paraduodenal hernia.[9] Cases of 46 years old male and a 23 years old male, both of them suffered with recurrent episodes of subacute obstruction since childhood. Both cases underwent an open reduction, sac excision and repair of hernial orifice. Both the patients had uneventful post-operative period with no recurrence of symptoms on 3 years follow up period.

CONCLUSION

Paraduodenal hernia are extremely rare and difficult to diagnose. Computed tomography remains the gold standard for early diagnosis. Haemodynamically stable patients with or without small bowel obstruction should be offered laparoscopic repair.

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