CASE REPORT

Laparoscopic repair of a rare type of internal hernia :a case of left para-duodenal hernia

M. A. C. Lakmal[1], B. D. Gamage[2], S. H. R. Sanjeewa[1], S. Varun[2]
[1]Colombo South Teaching Hospital, Sri Lanka
[2]Department of Surgery, Faculty of Medical Sciences, University of Sri Jayawardenepura, Sri Lanka

Keywords: Left para duodenal hernia; laparoscopic repair of internal hernia

Introduction

Internal hernias are a rare cause of acute small bowel obstruction. Para-duodenal hernias (PDH) are the commonest of internal hernias, which result from malrotation of the midgut, causing potential spaces around the ligament of Treitz. Left para-duodenal hernia is the commonest type of para-duodenal hernia. Here we presented a case of left PDH which was managed laparoscopically and a literature review of published cases of left PDH. To the best of our knowledge, this is the first case of Left PDH from Sri Lanka publishing in English literature.

Case study

A 43-year-old woman has had several episodes of sudden onset central abdominal pain after meals lasting for 5-10 minutes. It got worsened progressively over the days. On the 7th day of the illness, she had severe colicky central abdominal pain, and soon after a heavy meal made her rush to the emergency department. The pain became generalized within minutes and was associated with nausea, vomiting and sweating. Her bowel habits were normal. Her abdominal examination revealed epigastric tenderness.

Her blood investigations and imaging were unremarkable. After initial medical management her condition improved, but the usual abdominal pain- after a meal, persisted. She underwent upper and lower GI endoscopies which were normal.

Her CT scan was re-evaluated and found an internal herniation of a loop of small bowel into a possible left para-duodenal fossa (fossa of Landzert). She was subjected to diagnostic laparoscopy & found her jejunum was herniated into the fossa of Landzert causing sub-acute small bowel obstruction. Hernia reduced laparoscopically by emptying the jejunal loops from the fossa of Landzert. The inferior

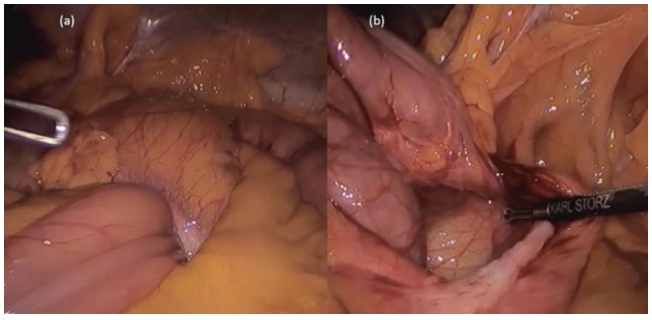

Figure 1.(a) Jejunal loops found inside fossa of Landzert **(b)** Left paraduodenal hernia after emptying the jejunum

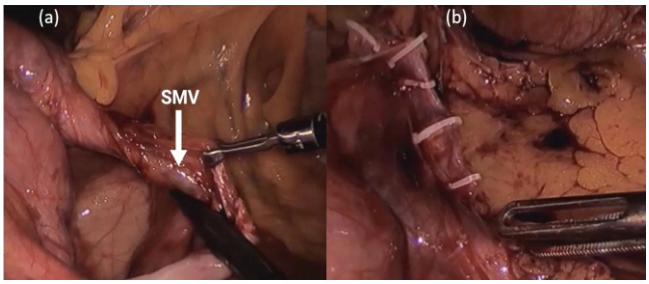

Figure 2. (a) Skeletonising Superior Mesenteric Vein (SMV) **(b)** Closing the defect by approximating the peritoneal leaves with hemolock® clips **(b)** Left paraduodenal hernia after emptying the jejunum

mesenteric vein and the Ascending left colic artery were skeletonized from the congenital adhesions and retro-peritonealized by closing the fossa of Landzert.

Patient had an uneventful recovery and was discharged on 3rd post-operative day.

Discussion

Protrusion of an abdominal viscera through a peritoneal or mesenteric aperture into a compartment in the abdominal or pelvic cavity is known as the internal hernia. The commonest type of internal hernia is Para-duodenal hernia (LPDH) out of which 40% occur on the left side. This happens when a viscera protrudes into the fossa of Landzert which is a congenital mesenteric defect, found left to the fourth part of the duodenum formed by lifting a fold of peritoneum by inferior mesenteric vein. [1] . It is three times more commoner than the

Correspondence: Chamila Lakmal
E-mail: lakmalmac@gmail.com
https://orcid.org/0000-0003-3867-7861
Received: 06-09-2021 Accepted: 05-07-2022
DOI: http://doi.org/10.4038/sljs.v40i2.8887

right para-duodenal hernia which is called Waldayer's hernia [2].

The clinical presentation varies from asymptomatic hernia detected incidentally to emergency admissions that need immediate intervention [1,3,4]. The herniated bowel loops can get obstructed and present as acute abdomen. Pre-operative confirmation of para-duodenal hernia needs a high amount of suspicion and abdominal computed tomography is the standard investigation of choice to diagnose the condition. [5]. Either laparotomy or laparoscopy is conducted as emergency surgery to relieve the obstruction as this condition has nearly 20-40% mortality [2]. Laparoscopy is a good tool to both diagnose and treat the condition and is the current standard of practice for Para-duodenal hernia [4].

A literature review was done in 'PubMed' to search cases of LPDH from 1980- 2020. Sixty-nine reported cases have been found. Male: female ratio was 7:3. Mean age at presentation was 47, and there were 5 paediatric patients including 2 infants. One-third of those patients had chronic abdominal symptoms. Forty-nine patients (71%) have presented to the emergency department with features of intestinal obstruction. Out of 49 cases, 24 were confirmed by pre-operative imaging, whereas 25 were clinically diagnosed.

Pre-operative radiological diagnosis with computer tomography had been possible only in 56% of these cases. Emergency surgery was performed in 45 patients (65%) including 31 laparotomies, and 10 laparoscopies. Laparoscopy has been converted to open surgery in four patients. Reasons for conversion were inability to mobilise the ileal loop, not being able to achieve pneumoperitoneum, impeded laparoscopic view and reduced bowel remaining dusky. Elective surgery was performed in 9 cases (13%), including 4 laparotomies and 5 laparoscopies.

Conclusions

Para-duodenal hernias are a rare cause of small bowel obstruction. A high degree of clinical suspicion should be made to diagnose this condition. Computer tomography is supportive imaging but has been non-diagnostic in a fair percentage of reported cases. Laparoscopy is diagnostic and the majority of the cases can be managed laparoscopically as well.

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

References

1. Haoux Xu, Ning Nie, Fanmin Kong, Banghua Zong. Large left paraduodenal hernia with intestinal ischemia: a case report and literature review. J Int Med Res. 2020 Sep;48(9). doi: 10.1177/0300060520955040
2. MB Moussa, Ismail N, Taib L, ME Absi, El Hassan EFE Alami, ME Ouanani, et al. A paraduodenal hernia revealed by bowel obstruction: case report and literature review. Pan Afr Med J. 2018;31. doi: 10.11604/pamj.2018.31.120.13538
3. Sleiman Y, El-Kheir A, El-Khoury M, Hamdach O, Ismail L, Allouch M. Small bowel obstruction secondary to left paraduodenal hernia: A case report and literature review. Int J Surg Case Rep. 2018;53:29–31. doi 10.1016/j.ijscr.2018.10.018.
4. Teresa C, Natalie K, Othmar S. Treitz Hernia: Report of a Case and Review of the Literature. Surg Laparosc Endosc Percutan Tech. 2019 Dec;29(6):e102–7. doi: 10.1097/SLE.0000000000000704
5. Masakazu W, Satoru K, Tomohide T. Laparoscopic repair of acute small bowel obstruction due to left paraduodenal hernia: A case report. Int J Surg Case Rep. 2018 Jan;51:194–9. doi: 10.1016/j.ijscr.2018.08.050

Learning Points:

- Para-duodenal hernia is a rare presentation of acute abdomen
- Laparoscopy is both diagnostic and therapeutic