

Case of Internal Hernia with Meckel's Diverticulum Causing Intestinal Obstruction: A rare finding

Dr. Devendra K Prajapati*, Dr. Kapil Rampal

Senior Resident (General Surgery), Deendayal Hospital, New Delhi 110064, India

*Corresponding author

Dr. Devendra K Prajapati

Email: dr.dev1982@gmail.com

Abstract: Intestinal obstruction is common condition dealt by surgeon in day to day emergency care. Internal hernia is very rare cause of intestinal obstruction, out of them about 53% is Para duodenal hernia. We find out a large Meckel's Diverticulum herniating through left Para duodenal, space of Landzert causing intestinal obstruction. This case confirmed during surgery.

Keywords: Internal Hernia, Meckel's Diverticulum, Para duodenal Hernias, Intestinal Obstruction, Landzert Fossa.

INTRODUCTION

Intestinal obstruction is common condition dealt by surgeon in day to day emergency care. Internal hernia is very rare cause of intestinal obstruction, out of them about 53% is Para duodenal hernia [1, 2]. An internal hernia is a protrusion of bowel through a normal or abnormal orifice in the peritoneum or mesentery. But they are rare cause of intestinal obstruction, Para duodenal hernias are the most common type of congenital hernias. Para duodenal hernia occurs due to mal rotation of midgut and form a potential space near the ligament of Treitz [3]. Para duodenal hernias can cause to bowel obstruction, ischemia, perforation and mortality. Left Para duodenal hernia is the most common types of congenital hernias. Meckel's Diverticulum is the most common congenital anomaly of the gastro intestinal tract. Adult patients affected by Meckel's Diverticulum remain asymptomatic until they result acute small bowel obstruction, which may be due to either the fibrous band or a volvulus of the small bowel [4]. However, obstruction caused by Meckel's Diverticulum within Para duodenal internal hernia is an unusual etiology. Here, we describe the case of a patient who had an acute obstruction of the small bowel due to hernia ion of bowel and Meckel's Diverticulum.

CASE REPORT

A 22 year male patient came to emergency department with complain of colicky pain abdomen, vomiting, constipation for 3 days. No history of fever, loose motion. No history of any co-morbidity like tuberculosis, diabetes, hypertension, jaundice. Patient vitals normal on her abdomen examination- mild distension, generalized tenderness, guarding and rebound tenderness was present, Bowel sound kinkling of fluid present. Patient resuscitated with intravenous

fluids, Ryles tube and catheterization done. On investigation x-ray abdomen showed multiple air fluid levels and dilated Bowel loops more localized over left half of abdomen. USG suggestive of dilated fluid filled loop with to and fro movement.

Patient planned emergency exploratory laparotomy and shifted to OT. Intra operatively most of jejunum and ileum herniating into left Para duodenal sac formed left lateral to 4th part of duodenum, inferior to transverse colon and sac reflected from left colon. Neck of sac was approx 6-8 cm wide with inferior mesenteric vein running through it. There was Meckel's Diverticulum approx 2 feet proximal to ileocecal junction and approx. size 10-12 cm causing gut rotation inside hernia sac resulted intestinal obstruction.



Fig 1: Showing herniation of bowel



Fig 2: showing opening of hernia sac



Fig 3: Showing large Meckel's Diverticulum



Fig 4: Showing wide opening of hernia sac

Reduction of hernia closure of sac along with resection of Meckel's Diverticulum and end to end ileoileal anastomosis done. Post period was uneventful and Patient discharged normally. Intestinal obstruction

because of internal hernia is a rare presentation; left Para duodenal causing obstruction is still rarer. To best of our knowledge rare cases with intestinal obstruction due to left Para duodenal hernia with associated Meckel's Diverticulum have been reported.

DISCUSSION

Internal hernia is very rare cause of intestinal obstruction approx 5.8% Para duodenal hernia is a rare congenital anomaly which arises from an error of rotation of the midgut. It may be discovered as an incidental finding at laparotomy or may be the cause of acute small bowel obstruction which can go on to strangulation and perforation. Where the left Para duodenal fossa of Lander present in 2% of autopsy cases, is situated to the left of ascending or fourth part of the duodenum and is caused by the raising up of a peritoneal fold by the inferior mesenteric vein as it runs along the lateral side of fossa and then above it [5]. Para duodenal hernia constitutes approx 53% of internal hernia obstruction [1, 2]. Meckel's Diverticulum arising from the anti mesenteric side which a true Diverticulum is common congenital anomaly of the gastrointestinal tract [4]. Meckel's Diverticulum may protrude through an abdominal opening. In Littre's hernia, a Meckel's Diverticulum can enter the inguinal canal, umbilical canal, or femoral canal, causing incarceration or strangulation [6]. Sometimes, the adhesion band of the Diverticulum forms a space that may cause the internal herniation of the small intestine [7]. However, the protrusion of a Meckel's Diverticulum through a congenital defect in the meso colon is extremely rare.

For treatment point of view the Para duodenal hernia it is essential to recognize. Whether it is right or left side. In the case of a right Para duodenal hernia the aim should be to replace the pre and post arterial segments of the intestine in the positions. This is done by dividing the lateral attachments of the colon on the right side and transferring it to the left side of the abdomen. In so doing the hernia sac is widely opened and the small opening through which the terminal ileum passes is eliminated. The hernia sac is now a part of the general peritoneal cavity. The superior mesenteric artery and its branches do not be injured. In dealing with a left Para duodenal hernia, manual reduction of the small bowel from the hernia sac into the peritoneal cavity may occasionally be possible, followed by closure of the sac opening. If the neck of the sac is small, obscured by adhesions and difficult to identify accurately. In such a case the hernia sac should be opened by an incision into a vascular area of the mesentery of the descending colon, allowing the small bowel to be delivered into the peritoneal cavity. It may be possible that the tight ring through which the terminal ileum passes to reach the cecum be released by division of the inferior mesenteric artery, or its ascending branch, and the inferior mesenteric vein [7].

REFERENCES

1. Mayers MA; Internal abdominal hernias. In: Mayers MA, ed. *Dynamic radiology of the Abdomen*. 5th edition. New York, NY: Springer-Verlag, 2000; 711-748.
2. Nobuyuki T, Takehiko G, Yoshimitsu O, Shuichi; CT of Internal Hernias. *Radio Graphics* 2005; 25:997-1015.
3. Berardi RS; Para duodenal hernias. *Surg Gynecol Obstet*, 1981, 152(1): 99-110.
4. Sagar J, Kumar V, Shah DK; Meckel's Diverticulum: asystematic review. *J R Soc Med* 2006; 99: 501-505.
5. Skandalakis PN, Zoras O, Skandalakis JE, Mirilas P; Littre hernia: surgical anatomy, embryology, and technique of repair. *Am Surg*, 2006; 72: 238-243.
6. Ko SF, Tiao MM, Huang FC, Hsieh CS, Huang CC, Ng SH *et al.*; Internal hernia associated with Meckel's Diverticulum in 2 paediatric patients. *Am J Emerg Med*, 2008; 26: 86-90.
7. Marshall K, Bartletr MD, Chiu-An Wang MD, Willis H, Williams MD; The Surgical Management of Para duodenal Hernia *Annals of Surgery* August 1968: *Annals of Surgery* August, 1968; 251-2.