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A RARE AND BAFFLING CASE REPORT OF A STRANGULATED INTERNAL HERNIA THROUGH MESENTERY

Surgery

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ABSTRACT

Introduction: Cases of acute intestinal obstruction due to internal hernia is rare. The case we are reporting here has no history of surgery or trauma and the herniation is of ileum through its own mesentery, making it extremely unusual and interesting.
Case: The patient 22y female, believed to be 8 weeks pregnant, presented to us in emergency room with signs and symptoms of acute intestinal obstruction. Ultrasonography of abdomen suggested intestinal obstruction and confirmed the presence of gestational sac. She underwent exploratory laparotomy which revealed a rare case of internal herniation of an ileal segment through its own mesentery with gangrenous changes. Gangrenous part was excised and end ileostomy created after releasing it from the constricted neck.
Conclusion: Internal hernia is an uncommon differential diagnosis for acute intestinal obstruction. It should be operated once diagnosis is done; laparoscopically operated cases have lesser post operative complications.

KEYWORDS

Internal Hernia, Mesentery, Strangulated, Gangrenous.

INTRODUCTION

Acute intestinal obstruction is a common clinical condition presenting in the emergency room. Internal hernia is a rare etiology for this condition. An internal hernia is defined as a protrusion of the intestines or other abdominal organs through a congenital (for example omental foramen) or acquired (post-surgery, post-traumatic, post-infection) aperture within the peritoneal cavity.[1] The reported incidence of internal hernias ranges from 0.6% to 5.8% of all small bowel obstructions.[2] Clinical diagnosis of internal hernia is very problematic in emergency room, especially in resource limited countries where urgent imaging studies are difficult to get.

The case we are reporting about is a rare experience, where the internal hernia of a segment of ileum was through its own mesentery. The ileal loop of bowel which herniated was found gangrenous and had to be resected as a part of the surgery.

PATIENT INFORMATION

Our patient was a 22 years old married female, home maker, belonging to a lower socioeconomic status, primigravida with eight weeks pregnancy, presented to us in emergency room with abdominal distension of 14 days and vomiting since last 6 days, there was associated pain which alleviated in the last 3 days. But she had not passed stool and flatus since last 7 days. Vomiting was nonprojectile in nature, copious in amount, feculent in color and smell. Pain was sudden in onset, dull aching in character, non radiating and gradually progressive in the beginning but the pain suddenly subsided in the last 3 days. She neither had any history of chronic illnesses like tuberculosis, diabetes mellitus, hypertension nor any history of surgery in the past. She also could not recollect any mentionable abdominal trauma in recent years. She had no family history of similar illness and had no history of allergy or addiction.

CLINICAL FINDINGS

On examination, her nutrition level was poor. She was febrile, with tachycardia, tachypnea, low urine output and blood pressure of 102/66 mmHg. Abdomen was distended, non tender, bowel sounds were inaudible and no obvious lump or fundus of uterus was palpable. On per rectal examination rectum was empty, collapsed and no mass could be palpated.

DIAGNOSTIC ASSESSMENT

Parameters	Results
Hb% :	7.7g%
RBC count :	3.75 million/cumm
PCV :	23.7%
MCV :	63.2 cu micron
MCH :	20.5 microgram
MCHC :	32.4%
Platelet count :	480000/cmm
Total Leucocytes Count :	16700/cumm (N81 L09 M07 E03 B0)
Blood urea :	34 mg/dl
Serum creatinine :	1 mg/dl
Serum sodium :	137.2 mmol/L
Serum potassium :	3.6 mmol/L
Serum chloride :	95.5 mmol/L
Ionized calcium :	1.28 mmol/L

Ultrasonography :

- Single intrauterine gestational sac of 7 weeks 3 days $\pm$ 1 week, maturity without fetal pole. ?Due to early gestation. ?Blighted ovum.
- Multiple distended bowel loops are noted.
- Due to distended bowel loops pancreas and retroperitoneum could not be visualized.
- Mild peritoneal collection seen.

THERAPEUTIC INTERVENTION

Patient was first resuscitated with intravenous fluids and antibiotics, nasogastric aspiration started, Foleys catheterisation done. She was then prepared for emergency exploratory laparotomy with written and informed consent after proper counselling regarding all the possible complications including abortion. She was operated under general anaesthesia by midline incision with assistance from a senior obstetrician. On exploration there was a segment of ileum herniating through its own mesentery through a small defect. The loop was hugely distended with stools, gases and the entire herniated loop of ileum was gangrenous being tightly strangulated within the small mesenteric defect (Figure1 and 2). The mesenteric defect had to be increased to release the herniated ileal loops. On release, the mesenteric defect was found to be of size 5cm x 5cm, about 1 feet proximal to ileocecal junction and the gangrenous ileal segment was about 3 feet in length (Figure 3).

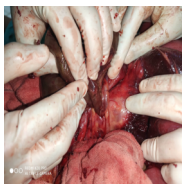

Figure 1: Showing Neck Of Herniated Ileal Loop Through The Defect In Its Mesentery.

The entire gangrenous segment was resected and end ileostomy was created closing the distal ileum in two layers. Post operative period was uneventful. Her stoma started functioning on third post operative day and was discharged on the eleventh post operative day after midline sutures were removed.

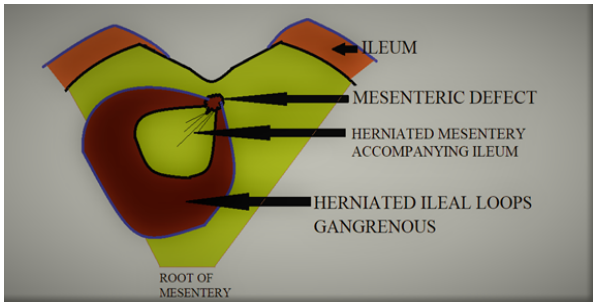

Figure 2: Schematic Representation Of Intraoperative Findings. Loop Of Ileum Can Be Seen Protruding Out Of Its Mesentery Through A Small Defect, It Also Carries A Part Of Its Adjacent Mesentery With It. Note The Dilated Loops And Darker Shade Indicating Gangrenous Nature Of The Herniated Part Of The Ileum.

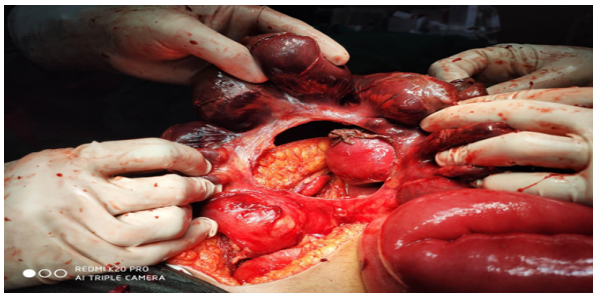

Figure 3: Showing The Mesenteric Defect Through Which The Ileum Herniated. The Defect Had To Be Increased To Release The Strangulated Ileal Loop.

FOLLOW UP AND OUTCOMES

The patient on follow up informed us that she had spontaneous abortion at home, but her stoma is functioning well, general condition has improved and has no other complaints till now. She is presently consulting an obstetrician also regarding abortion and future pregnancy. She will be planned for ileo-ileal anastomosis after two months.

DISCUSSION

Diagnosing internal hernia is a challenging task, there is risk of delay and which can set in strangulation to gangrene and then sepsis increasing mortality. Among adults, the important causes of internal hernias are previous gastrointestinal surgery, abdominal trauma, or intraperitoneal inflammation.[3,4,5] The first case of internal herniation was reported by Quain in 1861 from an autopsy series.[6] Cases of internal hernia are rare but if strangulated and left untreated, internal hernias have an overall mortality greater than 50%.[7] CT scan is an essential investigation in the assessment of patients presenting with intestinal obstruction, but despite its widespread use, diagnosis of internal hernia using CT scan is still challenging, and diagnosis is usually made intraperatively. Certain CT features represented by clustering of dilated small bowel peripherally without overlying Omentum and leading to colonic displacement centrally may be suggestive of transmesenteric hernias.[8]

Types of Internal hernia and their relative incidence

Paraduodenal(Lt.>Rt.) – 53%
Foramen of winslow - 8%
Transmesenteric - 8%
Transomental - 1-4%
Pericaecal - 13%
Intersigmoid - 6%
Supravesical

pelvic - 6% *Pelvic hernias include hernias through Broad ligament(4-5%), perirectal fossa & fossa of Douglas[9]

SOME RARE MENTIONABLE CASES FROM LITERATURE ARE :

Subabrata et al[10] (2016), a loop of ileum entered the retroperitoneum through a defect lateral to sigmoid colon

Svetlana et al[12] (2013), An encased mass of small bowel was found twisted on itself through a vent in the mesentery. It is relatable to our case.

Samuel et al[11] (2012), loop of ileum herniating through defect in right side broad ligament.

Laparoscopic surgery should be practiced for both diagnostically and therapeutically in expert hands in cases of internal hernia, as it reduces blood loss, post operative complications, decreases the number of days stayed in the hospital with lesser surgical scar marks and better patient compliance.

CONCLUSION

Internal hernia can be considered in rare differentials in cases of acute intestinal obstruction, even in cases with no history of surgery or trauma. A high index of suspicion with prompt surgical intervention may be the key to the reduction of morbidity and mortality. Surgery is the treatment of choice even in asymptomatic cases because it reduces complications like obstruction, strangulation and gangrene. Laparoscopic surgery should be preferred wherever feasible for better results.

CONFLICTS OF INTEREST

None

REFERENCES

1. Martin LC, Merkle EM, Thompson WM. Review of internal hernias: radiographic and clinical findings. Ajr Am J Roentgenol. 2006;186(3):703–17
2. B. D. Newsom and J. S. Kukora, "Congenital and acquired internal hernias: unusual causes of small bowel obstruction," The American Journal of Surgery, vol. 152, no. 3, pp. 279–285, 1986.
3. [5] B. Crisp´ın-Trebejo, M. C. Robles-Cuadros, E. Orendo Velasquez, and F. P. Andrade, "Internal abdominal hernia: ´ intestinal obstruction due to trans-mesenteric hernia containing transverse colon," International Journal of Surgery Case Reports, vol. 5, no. 7, pp. 396–398, 2014
4. D. Mathieu, A. Luciani, and Germand Group, "Internal abdominal herniations," American Journal of Roentgenology, vol. 183, no. 2, pp. 397–404, 2004.
5. R. Zissin, M. Hertz, G. Gayer, H. Paran, and A. Osadchy, "Congenital internal hernia as a cause of small bowel obstruction: CT findings in 11 adult patients," The British Journal of Radiology, vol. 78, no. 933, pp. 796–802, 2005.
6. Quain (1861) Case of Internal Strangulation of a Large Portion of Ileum. Transactions of the Pathological Society of London, 12, 103-104.
7. A. Rae, A. Kalyanaraman, A. Ward, and A. Harikrishnan, "An interesting case of retrocaecal internal herniation causing small bowel obstruction," Annals of Medicine and Surgery, 2015
8. Jung P, Kim MD, Ryu TH, Choi SH, Kim HS, Lee KH, et al. Transmesocolic hernia with strangulation in a patient without surgical history: case report. World J Gastroenterol 2013;19:1997–9.
9. Kohli A, Choudhury H S, Rajput D. Internal hernia : A case report. Indian J Radiol Imaging 2006;16:563-6
10. Kar, Sibabrata et al. "A Rare Type of Primary Internal Hernia Causing Small Intestinal Obstruction." *Case reports in surgery* vol. 2016 (2016): 3540794. doi:10.1155/2016/3540794
11. Essoun, S. and Debrah, S. (2014) Intestinal Obstruction Due to an Internal Hernia through a Defect of the Broad Ligament in an Adult Female Patient: Case Report and Literature Review. *International Journal of Clinical Medicine*, **5**, 814-817.