ORIGINAL RESEARCH PAPER

General Surgery

KEY WORDS: Internal Hernia, Transmesenteric Herniation, Intestinal Obstruction,

A RARE CAUSE OF INTESTINAL OBSTRUCTION – A CASE REPORT

Dr. Abhinav Balaji* Junior Consultant Surgeon, Padmapriya Hospital, Chennai *Corresponding Author

Dr. P. Balaji Senior Consutant Surgeon, Padmapriya Hospital, Chennai

Dr.(Major) P. Premanjali Senior Consultant Radiologist, Padmapriya Hospital, Chennai

Dr. R. V. Ramanakumar Associate Consultant Surgeon , Padmapriya Hospital, Chennai

ABSTRACT

Internal hernia is an uncommon cause of small bowel obstruction. Intestinal obstruction due to internal hernia is very dangerous and lethal because it may be silent or may present as severe acute abdominal pain .Internal hernias are defined as protrusion of a viscus through a normal or abnormal peritoneal or mesenteric aperture and remain within the confines of the peritoneal cavity. We report a 65 year old lady presenting with features of Intestinal obstruction and the pathology leading to obstruction was a small trans-mesenteric rent causing herniation and obstruction of the bowel. We report this case to highlight one of the rare causes of Intestinal Obstruction

INTRODUCTION

Internal Abdominal Hernias are Infrequent but an important cause of Bowel Obstruction. Para-duodenal, Peri-caecal, Transmesenteric and Lesser Sac Hernias constitute most of the Internal Hernias. Transmesentric Hernia constitute a rare type of Internal Abdominal Hernia and account for 0.2 to 0.9 % of Bowel Obstructions and carry a high risk of strangulation. Patients with Transmesentric Hernia present with non- specific symptoms making clinical diagnosis difficult and remain asymptomatic for many years.

CASE REPORT :

A 65 year old lady was admitted with abdominal pain / distension and vomiting since 3 days. Asymptomatic prior to admission. History of vague abdominal discomfort on & off but not causing any problem. No co – morbidities and no previous abdominal surgeries. General & Systemic examination were within normal limits. Abdomen was distended and bowel sounds were absent. Blood investigations revealed Leucocytosis (+) All other Blood Tests / Electrolytes within normal limits.X-ray –Abdomen revealed **Dilated Small Bowel Loops** . CT-Scan –Abdomen revealed **Multiple Dilated Small Bowel Loops With A Loop Of Jejunum of Jejunum Trapped In The Mesentry**. A clinical diagnosis of Intestinal Obstruction was made and patient was managed with nil by mouth,IV fluids, Continuous Ryles tube aspiration and Antibiotics and observed for 6 hours .Since no signs of resolution was noted patient was taken up for surgery-Exploratory Laparotomy and proceed. Operative Findings were Dilated small bowel loops., Adhesions at the mesentry around a loop of jejunum. . Adhesions released carefully. Loop of jejunum found herniating into a mesentric defect and getting trapped. Jejunal loop was released and found viable and not resected. Mesentric defect repaired. Post operative period was uneventful and patient was discharged on the 12 th POD.

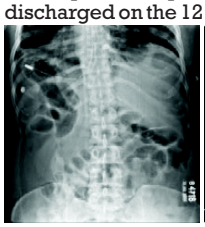
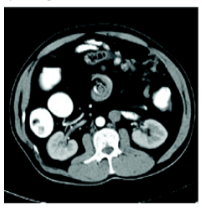


Figure -1 : X-ray Abdomen-erect Showing Dilated Fluid Filled Bowel Loops



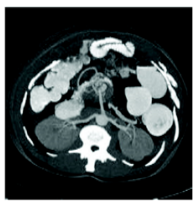


Figure -2 : CECT Abdomen showing twisted mesenteric vascular pedicle with twisted bowel loops around

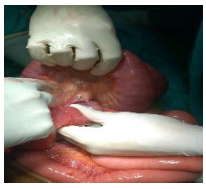


Figure -3

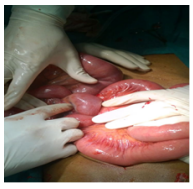


Figure -4

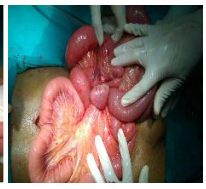


Figure -5

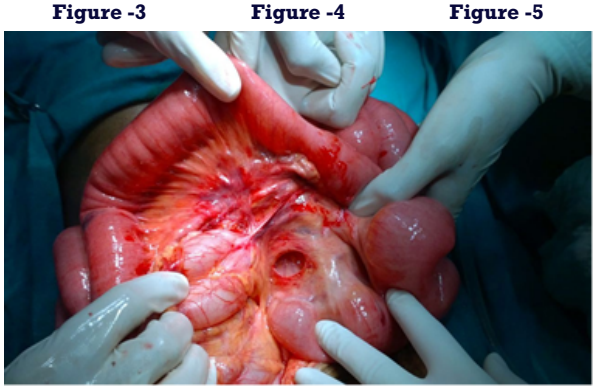


Figure -6

Figure -3 to 6 : Intra-operative pictures

DISCUSSION -

INTERNAL ABDOMINAL / TRANSMESENTRIC HERNIA

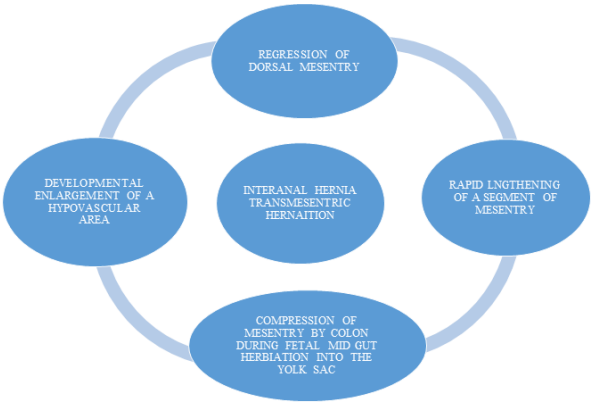
INTRODUCTION

Internal hernias are defined as protrusion of a viscus through a normal or abnormal peritoneal or mesenteric aperture and remain within the confines of the peritoneal cavity. The aperture can be normal, encased with a sac or abnormal. More common in males -3:2. They are a rare cause of mechanical bowel obstruction..These hernias are considered lethal due to the risk of strangulation

ETIOPATHOGENESIS

- CONGENITAL—IMPROPER INTESTINAL ROTATION
- IN A PRE- EXISTING ANATOMICAL ORIFICE -VIZ: FORAMEN OF WINSLOW
- POST - SURGICAL
- ABDOMINAL TRAUMA (KNOWN / INADVERTANT)
- VASCULAR / INFLAMMATORY DISEASES

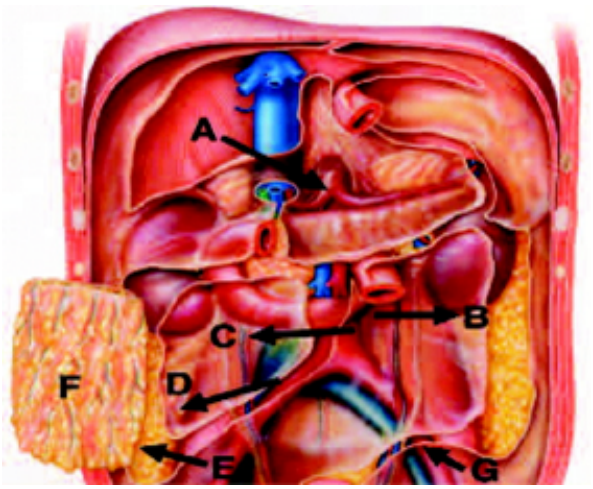
HYPOTHESIS / PATHOPHYSIOLOGY



CLASSIFICATION OF INTERNAL HERNIAS

WELCH CLASSIFICATION

TYPE OF HERNIA	INCIDENCE
PARA-DUODENAL HERNIA	53%
PERICAECAL HERNIA	13%
TRANS-MESENTRIC HERNIA	8%
LESSER SAC (FORAMEN OF WINSLOW)	8%
SIGMOID – MESOCOLON HERNIA	6%
SUPRAVESICAL HERNIA	6%
PELVIC HERNIA	6%
RETRO-ANASTAMOTIC HERNIA	5%
TRANSOMENTAL HERNIA	1-4%



A) Foramen of Winslow hernia.
B) Left paraduodenal hernia.
C) Right paraduodenal hernia.
D) Transmesenteric hernia.
E) Pericecal hernia.
F) Transomental hernia.
G) Intersigmoid hernia.

CLINICAL PRESENTATION

- NON - SPECIFIC AND INTERMITTENT CLINICAL PRESENTATION.
- PRE SURGICAL DIAGNOSIS IS DIFFICULT
- OFTEN CONFUSED WITH CARCINOMA COLON / DIVERTICULITIS.
- COMMONLY PRESENT WITH FEATURES OF ABDOMINAL PAIN, VOMITING, ABDOMINAL DISTENSION CONSTIPATION, OBSTIPATION.
- IN MOST CASES THE DEVELOPMENT OF SYMPTOMS OF INTESTINAL OBSTRUCTION IS USUALLY THE FIRST WARNING OF EXISTENCE OF INTRA ABDOMINAL HERNIAS .

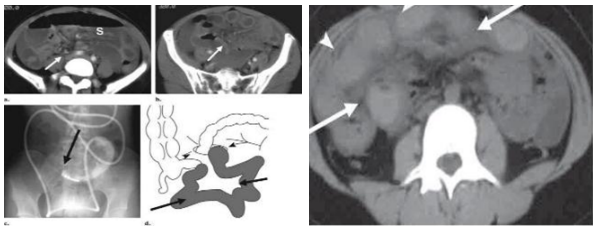
INVESTIGATIONS

- ROUTINE BLOOD WORK UP
- RADIOLOGY:

X-RAY ABDOMEN: USUALLY SHOWS DILATED BOWEL SEGMENTS IF OBSTRUCTION+

CT SCAN ABDOMEN: GOLD STANDARD OF INVESTIGATION

- DISPLACEMENT OF MAIN MESENTRIC TRUNK TOWARDS HERNIA
- CROWDING ,TWISTING AND ENGORGEMENT OF MESETERIC VESSELS
- CLUSTERING /ABNORMAL ENCAPSULATION OF SMALL BOWEL LOOPS INSIDE PERITONEUM. . INSPITE OF ALL THESE SIGNS DIAGNOSIS OF TRANSMESENTRIC HERNIA IS VERY DIFFICULT AS IT IS NOT ENCAPSULATED OR WRAPPED IN A SAC.



(A) Contrast-enhanced CT scan of the midabdomen shows dilated and fluid-filled small bowel loops (S) and crowded and stretched vessels (arrow).
(B) CT scan of the pelvis shows crowded and converging vessels (arrow) at the hernial orifice.
(C) Image obtained with enteroclysis performed through the intestinal tube shows the SBO (arrow).
(d) Diagram (coronal view) of the surgical findings shows that approximately 180 cm of strangulated ileum (arrows), located 5 cm from the ileocecal valve, was herniated through the mesenteric defect (arrowheads). At laparotomy, a segment of gangrenous ileumileum was resected.
(e) Intraoperative photograph shows the hernial orifice, which is oval and 4 cm in diameter

CONCLUSION:

Transmesentric internal abdominal hernias are usually asymptomatic, remain dormant for many years and may erupt at any situation and are a rare cause of small bowel obstruction. Early operative intervention is essential to decrease morbidity and mortality. In a young patient with bowel obstruction without external hernia, previous abdominal surgery or trauma, a congenital mesenteric defect should be considered as one of the differential diagnosis. Any blunt injury abdomen with free fluid and no solid organ injury if planned for conservative management should have a CT scan taken to avoid missing any mesenteric injury which may later lead onto a possible mesenteric herniation. When mesenteric defect is incidentally detected during unrelated abdominal surgery, the defect should be closed to prevent it from causing possible internal hernia in future. CT scan is the gold standard of investigation. Although laparotomy is considered the treatment of choice, laparoscopy can aid in both diagnosis and treatment. In a case of intestinal obstruction with no clue to the aetiology, the first thing to strike the mind of the surgeon is a possible Transmesentric Internal hernia causing mechanical small bowel obstruction.

REFERENCES :

1. Martin LC, Merkle EM, Thompson WM. Review of internal hernias: radiographic and clinical findings. AJR Am J Roentgenol. 2006;186:703-17.
2. Blachar A, Federle MP, Dodson SF Internal hernia: clinical and imaging findings in 17 patients with emphasis on CT criteria. Radiology. 2001;218:68-74.
3. Al-khyatt W, Aggarwal S, Birchall J, Rowlands TE Acute intestinal obstruction secondary to left paraduodenal hernia: a case report and literature review. World J Emerg Surg. 2013;8:5.
4. Al-Mansour MR, Mundy R, Canoy JM, Dulaimy K, Kuhn JN, Romanelli J. Internal hernia after laparoscopic antecolic roux-en-y gastric bypass. Obes Surg.

2015;25(11):2106-11.
5. Blachar A, Federle MP, Brancatelli G, Peterson MS, Oliver JH, Li W. Radiologist performance in the diagnosis of internal hernia by using specific CT findings with emphasis on transmesenteric hernia. Radiology. 2001;221(2):422-8.
6. Ozenç A, Ozdemir A, Coskun T. Internal hernia in adults. Int Surg. 1998;83(2):167-70.
7. Palanivelu C, Rangarajan M, Jategaonkar PA, Anand NV, Senthilkumar K. Laparoscopic management of paraduodenal hernias: mesh and mesh-less repairs. A report of four cases. Hernia. 2008;12(6):649-53.