



Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/15636
DOI URL: <http://dx.doi.org/10.21474/IJAR01/15636>



RESEARCH ARTICLE

MESODIVERTICULAR BAND OF MECKEL'S DIVERTICULUM CAUSING INTERNAL HERNIATION AND INTESTINAL OBSTRUCTION IN A GERIATRIC MALE

Dr. Atreyee Sarkar¹, Professor Dr. Dilip Krishnarao Apturkar², Dr. Harish Mudashi³ and Dr. Ruchita Talreja⁴

1. MBBS. (Junior Resident, Department of General Surgery).
2. M.S General Surgery (Faculty and Head of Unit, Department of General Surgery), Dr. Vitthalrao Balasaheb Vikhe Patil Rural Medical College Loni, Maharashtra.
3. MBBS. (Junior Resident, Department of General Surgery).
4. MBBS. (Junior Resident, Department of General Surgery).

Manuscript Info

Manuscript History

Received: 05 September 2022
Final Accepted: 09 October 2022
Published: November 2022

Key words.

Mesodiverticular band, Meckel's Diverticulum, Intestinal Obstruction, Geriatric Male

Abstract

Background - Meckel's diverticulum is a congenital malformation caused by malabsorption of the yolk intestine. It has been reported that the left and right yolk arteries, which are nutrient vessels, can become mesodiverticular bands and cause intestinal obstruction in symptomatic Meckel's diverticulum. Intestinal obstruction due to meso-diverticular band of Meckel's diverticulum is one of the rarest complications of Meckel's diverticulum. Mesodiverticular band is a rarely reported cause of small bowel obstruction in Meckel's diverticulum in geriatric population in medical history.

Case report - We present a 78 years old male presenting as acute intestinal obstruction caused by meso-diverticular band adhesion causing obstruction. Xray abdomen showed multiple air fluid levels suggestive of intestinal obstruction and emergency laparotomy was done which showed that the cause of intestinal obstruction was mesodiverticular band adherent to Meckel's diverticulum causing internal herniation and obstruction in intestinal loops. Adhesiolysis was done and Meckel's diverticulum was resected along with the mesodiverticular band. The patient recovered well.

Summary - The mesodiverticular band of Meckel's diverticulum causing mechanical small bowel obstruction is a rare complication of this congenital anomaly. It should be considered in the differential diagnosis of a small bowel obstruction.

Copy Right, IJAR, 2022, All rights reserved.

Introduction.

Meckel's diverticulum is a congenital malformation caused by malabsorption of the yolk intestine. It has been reported that the left and right yolk arteries, which are nutrient vessels, can become mesodiverticular bands and cause intestinal obstruction in symptomatic Meckel's diverticulum. [1 – 3].

The Mesodiverticular Band is a congenital remnant of the vitelline artery and it usually extends from the tip of the Meckel's Diverticulum to the ileal mesentery. [4]

Corresponding Author. Dr. Atreyee Sarkar

Address. Department Of General Surgery, DBVP RMC, Loni, Maharashtra.

The presence of this band may lead to Small Bowel Obstruction result from entrapment of a loop of the small intestine with risk of strangulation if not released in a timely manner [5].

We report an unusual case of intestinal obstruction caused by mesodiverticular band of a meckel's diverticulum in 78 years old man.

Symptomatic Meckel's Diverticulum is rarely a consideration in the geriatric population.

Intestinal Obstruction due to meso-diverticular band of Meckel's diverticulum is one of the rarest complications of Meckel's diverticulum. [6]

Case report.

A 78 years old male presented with complains of abdominal pain and distention, obstipation and multiple episodes of vomiting for 03 days.

A nasogastric tube was placed which immediately suctioned 300cc of faecaloid gastric content.

Abdominal examination revealed generalised abdominal distension, visible peristalsis, vague tenderness, no rigidity, minimal guarding present. Metallic exaggerated bowel sounds present in lower abdominal quadrants suggestive of preoperative diagnosis of acute intestinal obstruction. X-ray abdomen showed multiple air fluid levels, USG was suggestive of small bowel obstruction.

Patient underwent emergency exploratory laparotomy. Operative findings showed dilated Ileal and Jejunal bowel loops, a Meckel's diverticulum at 60 cm proximal to Ileo-caecal junction with adhesive meso-diverticular band at the base of Meckel's diverticulum till ileum to mesentery.

Release of Adhesive mesodiverticular band and excision of meckel's diverticulum along with the mesodiverticular band done with Ileo-Ileal anastomosis. Postoperative period was uneventful.

Histopathological reports showed diverticulum of small intestine compatible with Meckel's diverticulum with no ectopic tissue along with fibrous bands.



Fig 1:- Showing multiple air fluid levels in x ray abdomen indicating acute intestinal obstruction.

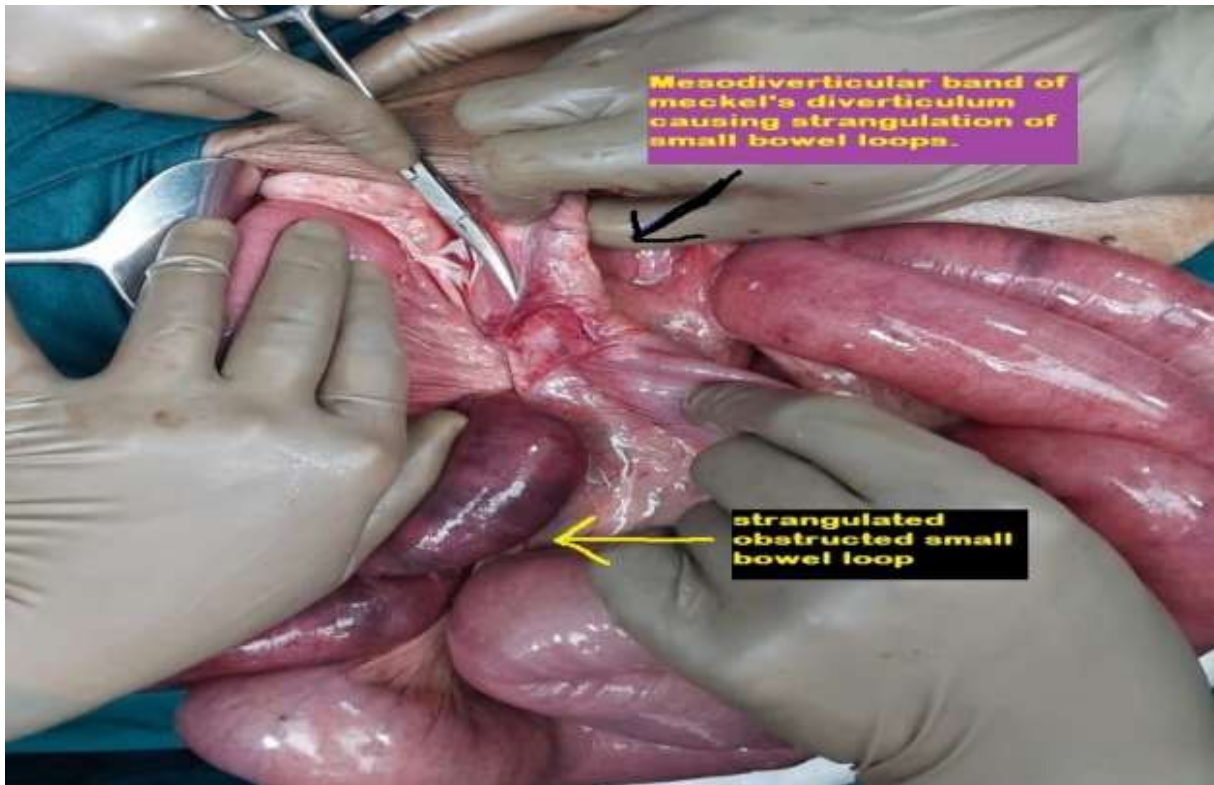


Fig 2:- mesodiverticular band of Meckel's diverticulum causing internal herniation and obstruction of illeum.



Fig 3:- mesodiverticular band attached to the base of meckel's diverticulum and mesentery.



Fig 4:- Mesodiverticular band adherent to the base and body of meckel's diverticulum and mesentery.



Fig 5:- Excised Meckel's diverticulum.

Limitation.

1. No advanced investigations like angiography or isotope scans were done.
2. No special pathological staining was done.

Funding.

None.

Conflict of interest.

None declared

Ethical approval.

Not required

Discussion.

Meckel's diverticulum was originally described by FabriciusHildanus in 1598. However, it is named after Johann Friedrich Meckel, who established its embryonic origin in 1809 [7].

Meckel's diverticulum is the most common congenital abnormality of the small bowel. It arises from the antimesenteric border of ileum due to incomplete obliteration of the vitelline duct. [2]

Meckel's diverticulum is a true diverticulum that includes all 3 coats of the small intestine. [8]

Generally, Meckel's diverticulum ranges from 1-12 cm in length and is found 45-90 cm proximal to the ileocecal valve [9]

The frequent complications of Meckel's diverticulum are haemorrhage, small bowel obstruction and diverticulitis. [10]

Intestinal Obstruction due to meso-diverticular band of Meckel's diverticulum is one of the rarest complications of Meckel's diverticulum. [6]

We observed a 78 years old man presenting as acute intestinal obstruction and operative findings showed obstruction due to mechanical compression of bowel due to Mesodiverticular band attached to the base Meckel's diverticulum.

The Mesodiverticular Band is a congenital remnant of the vitelline artery and it usually extends from the tip of the Meckel's Diverticulum to the ileal mesentery. [4]

The presence of this band may lead to Small Bowel Obstruction result from entrapment of a loop of the small intestine with risk of strangulation if not released in a timely manner [5].

Small bowel obstruction, either from an mesodiverticular band or an adhesive band, is almost undistinguishable clinically or radiologically. [11]

Conventional radiographic examination is of limited value, high-resolution sonography has been used for the investigation of Meckel's diverticulum; usually it shows a fluid-filled structure in the right lower quadrant, associated with thick-walled loop of bowel. [12]

In our study, Xray abdomen showed air-fluid levels & ultrasound which suggestive of acute intestinal obstruction, but there was no evidence of associated presence of meckel's diverticulum and presence of meso-diverticular band.

In summary, the mesodiverticular band of Meckel's diverticulum causing mechanical small bowel obstruction is a rare complication of this congenital anomaly. It should be considered in the differential diagnosis of a small bowel obstruction. [13]

Conclusion.

Mesodiverticular band of Meckel's diverticulum is a rare finding, difficult to diagnose preoperatively radiologically. It can cause of internal herniation of bowel loops, leading to acute intestinal obstruction in the geriatric population.

Referrance.

1. Senga Shoshi. A case of strangulation ileus caused by the band between Meckel's diverticulum and the mesentery of small intestine. J. Clin. Surg. 1998

2. Abe Hajime. A case of ileus due to mesodiverticular vascular band of Meckel's diverticulum. 1999
 3. Kurisu Yasuro. A strangulated ileus secondary to a mesodiverticular vascular band associated with Meckel's diverticulum in a. J. Clin. Surg. 2004
 4. Dumper J, Mackenzie S, Mitchell P, Sutherland F, Quan ML, Mew D(2006) Complications of Meckel's diverticula in adults. Canadian Journal of Surgery 49(5):353 (PMID: 17152574)
 5. Sommerhalder C, Fretwell KR, Salzler GG, et al. Aneurysmal rupture of a mesodiverticular band to a Meckel's diverticulum. Case Rep Surg 2015
 6. Gamblin TC, Glenn J, Herring D, McKinney WB (2003) Bowel obstruction caused by a Meckel's diverticulum enterolith: a case report and review of the literature. Current surgery. 60(1):63-4 (PMID: 14972313)
 7. K. W. Chan, "Perforation of Meckel's diverticulum caused by a chicken bone: a case report," Journal of Medical Case Reports, vol. 3, article 48, 2009.
 8. [5] G. Capelão, M. Santos, S. Hilário, M. Laureano, J. Nobre, and I. Gonçalves, "Intestinal Obstruction by Giant Meckel's Diverticulum," GE-Portuguese Journal of Gastroenterology, vol. 24, no. 4, .
 9. G. W. Holcomb, J. P. Murphy, and D. J. Ostlie, Ashcraft's Pediatric Surgery E-Book, Elsevier Health Sciences, 2014.
 10. Choi SY, Hong SS, Park HJ, Lee HK, Shin HC, Choi GC (2017) The many faces of Meckel's diverticulum and its complications. Journal of Medical Imaging and Radiation Oncology. 61(2):225-31 (PMID: 27492813)
 11. Kuru S, Bulus H, Kismet K, et al. Mesodiverticular Band of Meckel's diverticulum as a rare cause of small bowel obstruction: case report and review of the literature. Viszeralmedizin 2013
 12. Prall RT, Bannon MP, Bharucha AE. Meckel's diverticulum causing intestinal obstruction Am J Gastroenterol. 2001
 13. Yazgan C, Sahin T, and Ozmen M. Unusual cause of small bowel obstruction: mesodiverticular band of Meckel's diverticulum demonstrated by CT. BJR Case Rep 2017; 3: 20150255.
- Generally, Meckel's diverticulum ranges from 1-12 cm in length and is found 45-90 cm proximal to the ileocecal valve [2]. Meckel's diverticulum is seen in 2% of the population, and it is the most common congenital malformation of the gastr.