

# Congenital Mesenteric Defect – A Rare Cause of Internal Herniation in Adults

Avijit Roy, Anadi Nath Acharya, Nemai Nath

## Abstract

**Background:** Mesenteric defect, congenital or acquired, is a rare cause of internal hernia. Most documented cases of internal hernias caused by congenital mesenteric defects are described in the paediatric population; its incidence is very rare in adults.

**Case report:** We present the case of a previously asymptomatic 65-year-old man with a defect involving the mesentery of the terminal ileum. Almost the entire ileum had herniated through it twice in a complex manner and had become strangulated. The residual mesenteric defect was closed after relieving the obstruction, resecting the gangrenous part of ileum, and performing an end-to-side ileotransverse anastomosis.

**Results:** The recovery was uneventful and the patient was discharged on the eleventh postoperative day.

**Conclusion:** Reports of strangulated congenital mesenteric hernia at this age are scarce. Severe unexplained abdominal pain in adults with a virgin abdomen can be due to mesenteric hernia. A high index of suspicion and early surgical intervention can prevent a potential catastrophe.

**Key words:** Congenital internal hernia, mesenteric hernia, small bowel obstruction, strangulation, adult

## Introduction

Congenital internal hernia as a result of mesenteric defect is a rare cause of bowel obstruction in adults and often presents with complications. A high index of suspicion, occasionally aided by appropriate radiological imaging, should prompt early surgical intervention and thus reduce morbidity and mortality.

## Case report

A 65-year-old man presented with acute intestinal obstruction with peritonitis. Hernial orifices were normal and he had no history of abdominal trauma or surgery.

An abdominal X-ray suggested small bowel obstruction.

On exploration, the entire ileum was found to be herniated through a three centimetre gap in the mesentery of the terminal ileum. Part of the loop was wrapped around itself like an ileal knot and was gangrenous.

The obstruction was relieved, the gangrenous gut resected, the terminal ileum closed and a primary end-to-side ileotransverse anastomosis was made. The residual mesenteric defect was repaired. Following peritoneal toileting and the placement of a tube drain in the pelvis, the abdomen was closed en mass.

## Discussion

Internal herniation accounts for only 0.2% to 0.9% of all cases of small bowel obstruction [1,2]. It can be congenital or acquired. Common presentations of internal hernias include paraduodenal (50%), supra and/or perivesical, intersigmoid, through the foramen of Winslow, omental defect and postoperative, post traumatic and congenital mesenteric defects [3].

Mesenteric defects are an established cause of internal herniation even in non-operated abdomens and provide a potential site for intestinal incarceration or strangulation.

Congenital mesenteric defects most often occur in the small bowel mesentery and less commonly in the colonic mesentery. The vast majority of these cases have been reported in infants or children, often with an associated intra-

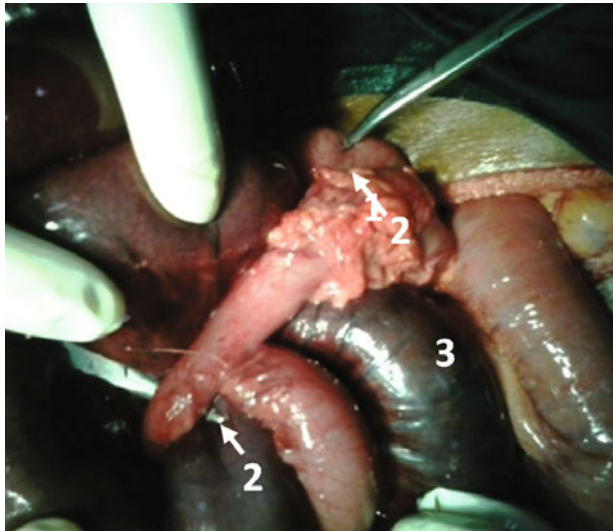
Dr. Avijit Roy, MS, RMO  
cum Clinical Tutor, Dept of Surgery, Murshidabad Medical College & Hospital, Berhampore, West Bengal.

Prof. (Dr.) Anadi Nath Acharya, MS, DNB, FRCS  
Professor, Dept of Surgery, Murshidabad Medical College & Hospital, Berhampore, West Bengal.

Prof. (Dr.) Nemai Nath, MS  
Professor and Head, Dept of Surgery, Murshidabad Medical College & Hospital, Berhampore, West Bengal

Corresponding author: Dr. Avijit Roy, MS, RMO  
80/10 Ukilabad Road, P.O. Berhampore, District- Murshidabad,  
West Bengal, India, Pin-742101,  
Tel.: +91 9434135081  
e-mail: dravijitroy@gmail.com,

Received 26 July 2014; Accepted 11 Sept 2014



**Figure 1.** Herniated gangrenous small gut through a defect in the mesentery of terminal ileum 1. I-C junction, 2. mesenteric gap, 3. herniated gangrenous gut

abdominal anomaly. Murphy found associated anomalies, most commonly intestinal atresia, related to herniation through a mesenteric defect of the small intestine in 10 out of 11 children in his series [4]. In adults, defects are most commonly acquired as a result of either blunt abdominal trauma or abdominal surgery. In our case, however, the mesenteric defect was congenital and not associated with an intestinal anomaly.

Only 13 adult case reports (male: female ratio 5:8) of bowel obstruction secondary to congenital mesenteric defects have been documented in the published literature [5–12], one of which was diagnosed at autopsy [5], and four that were reported to have developed bowel ischaemia. [5,7,10]. Clinical presentations varied from diarrhoea, vomiting and non-specific abdominal signs to severe abdominal pain, shock and unexpected death. [5,7,9]

The mesenteric defects are commonly found in the small bowel (70%), with 53% in the ileocaecal area. [13] These defects are typically small, although there are rare reports of large defects. [14]

Lack of specific clinical, radiological or laboratory findings renders the preoperative diagnosis difficult if not impossible. Misdiagnosis and delayed exploration contribute to bowel ischaemia and subsequent mortality.

The recent trend of diagnostic laparoscopy in acute abdomen is likely to facilitate an early diagnosis. Operative management entails timely laparotomy, reduction of hernia, resection/ anastomosis of devitalized bowel and closure of the defect. A defect near the root of mesentery is challenging due to limited exposure and proximity of mesenteric vessels near the edge of the defect

## Conclusion

Severe unexplained abdominal pain in adults with a virgin abdomen can be due to mesenteric hernia. Diagnosis requires a high index of suspicion and a diagnostic laparoscopy followed by urgent surgical exploration and correction of the mesenteric defect and resection of devitalised part, if any.

## Conflict of Interest

The authors declare that they have no conflict of interest in writing this case report.

## Informed Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editor-in-chief of this journal on request

## Acknowledgement

I would like to acknowledge the help of the Medical Records Department of Murshidabad Medical College and Hospital in procuring notes for this case report.

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