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A Rare Case of Mesenteric Cyst Leading to Midgut Volvulus in a Pediatric Patient

Dr. Meeti S. Patel[1]; Dr. Jatin G. Bhatt[2]; Dr. Divyang Chavda[3]

[2,3]Under the Guidance

[1]1st Year Resident, Department of General Surgery, PDUMCH, Rajkot, Gujarat, India
[2]Professor and Head, Department of General Surgery, PDUMCH, Rajkot
[3]Assistant Professor, Department of General Surgery, PDUMCH, Rajkot

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Abstract: Mesenteric cysts are rare benign intra -abdominal lesions, particularly uncommon in the pediatric population. They may remain asymptomatic or present with acute abdominal emergencies when complicated by volvulus, hemorrhage, or infection. We report a rare case of a mesenteric cyst presenting as midgut volvulus in a 5 -year-old female child, successfully managed with emergency surgical resection. Early diagnosis and prompt surgical intervention are crucial to prevent bowel ischemia and associated morbidity.

Keywords: *Mesenteric Cyst; Midgut Volvulus; Pediatric Acute Abdomen; Exploratory Laparotomy.*

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I. INTRODUCTION

Mesenteric cysts are uncommon intra -abdominal lesions with an estimated incidence of 1 per 100,000 – 250,000 hospital admissions. They may arise anywhere along the mesentery of the gastrointestinal tract, most frequently from the small bowel mesentery. Altho ugh typically benign, mesenteric cysts can lead to serious complications including intestinal obstruction, volvulus, hemorrhage, infection, and perforation.

Midgut volvulus secondary to a mesenteric cyst is exceedingly rare in children. Due to their nonspecific clinical presentation, diagnosis is often delayed. We present a rare pediatric case of a mesenteric cyst complicated by midgut volvulus, highlighting the importance of early radiological diagnosis and timely surgical intervention.

II. CASE PRESENTATION

A 5-year-old female child presented to the surgery outpatient department with complaints of abdominal pain, vomiting, and non -passage of stool for four days. Vomiting was non -projectile, non -bilious, non -foul smelling, consisted of gastric contents, and oc curred shortly after meals. Abdominal pain was periumbilical, mild to moderate in intensity, non -radiating, and gradually progressive.

There was no history of fever, diarrhea, melena, steatorrhea, burning micturition, or evening rise of temperature. The child had no significant past medical history, no prior NICU or PICU admissions, and was fully immunized as per the national immunization schedule.

➢ *Clinical Examination and Investigations*

On admission, the patient was hemodynamically stable. Abdominal examination revealed mild distension with no signs of peritonitis.

- *Laboratory investigations:*

✓ Hemoglobin: 11.6 g/dL
✓ Total leukocyte count: 8,200 cells/mm³
✓ Platelet count: 5.18×10^5 /mm³

- *Contrast -Enhanced Computed Tomography (CECT) of Abdomen and Pelvis Revealed:*

Twisting of the mesentery and branches of the superior mesenteric vessels at the supra -umbilical level, demonstrating the classic “whirlpool sign”, suggestive of midgut volvulus Dilatation of the ascending, transverse, and descending colon with a maximum anteroposterior diameter of 34 mm A thick-walled cystic lesion measuring approximately 66 × 37 × 47 mm in the right iliac fossa, consistent with a mesenteric cyst.

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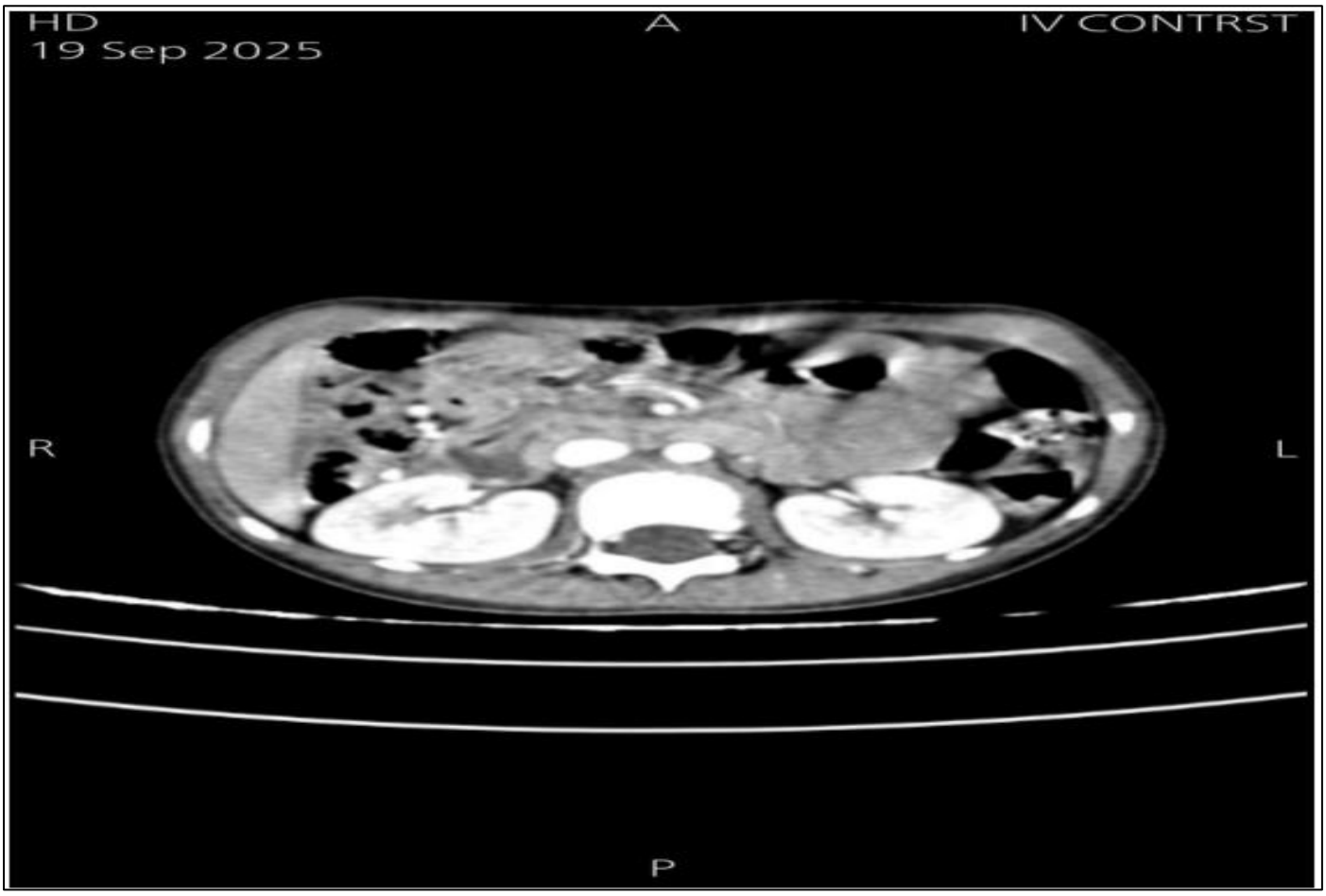

Fig 1 CECT Abdomen Showing the Whirlpool Sign Due to Twisting of Mesenteric Vessels and a Cystic Lesion Consistent with a Mesenteric Cyst.

III. MANAGEMENT

The patient was taken up for emergency exploratory laparotomy. Intraoperatively, a mesenteric cyst arising from the jejunal mesentery was identified, associated with midgut volvulus. The involved jejunal segment along with the cyst was resected, followed by an end-to-end jejuno -jejunal anastomosis. An appendicectomy was also performed, and the abdomen was closed in layers.

Fig 2 Intraoperative Image Showing a Jejunal Mesenteric Cyst with Associated Midgut Volvulus

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Fig 3 Resected Jejunal Segment Along with Mesenteric Cyst Specimen.

IV. POSTOPERATIVE COURSE

The postoperative period was uneventful. Oral sips were initiated on postoperative day (POD) 2. The abdominal drain was removed on POD 9. The patient tolerated oral feeds well and was discharged in stable condition with advice for regular follow -up.

V. DISCUSSION

Mesenteric cysts in children are rare and often pose a diagnostic challenge due to their nonspecific clinical presentation. Complications such as volvulus, although uncommon, can rapidly progress to bowel ischemia and necrosis if not promptly recognized.

CECT is the imaging modality of choice in suspected cases, with the whirlpool sign being pathognomonic for midgut volvulus. Complete surgical excision of the cyst, with bowel resection when necessary, remains the definitive treatment and is associated with

excellent outcomes. Early intervention significantly reduces morbidity and mortality.

VI. CONCLUSION

Mesenteric cysts, though rare, should be considered in the differential diagnosis of pediatric acute abdomen. Early radiological diagnosis and timely surgical intervention are essential to prevent life -threatening complications such as midgut volvulus and bowel ischemia.

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