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PERFORATED MECKEL'S DIVERTICULUM IN AN 8-YEAR-OLD MALE WITH CONCURRENT ACUTE APPENDICITIS: A RARE PEDIATRIC SURGICAL EMERGENCY

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ABSTRACT Meckel's diverticulum (MD) is the most common congenital anomaly of the gastrointestinal tract, though its complications are relatively rare. Coexistence with acute appendicitis is an uncommon but important clinical scenario, especially when complicated by perforation. We present the case of an 8-year-old male who presented with features of acute appendicitis and was intraoperatively found to have both inflamed appendix and a perforated Meckel's diverticulum. This case highlights the importance of maintaining a high index of suspicion for synchronous intra-abdominal pathology in pediatric patients.

KEYWORDS : Meckel's diverticulum, GI bleeding, perforation, obstruction, strangulation, intussusception, acute appendicitis, pediatric surgery, synchronous pathology

INTRODUCTION:

Meckel's diverticulum, a remnant of the omphalomesenteric duct, occurs in approximately 2% of the population. While often asymptomatic, it may lead to complications such as bleeding, obstruction, strangulation, inflammation, perforation, intussusception. Perforated MD mimicking or coexisting with acute appendicitis is rare, especially in the pediatric population, and poses a diagnostic challenge. Here, we report a case of perforated Meckel's diverticulum diagnosed intraoperatively during appendectomy in an 8-year-old male.

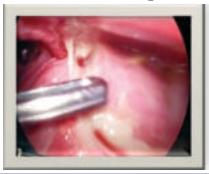
Case Presentation:

An 8-year-old previously healthy male presented to the emergency department with a 2-day history of abdominal pain, initially periumbilical, later localizing to the right lower quadrant. He had associated anorexia, nausea, and a single episode of non-bilious vomiting, and stooping posture. There was no history of hematochezia or previous abdominal surgeries.

On examination, he was febrile (38.4°C), with localized tenderness and guarding in the right iliac fossa and rigidity. Laboratory studies showed leukocytosis (WBC 14,800/μL) with neutrophilic predominance. Ultrasound suggested an inflamed, non-compressible appendix measuring 8 mm, consistent with acute appendicitis.

Initially patient taken under GA for laparoscopy by suspecting perforated appendix but surprisingly found perforated MECKELS diverticulum.

The child was taken for emergency laparotomy via a lower midline incision. Intraoperatively, the appendix was inflamed but not perforated. Exploration of the small bowel revealed a perforated Meckel's diverticulum located approximately 60 cm proximal to the ileocecal valve, with surrounding fibrinous exudate and localized peritonitis.



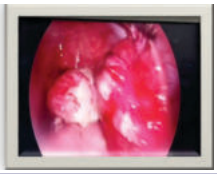


Fig. Laparoscopic view-pus collection

Fig. Meckel's Diverticulum(perforated)

A diverticulectomy was performed along with appendectomy. Saline wash given thoroughly had put the pelvic drain and the abdomen closed in layers.

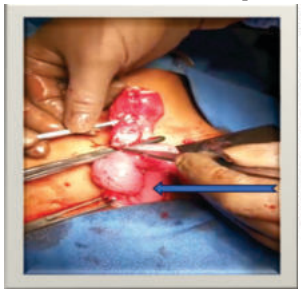
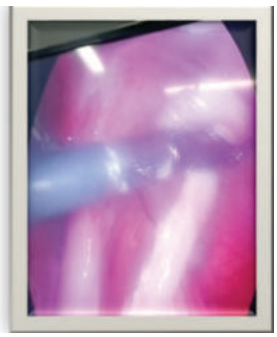


Fig. Site of perforation in MD



Acute Appendicitis

Histopathology:

Histologic examination of the resected MD showed transmural inflammation with focal necrosis and evidence of heterotopic gastric mucosa. The appendix exhibited acute appendicitis with lymphoid hyperplasia without perforation.

Postoperative Course:

The patient recovered uneventfully and was discharged on postoperative day 5. At 1-month follow-up, he remained

asymptomatic with zero complications.

DISCUSSION:

This case underscores the diagnostic challenge in distinguishing appendicitis from complicated MD, particularly in children. MD may mimic or coexist with appendicitis, complicating clinical and radiologic assessment. Perforation of MD is rare, occurring in less than 0.5% of cases, and can result from inflammation, peptic ulceration from ectopic mucosa, or obstruction.

The simultaneous occurrence of both pathologies, while rare, demands thorough intraoperative examination preferably laparoscopically in suspected appendicitis with MD or other diverticular diseases, especially when the appendix appears only mildly inflamed or normal or clinical examination and appendix appearance mismatched. Early recognition and surgical intervention are critical to preventing morbidity from perforated MD.

CONCLUSION:

Perforated Meckel's diverticulum is an uncommon but serious complication that may coexist with acute appendicitis. Surgeons should maintain intraoperative vigilance for concurrent pathology, particularly in pediatric patients with atypical presentations or disproportionate findings. Diverticulectomy along with appendectomy remains the treatment of choice in such cases.

Conflicts Of Interest:

The authors declare no conflict of interest.

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