A Rare Case of Small Bowel Obstruction Secondary to Meckel's Torsion

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BACKGROUND

Meckel's diverticulum is the most common congenital anomaly of the gastrointestinal tract

- Described by German anatomist, Johann Friedrich Meckel, in 1809
- True ileal diverticulum arising from incomplete obliteration of omphalomesenteric (vitalline) duct typically follows the "rule of twos"

Symptomatic presentation in adults is uncommon

- Often discovered incidentally and may lead to complications such as:
  - Gastrointestinal bleeding
  - Small bowel obstruction (SBO)
  - Diverticulitis
  - Perforation (rare)

CASE PRESENTATION

23-year-old previously healthy female without surgical history

- Sudden-onset progressively worsening abdominal pain, nausea, vomiting, and watery diarrhea
- Physical exam: tender, non-peritonitic abdomen with diffuse distension

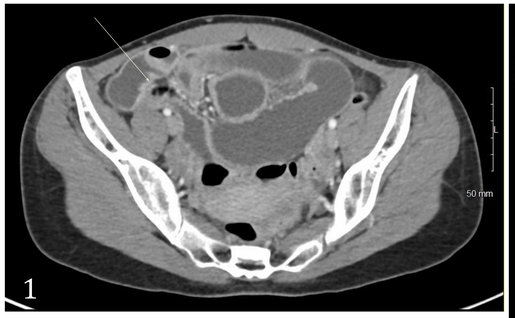
Initial Evaluation

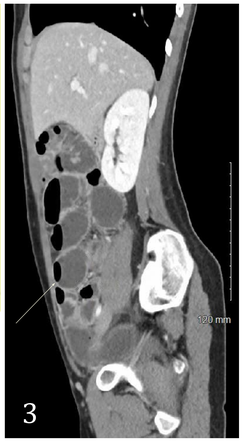
- Labwork: mild leukocytosis 10.9 x 10^9/L [ref: 4.8-10.0.], normal lactate 1.6mmol/L [ref: 0.5-2.2]
- Contrast-enhanced computed tomography (CT) abdomen/pelvis: markedly dilated small bowel loops, colonic decompression consistent with high-grade SBO with unclear transition point
- Initially attempted conservative management with nasogastric decompression and bowel rest

Surgical Management & Operative Findings

- Diagnostic laparoscopy demonstrated markedly distended small bowel and adhesions
- Further exploration delineated transition point near terminal ileum with a torsed ~5cm Meckel's diverticulum causing mechanical SBO
- Mini laparotomy used for specimen extraction
- Segmental small bowel resection including the diverticulum with a stapled technique, closure of the mesenteric defect, and concomitant appendectomy

IMAGES





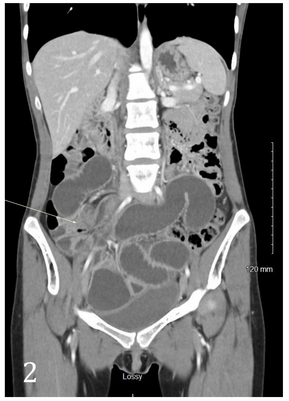


Figure 1 *- CT A/P with IV contrast: Axial*
- Transition point likely in right lower abdomen in the distal small bowel

Figure 2 *- CT A/P with IV contrast: Coronal*
- Multiple markedly dilated small bowel loops with decompressed colon
- Findings compatible with high-grade SBO

Figure 3 *- CT A/P with IV contrast: Sagittal*
- Multiple dilated small bowel loops
- Air-fluid levels can be seen in multiple small bowel loops

RESULTS

Pathology

- Confirmed Meckel's diverticulum and small bowel mucosal lining without ulceration, ectopic mucosa, or tumor
- Small bowel segment without significant pathologic changes
- Appendiceal specimen without focus of acute inflammation

Outcome

- Uneventful postoperative course discharged on postoperative day three

DISCUSSION

Torsion of Meckel's diverticulum causing SBO is exceptionally rare with fewer than 25 cases reported in published literature

- Complication appears more frequently in patients without prior abdominal surgery

Clinical presentation mirrors classic SBO resulting in nonspecific findings on initial presentation as seen in our case
Definitive management requires **surgical intervention**

- Diverticulectomy (resection of diverticulum alone)
- Segmental small bowel resection indicated when ischemic or gangrenous changed extend beyond torsed segment
- Resection due to size of the diverticulum may be considered in future literature to ensure entire specimen is removed due to possible presence of ectopic tissue

Clinical significance

- Case underscores the importance of maintaining suspicion for rare causes of obstruction in young adults with no abdominal surgical history

CONCLUSIONS

Meckel's diverticulum should be **considered in the differential diagnosis** of nonspecific abdominal pain, particularly in **young adults without prior abdominal surgery**

Early recognition and prompt surgical intervention are essential to prevent serious complications and improve patient outcomes

REFERENCES

Please utilize the QR code for resources used for literature review