



Wrong Place, Wrong Time. A Case-Report of Meckel's Diverticulum in an Adult Female



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Introduction

Meckel's diverticulum (MD) is a congenital abnormality caused by incomplete atrophy of the vitelline duct¹ located 7-200cm proximal to the ileocecal valve, is present in 0.3-2.9% of the general population² and rarely presents with complications in adults³. In cases with complication, resection and anastomosis is the preferred treatment³.

Case Presentation

- 60-year-old female arrived at the ED with 2 days of RLQ/suprapubic pain
 - Reported constipation without obstipation, vomiting due to pain, and a near syncopal event
 - Denied hematochezia or melena
 - Bowel sounds appreciated with tenderness to palpation in the LLQ/suprapubic region with guarding and rebound
 - Labs showed elevated WBC & negative lipase
 - CT abdomen w/ contrast showed an indeterminate collection of gas and fluid in the lower central abdominal mesentery measuring 4.5x5.8cm (Fig. 1 & Fig 3)
 - Zosyn was started due to concern for infection and bowel perforation
- Diagnostic laparoscopy was converted to exploratory laparotomy where an inflamed necrotic diverticulum of the jejunum (Fig. 2 & Fig. 4) was identified 50cm distal to the ligament of Treitz without surrounding purulence
- The jejunum was resected, adjacent bowel ends were anastomosed, and the specimen was sent to pathology
 - #10 French JP drain was placed in the RLQ trocar site
 - Abdominal lavage with 3L normal saline was performed prior to closure
 - The patient tolerated the procedure well and was admitted for post-operative care.



Fig. 1: CT ab/pelvis - coronal view



Fig. 2: Surgical specimen - Inflamed MD

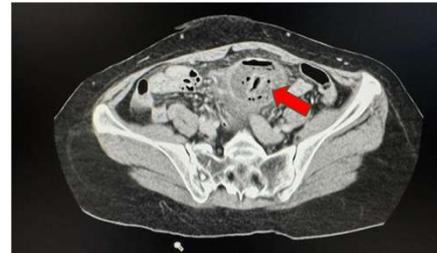


Fig. 3: Transverse CT ab/pelvis

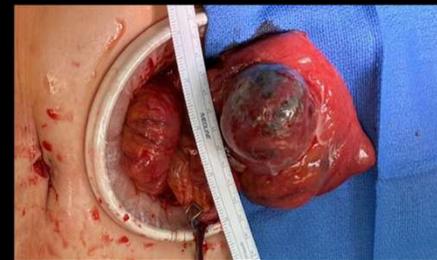


Fig. 4: Surgical specimen, inflamed MD with flexible ruler

Discussion

This case exemplifies a niche presentation of MD given its location within the proximal jejunum. In adults who present symptomatically, the majority are men, however the differential incidence decreases with increasing age. The most common complaints include obstructive symptoms, with generalized abdominal pain and inflammation reported in 29.4% of these patients^{2,4}.

The decision to take the patient to the OR was made due to the concern for bowel perforation. Regardless of the underlying pathology, treatment for an emergent abdominal presentation requires prompt clinical evaluation, diagnostic imaging, and surgical intervention when called for. Identification of the etiology underlying these patient presentations may impact treatment and prognosis, yet it should not delay triage and medical intervention for patients presenting with the signs and symptoms of life-threatening abdominal pathology.

Conclusion

MD is a rare etiology of non-specific abdominal pain in adults; however, research suggests that it may be more common than initially described. Data suggest it is more likely to present in younger male adult patients, but these trends become less pronounced with increasing patient age. Clinicians should be aware of these factors and should keep MD within the differential diagnosis for those patients presenting with non-specific abdominal pain. As definitive diagnosis requires surgical intervention and pathological tissue analysis, the working diagnosis should always be geared towards ruling out bowel perforation given the potential for poor patient outcomes and need for emergent surgical intervention.

References

1. Stallion, A. (1975, January 1). Meckel's diverticulum. Surgical Treatment: Evidence-Based and Problem-Oriented. <https://www.ncbi.nlm.nih.gov/books/NBK4918/>
2. Hansen, C.-C., & Soreide, K. (2018). Systematic review of Epidemiology, presentation, and management of Meckel's diverticulum in the 21st Century. *Medicine*, 97(35). <https://doi.org/10.1097/mla.0000000000001214>
3. Lopez, J., Mendez, B., Abreu, A., Finkbe, A., & Mullis, A. (2017). Meckel's diverticulum in the adult. *Journal of Visceral Surgery*, 154(4), 253-259. <https://doi.org/10.1016/j.jvisurg.2017.06.006>
4. Friesen, C. S., Ahmad, T. M., Cole, M., Berry, J. G., & Hall, M. (2021). Meckel's diverticulum in adults: Seldom suspected and frequently found. *Journal of Investigative Medicine*, 69(3), 789-791. <https://doi.org/10.1136/imj-2020-001581>