

Meckel's Diverticulectomy Following Suspected Appendicitis

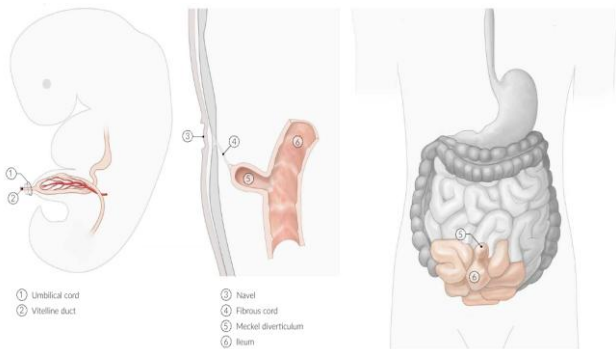
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INTRODUCTION

Meckel Diverticulum

- Most common congenital malformation of GI tract
- Incomplete obliteration of vitelline duct
- Rule of 2's
 - In 2% of the population
 - Male:Female ratio of 2:1
 - Children \leq 2 years old
 - Located 2 feet from the ileocecal valve
 - Roughly 2 cm in length
 - 2 types of ectopic tissue
- Complications include bleeding, SBO, diverticulitis, perforation, and tumor



CASE DESCRIPTION

32 y.o. M presents with RLQ pain and N/V

Pre-op

- WBC 15,000
- A/P CT and PE consistent with appendicitis

Intra-op

- Purulent fluid in pelvis
- Lap Appy converted to open for confirmation of mass identification
- Appendix identified, no abnormalities
- Meckel diverticulum with rupture, transected

Post-op

- IV ABX, JP drain, and 7-day PO ABX
- WBC decreased to 10,300, DC'd POD3

Relevance in Distinguishing difference

- Approx 5% of Meckel's are associated with malignant tumor
- Should the wrong appendage be removed, future presentation Dx can be complicated, by a false Hx
- At time of Dx 29.5% of pt.'s had metastases
- Most common malignancy is neuroendocrine

DISCUSSION

Meckel's diverticulitis is clinically indistinguishable from appendicitis

- Imaging not reliable
- If not treated, perforation and peritonitis can result
- If perforated \rightarrow IV ABX, diverticulectomy/bowel resection, and irrigation of peritoneum

Surgical options include diverticulectomy or segmental/wedge bowel resection, depends on:

1. Diverticulum base integrity
2. Ectopic tissue presence/location

If asymptomatic Meckel diverticulum discovered, high risk factors that may prompt removal include:

1. Male sex
2. < 50 years of age
3. Diverticulum length > 2 cm
4. Ectopic or abnormal features within diverticulum

REFERENCES

1. AMBOSS GmbH. Meckel Diverticulum. <https://amboss.com/>. Accessed March 18, 2025.
2. Biswal JK, Sebastian J, Mahapatra T, Soren JK. A Case Report on Perforated Meckel's Diverticulitis Mimicking Acute Appendicitis. Annals of International and Dental Research. 2017 May;3(4).
3. Blouhous K, Boulass KA, Tsalis K, Baretta N, Paraskeva A, Kariotis I, Keskinis C, Hatzigeorgiadis A. Meckel's Diverticulum in Adults: Surgical Concerns. Front Surg. 2018 Sep 3;5:55.
4. Sagar J, Kumar V, Shah DK. Meckel's diverticulum: a systematic review. J R Soc Med. 2006 Oct;99(10):501-5.
5. Sharma RK, Jain VK. Emergency surgery for Meckel's diverticulum. World J Emerg Surg. 2008 Aug 13;3:27.
6. Shaikh FA, Ka DV, Shaikh H, Oduoye MO. Recognizing perforated Meckel's diverticulum: A crucial differential in acute appendicitis imitation. Clin Case Rep. 2024 Aug 27;12(9):e9361.
7. van Malderen K, Vijayvargiya P, Camilleri M, Larson DW, Cima R. Malignancy and Meckel's diverticulum: A systematic literature review and 14-year experience at a tertiary referral center. United European Gastroenterol J. 2018;6(5):739-747.