Diverticulitis of the appendix: a rarely identified pathology before surgery

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Background

- Diverticular disease of the appendix (DDA) remains a rare and poorly understood entity.
- The original description of DDA can be found as early as 1893 by Kelynack.[1]
- Case reports written in the 1940s describe the phenomenon, with one author even suggesting that surgeons should be suspicious if the appendix is bulbous or club-shaped.[2]
- To this day, there is no consensus on methods for preoperative identification or management of DDA.

Case Study

We present a case of a 30-yo female with acute appendicitis with diverticulitis of the tip of the appendix.

- **PMHx/PSHx** of active smoker (10-pack years 1PPD for 10 years) vertigo, anxiety, laparoscopic cholecystectomy, low transverse C-section, tubal ligation
- **Initially presented** with intermittent epigastric and right-upper quadrant pain for 2 weeks. Notably, did not report right lower quadrant or periumbilical pain.
- **ED work-up** remarkable for CT-AP revealed distal thickening of the appendix measuring up to 0.9 cm with surrounding inflammatory change concerning for tip appendicitis.
- **Brought to OR for laparoscopic appendectomy.** The abdomen was prepped and insufflated in standard fashion Intraoperatively underwent lysis of adhesions, and an acutely inflamed appendix was encountered with Endo-GIA and Endocatch used. Otherwise uncomplicated.
- **Post-operatively**: GI intra-departmental consensus conference, pathology findings were determined to be acute appendicitis and diverticulitis of the tip of the appendix with an intact vermiform appendix measuring 6.6 cm in length and 1.1 cm in maximum diameter. Her epigastric and RUQ pain had completely resolved by this time.

Diverticulitis of Appendix



Figure 1. CT-AP appendicitis axial



Figure 2. CT-AP appendicitis sagittal

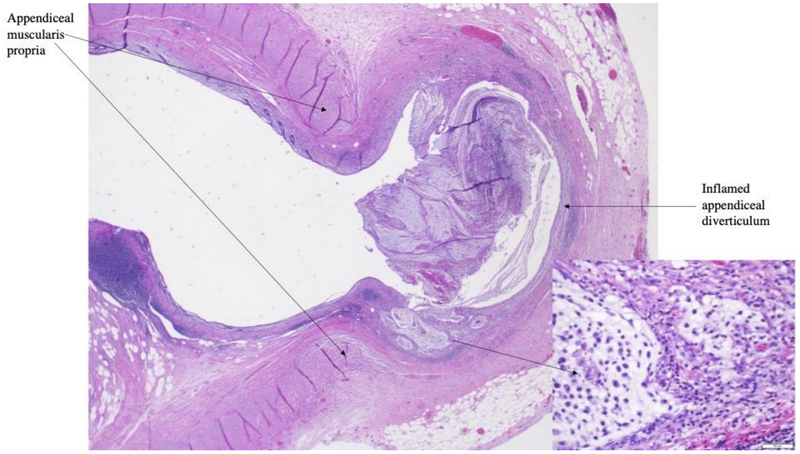


Figure 3. H&E pathology of the patient's acquired appendiceal diverticulum, demonstrating herniation of mucosal and submucosal tissue through the defect in the appendiceal muscularis propria

Discussion

DDA has a high association with perforated appendicitis and neoplasm, up to 4 times greater than non-DDA appendicitis.[3] Our patients atypical presentation demonstrates the difficult-to-diagnose nature of DDA.[4] This may be further evidence that DDA is very difficult to diagnose preoperatively, as some patients go years without a proper diagnosis.[4] Laparoscopic appendectomy was an appropriate surgery in this case. In a patient with chronic abdominal pain with no definitive diagnosis, diagnostic laparoscopy should be the first step before progressing to exploratory laparotomy.

The most serious implication of DDA is its association with primary appendiceal malignancies.[5] This may necessitate oncologic resection for a subset of patients (hemicolectomy, lymph nodes, staging etc.) As is common for individuals with DDA, this patient was diagnosed postoperatively. Challenges to investigating DDA include its varied presentations and subtle appearance on imaging. DDA is a rarely encountered pathology but its associations with malignancy make it a worthwhile topic for continued research.

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Disclosures

The authors declare that they have no relevant or material financial interests that relate to the research described in this poster