COMPLICATED DUODENAL DIVERTICULA: INDICATIONS FOR OPERATIVE MANAGEMENT

JS Chait[2], LD Galli[2], AA Reyes Cruz[1], CJ Clark[1]

[1]Department of Surgery, Wake Forest School of Medicine, [2]Wake Forest School of Medicine

INTRODUCTION

The duodenum is the second most common location for diverticulum after the colon.

Duodenal diverticula (DD) have an estimated incidence of up to 22%.

- DD are often found incidentally and rarely require intervention unless they become symptomatic.
- Even most symptomatic DD can be managed non-operatively and surgical management is restricted to complicated sequelae, such as perforation, abscess, or fistula formation.

Case Description

A 61-year-old female presented for evaluation of epigastric pain and nausea. CT of the abdomen and pelvis revealed a perforated DD in the third portion of the duodenum with extraluminal gas, fluid tracking along Morrison's pouch and the retroperitoneum (Figure 2).

The patient was initially treated medically with antibiotics and during outpatient follow-up, surgical intervention was recommended given persistent epigastric and upper back pain.

A novel intraoperative technique was performed clamping the proximal small bowel and the foregut was insufflated via nasogastric tube to visualize the borders of the diverticula.

INTRAOPERATIVE AND IMAGING

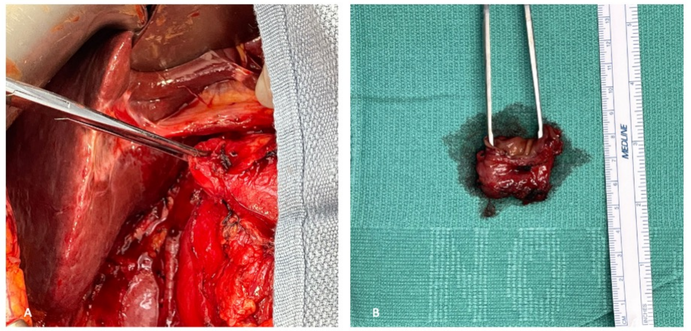

Figure 1. Intraoperative view of broad-based duodenal diverticulum (A) and resected diverticulum (B).

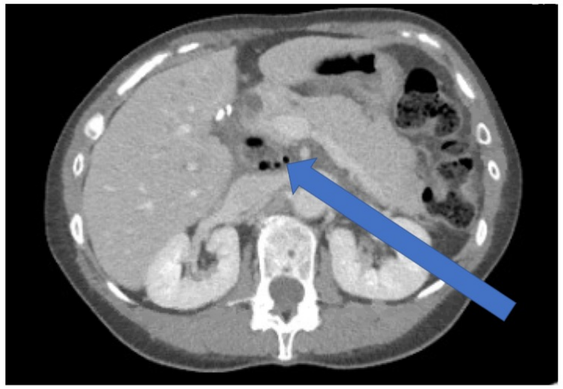

Figure 2. Cross-sectional imaging (axial section) of perforated diverticulum at D3 (arrowhead) showing extraluminal gas, fluid tracking along Morrison's pouch, and the retroperitoneum.

DISCUSSION

- Given that significant morbidity and mortality can be associated with symptomatic DD, a systematic way to guide management decisions is needed.
- **We propose a "Hinchey" like classification** for colonic diverticulitis can be used to categorize duodenal diverticulitis and guide treatment.
- Class 0: colonic wall thickening
- Class Ia: pericolic inflammation/phlegmon

  Medical management: bowel rest, antibiotics, bowel decompression, and observation
- **Class Ib: pericolic/mesocolic abscess**
- **Class II: pelvic/retroperitoneal/distant abscess**
- Class III: purulent peritonitis
- Class IV: fecal peritonitis

  Surgical management
- Class Ib and II diverticulitis- begin with conservative management and move to operative management if symptoms worsen or fail to improve.

REFERENCES

1. Costa Simões V, Santos B, Magalhães S, Faria G, Sousa Silva D, Davide J. Perforated duodenal diverticulum: Surgical treatment and literature review. *Int J Surg Case Rep*. 2014;5(8):547-550. doi:10.1016/j.ijscr.2014.06.008.
2. Sahned J, Hung Fong S, Mohammed Saeed D, Misra S, Park IS. Duodenal Diverticulitis: To Operate or Not To Operate? *Cureus*. 2019;11(11). doi:10.7759/cureus.6236
3. Hinchey EJ, Schaal PG, Richards GK. Treatment of perforated diverticular disease of the colon. *Adv Surg*. 1978;12:85-109.
4. Stollman N, Raskin JB. Diverticular disease of the colon. In: *Lancet*. Vol 363. Elsevier B.V.; 2004:631-639. doi:10.1016/S0140-6736(04)15597-9