Complicated Diverticulitis and Pelvic Radiation Leading to Colonic Stricture, Colorectal Fistula and Anal Stenosis

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Introduction

- The incidence of diverticular disease of the colon is increasing worldwide and becoming a significant burden on national health care systems.
- Complicated diverticulitis is a well-studied entity, fistula formation is one of the complications of diverticulitis, which most commonly occurs as a colovesical fistula, followed by a colovaginal fistula.
- Colocolic fistula is a rare finding, accounting for about 2%. Sigmoid colon to rectal fistula is an extremely rare finding with no cases described in the literature.

Case Description

- 66-year-old male presented to ED with a 3-week history of abdominal pain, watery diarrhea.
- PMH: Diverticulosis seen on prior colonoscopy, B cell lymphoma s/p chemotherapy 2 months prior to admission and palliative radiation to lower lumbar spine for metastasis
- PSH: Right inguinal hernia repair 20 years ago
- CT: narrowing of sigmoid colon and a 2 x 3.2 cm contrast and gas filled extraluminal collection anterior to the rectum tethering the rectum and colon.
- Patient was started on IV antibiotics. Colonoscopy showed an anal stricture, fistula tract in the anterior mid-rectum (Figure 2), and high-grade obstruction of the sigmoid colon.

Figure 1: Computed tomography (CT) abdomen and pelvis axial and sagittal views of pelvic fistula

Operative intervention

- Anal exam performed revealing anal stenosis, unable to accommodate a 25mm sizer
- Using hand assisted laparoscopic technique, the sigmoid colon was mobilized. A complex phlegmon of the sigmoid colon lying on top of the rectum was found in the pelvis.
- Upon mobilization a 1 cm fistula in the lower aspect of the anterior surface of the rectum was discovered. This was confirmed via rigid sigmoidoscope. The quality of the tissue in the anterior rectum precluded a suture repair. Given its location and anal stenosis, a Hartmann's pouch was constructed
- Pathology: There were no mucosal lesions/neoplasms. The final pathology was perforated diverticulitis with radiation changes

Discussion

- Complicated diverticular disease accounts about 25% of cases, characterized by either abscess or fistula formation, obstruction, peritonitis and sepsis. Fistulas occur in 2% of patients with diverticular disease.
- Fistula disease process occurs when local inflammatory process results in an abscess which spontaneously decompresses causing perforation into adjacent structure or through the skin.
- Microscopic radiation changes lead to subintimal fibrosis & endothelial degeneration causing fibrosis of lamina propria and crypt distortion. This results in contraction and stricture formation.

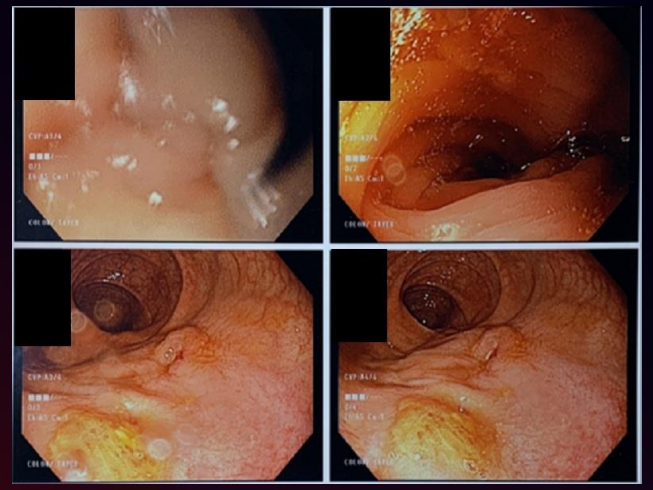

Figure 2: Sigmoid-to-rectal fistula on colonoscopy

Conclusion

- The overall prevalence of diverticulitis is increasing in western countries leading to a rising burden on the healthcare system. The development of diverticulosis is multifactorial with unlcear pathogenesis.
- It is important to consider the development of complex diverticular disease in patients with history of pelvic radiation as outlined in this report.
- Clinical practice should evaluate the risk factors specific to each patient and identify those who would benefit from early surgical management.

References

- Available upon request

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