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Perforated diverticulitis in the setting of ulcerative colitis: An unusual case report

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ABSTRACT

INTRODUCTION: The association of diverticulitis with ulcerative colitis (UC) is rare and not well described. The sequelae of inflammatory bowel disease (IBD) such as perforation and fistula formation can mimic diverticular complications. Therefore, in an IBD patient, it can be difficult to distinguish the etiology of such complications and render definitive care.

PRESENTATION OF CASE: A 43-year-old man with a long history of UC presented with spontaneous sigmoid perforation and subsequent complications of colovesicular and colocutaneous fistulae requiring multiple procedural interventions. Ultimately, the etiology was confirmed as perforated diverticulitis superimposed on severe ulcerative colitis.

DISCUSSION: As perforated diverticulitis superimposed on UC is a rare entity in the current literature and there are many diagnostic difficulties that complicate this scenario. It is important to rule out other entities such as misdiagnosis of IBD or segmental colitis associated with diverticula (SCAD) that may have overlapping features.

CONCLUSION: Although diverticulitis in the setting of UC is an uncommon presentation, it remains important for medical practitioners to consider this scenario when encountering patients who may present in a similar fashion. As such, we put forth a process to aid in a diagnosis and management such that definitive care may not be delayed.

1. Introduction

Ulcerative colitis (UC) with superimposed diverticulitis is uncommon and there are currently few reports identifying such presentations; one study cited a prevalence of 0.3% [1–3]. Complications from inflammatory bowel disease (IBD) can resemble diverticular sequelae. Colonic perforations and enterovesicular fistulas are more common in Crohn's disease, a diagnosis that alters surgical treatment; and segmental colitis associated with diverticula (SCAD) manifests comparably to IBD creating diagnostic challenges [4–9]. Therefore, in IBD, it can be difficult to distinguish the etiology of such complications and render definitive care. We present a 43-year old male with apparent sigmoid colon perforation in setting of diverticulitis and UC who was a diagnostic challenge secondary to a history of IBD and chronic pain. We review the literature of IBD with diverticular disease and the diagnostic difficulties that complicate the clinical scenario, and put forth a process for aid in diagnosis and management of patients who present in similar fashion.

This work has been reported in line with the SCARE criteria [10].

2. History

This 43-year old man's history began in 2007 with onset of bloody diarrhea. Colonoscopy diagnosed segmental sigmoid colon UC and treatment was initiated using prednisone before transitioning to Colazal. Due to persistent abdominal pain, he underwent repeat colonoscopy in 2009 showing abnormal sigmoid colon with edema, erythema, purulent exudate and contact bleeding. Pathology confirmed chronic inflammatory infiltrate with acute inflammatory cells, focal cryptitis and lack of granulomas or dysplasia. Diverticulosis was not noted and treatment for UC (infliximab, 6 MP and mesalamine) continued with reasonable symptom control. In 2016, a colonoscopy revealed diffuse continuous ulceration, erosions, congestion and granularity throughout entire colon and rectum, all without indication of backwash ileitis.

In May 2017, the patient presented with severe abdominal pain and diarrhea. Per report, his UC was stable on current therapy. GI PCR for *clostridium difficile* was positive and he received appropriate treatment, ultimately leading to resolution of diarrhea and negative PCR. He subsequently returned with two weeks of worsening lower abdominal pain, anorexia and intermittent fevers. Imaging in mid-June demonstrated left and sigmoid colon diverticulitis

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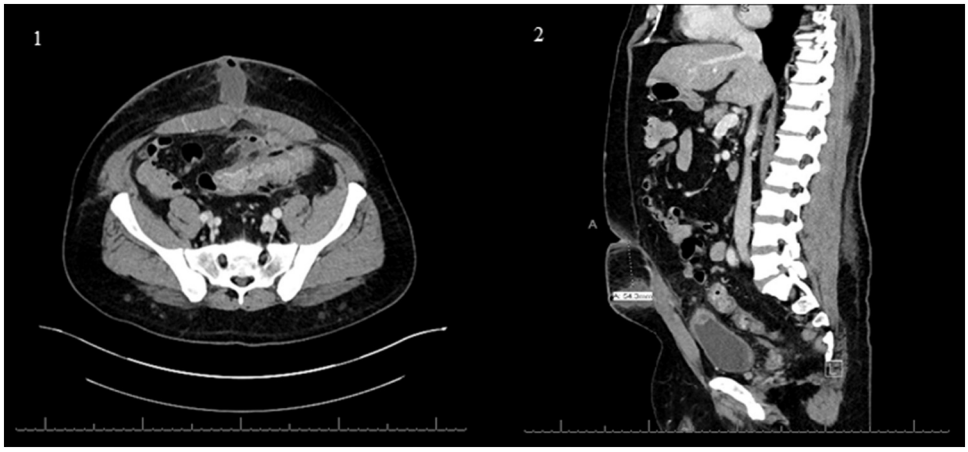


Figs. 1 and 2. Colovesicular fistula and intra-abdominal abscess tracking towards the anterior abdominal wall.

with associated 6 × 5 × 5 cm abscess abutting the bladder requiring intravenous antibiotics and percutaneous drainage.

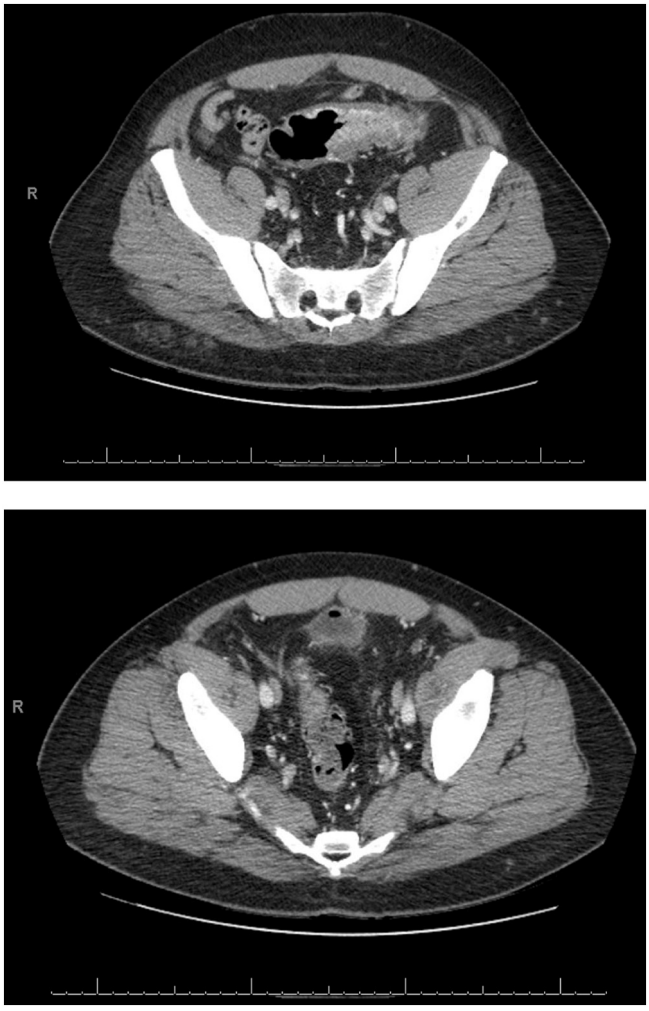
Several months later, he moved cities and presented to our hospital, an academic institution, with another episode of significant abdominal pain. Of note, the patient was taken off infliximab and started on Apriso, but promptly stopped due to an allergy. After diagnostic evaluation demonstrated concern for colovesicular fistula and intraabdominal abscess tracking towards the abdominal wall (Figs. 1 and 2), patient underwent operative drainage. Although he initially did well postoperatively, he continued to complain of UC flares. Imaging demonstrated thickening of the distal descending and sigmoid colon with air adjacent to his bladder (Figs. 3 and 4). Due to the unclear etiology of his persistent inflammation, he was scheduled for diagnostic laparoscopy and colectomy to achieve symptom control and more definitive pathologic evaluation. Significant inflammation involving the sigmoid colon adherent to the anterior abdominal wall and left pelvic inlet was noted. The rectum and proximal descending colon were grossly normal, thus an end colostomy was fashioned. The patient was discharged on postoperative day 3, with foley catheter removed in clinic after CT cystogram.

The patient continued to report episodic abdominal pain and bloody diarrhea, consistent with flares. He underwent endoscopic evaluation demonstrating severe proctitis and pancolitis. Treatment with prednisone was initiated, however following one month of high-dose steroids, and three months after Hartmann's operation, he underwent a minimally-invasive total abdominal colectomy with end ileostomy and preservation of the rectum in anticipation of future proctectomy with ileopouch-anal anastomosis (IPAA). This operation was completed as patient could not wean from high-dose steroids, was becoming medically recalcitrant, and our team would not attempt pouch creation while on his prednisone dose. He tolerated this well and is currently awaiting his minimally-invasive IPAA.

3. Pathology

Pathologic evaluation of his sigmoid colon resection revealed acute and chronic diverticular disease with peridiverticular abscess formation (Fig. 5) in the background of chronic active colitis, without evidence of dysplasia or granulomas (Fig. 6). The pattern of mucosal inflammation was consistent with known UC.

During his flares following Hartmann's procedure, repeat colonoscopy demonstrated pancolitis with biopsies again confirming UC. Following his total colectomy, patchy mildly active chronic colitis consistent with UC was seen.



Figs. 3 and 4. Thickening of the distal descending and sigmoid colon and air near bladder tracking towards prior operative incision and drainage wound.

4. Discussion

Here we present a 43-year old male with apparent sigmoid colon perforation in setting of diverticulitis and UC who proved a diagnostic dilemma due to history of IBD, chronic abdominal pain, and recent move complicating history taking and evaluation. His ultimate diagnosis of perforated diverticulitis complicated by