Case report
Lower extremity necrotizing fasciitis: A unique initial presentation of Crohn's disease

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ABSTRACT

Crohn's disease is a disease of the bowel, typically presenting with diarrhea, weight loss, and abdominal pain. Complications such as abscesses, fistulas, and strictures may require surgical intervention. We would like to report a patient with Crohn's disease who presented for the first time with left lower extremity necrotizing fasciitis. There are very few reports of necrotizing fasciitis in Crohn's disease as the initial presentation.

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1. Introduction

Crohn's disease is primarily a disease of the bowel, which typically presents with diarrhea, weight loss, and abdominal pain. It most commonly affects the distal ileum and colon. It is characterized by extensive fibrosis, strictures, and fistulas [1]. Complications such as abscesses, fistulas, and strictures may require surgical intervention. We would like to report a patient with Crohn's disease, who primarily presented with left lower extremity necrotizing fasciitis. There are very few reports of necrotizing fasciitis in Crohn's disease [2], none in which fasciitis was the primary presenting symptom.

2. Case report

A 62 year old man presented to the Emergency Department with three weeks of left thigh edema, new onset erythema and excruciating pain to light touch. He had no known past medical history, was taking no medications, and was a heavy smoker. The patient was cachectic on general examination. He was tachycardic with elevated white cell count and erythrocyte sedimentation rate. A computed tomography (CT) scan was obtained which revealed extensive subcutaneous gas and fluid from the anterior superior iliac spine to the iliopsoas, and circumferentially along all fascial planes. Additionally, a small fluid collection was seen along the left psoas muscle bed; no other fluid collections were noted radiographically. General Surgery was consulted and the patient was brought emergently to the operating room. The anterior and posterior compartments contained a significant amount of purulent, foul-smelling fluid, and the degree of necrosis necessitated hip disarticulation (Fig. 1).

The patient was managed with broad spectrum antibiotics, including vancomycin, piperacillin-tazobactam, metronidazole, and clindamycin. Cultures were poly-organismal, growing Escherichia coli, Viridans streptococci, Fusobacterium species, Bacteroides fragilis, Prevotella species, and Clostridium species (not perfringens) from the thigh. The pelvis grew the same bacteria with the addition of Peptostreptococcus species. Antibiotics were tailored to piperacillin-tazobactam alone when he clinically improved. A bowel source, possible perforation was always suspected; however the patient never complained of abdominal pain and consistently had a benign exam. To investigate the source of the poly-organismal infection, multiple CT scans of the abdomen were obtained which initially revealed only inflamed terminal ileum,
considered failures of medical therapy. Fistulas with associated abscesses or strictures require surgery [3]. Despite the more aggressive and earlier use of immunosuppressants, the need for surgery has not decreased. Nearly 70–90 percent of Crohn’s patients will need surgery despite medical advances [4].

Fistula disease occurs in up to 50% of patients with Crohn’s [5,6]. Crohn’s fistula disease presents predominantly as perianal disease (about 50%), and less often as entero-enteric disease (about 25%) [5]. Crohn’s fistula differ in the inflammatory profile as compared to non-Crohn’s fistula — both have macrophage infiltration but Crohn’s disease has more abundant T and B cell infiltration [5]. Heating rates for are very low for these fistulae [7,8]. In one study [7], median healing time for a fistula was 2.5 years, 68% healed eventually, 18% only partially healed and 14% did not heal. A combined medical and surgical approach to the Crohn’s fistula is best. 90% of all fistulae will require surgery [6]. Diagnosis relies on physical exam, exam under anesthesia when necessary, and rarely an endorectal ultrasound may be of use. Medical treatment includes antibiotics, immunomodulators and biologic therapy — specifically anti-TNF-α drugs. Surgical treatments start with simple incision and drainage, and progress to seton placement, fistulotomy, fistula plugs, endorectal advancement flaps, ligation of the intersphincteric tract, to most severe diversion or proctectomy [6].

We reason that this patient’s necrotizing fasciitis was due to bacterial translocation from his ileo-sigmoid fistulizing disease burden. The path of disease may have been along his psoas muscle, or retroperitoneum and femoral canal. It is unclear why his intra-abdominal disease remained otherwise asymptomatic, until stool began to accumulate in the wound vac. He had poor nutritional status on presentation, and was also a heavy smoker. Smoking is a risk factor for Crohn’s patients to undergo major abdominal surgery, as well as a general predictor of worse outcome [9].

In conclusion, this patient had left lower extremity cellulitis and pain, which proved to be necrotizing fasciitis; however, had no abdominal complaints before or during his hospital stay. Given the lack of abdominal signs or symptoms and relatively benign CT scans, this patient presents a unique challenge to diagnose Crohn’s disease earlier. This is the only report in which Crohn’s disease was newly diagnosed after treatment of lower extremity necrotizing fasciitis.

Conflicts of interest

We have no conflicts of interest to report for this manuscript. Unrelated to this topic, but to guarantee full disclosure, Dr. Sandler is a consultant for ValenTX, Inc, and a speaker for Ethicon and Gore.

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