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Left-Sided Sigmoid Diverticulitis Presenting as Right-Sided Thigh Abscess

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Acquired diverticular disease of the colon is very common in the North American population. Atypical presentations are usually due to complications and rarely the predominant complaint may be related to an associated fistula. Thigh abscesses due to colocutaneous fistula represent an uncommon complication of sigmoid diverticulitis. In rare cases, a thigh abscess may be the only symptom, but gas in the thigh should raise the index of suspicion for bowel pathology. We report the second known case of a left-sided sigmoid diverticulitis leading to an isolated right thigh abscess with no gastrointestinal symptoms.

Key words: Diverticulitis – Colocutaneous fistula – Sigmoid colon – Surgery

Acquired diverticular disease of the colon is very common in the North American population, affecting up to 10% of persons greater than 45 years of age and approximately 80% of those over 85.[1] The typical presentation is abdominal pain; however, atypical presentations are largely of complications of the disease including abscess, fistula, phlegmon, stricture, bowel obstruction, peritonitis, and sepsis. Rarely, the predominant complaint may not be one of abdominal pain, but rather symptoms relating to a fistula, commonly colovesical and colovaginal.[2,3] A review of Medline found 2 case reports of sigmoid diverticulitis presenting solely as a gluteal and thigh soft tissue infection.[4,5] We present a rare case of a colocutaneous fistula to the right hip due to left-sided sigmoid diverticulitis, indicating the importance of a wide differential when considering soft tissue infections.

Case Report

A 58-year-old male initially presented to his family doctor with a 3-week history of right hip pain. Originally diagnosed with sciatica, approximately 3 weeks later he presented to the emergency department with unbearable burning pain in his right hip that extended to his toes, as well as chills and fever with rigors. Physical exam findings showed no obvious swelling and only mild erythema to the right thigh, but the patient was very

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Fig. 1 X-ray of right thigh and hip revealing gas in the soft tissue.

sensitive to light touch and palpation, and exquisitely tender to hip flexion, extension, and log rolling, and decreased sensation over right tibial nerve distribution was found. Blood work showed leukocytes of 26.7 $\times$ 10^9/L with a left shift, an erythrocyte sedimentation rate (ESR) of 101 mm/h and C-reactive protein (CRP) of >380 mg/L. An x-ray (Fig. 1) of his right hip showed extensive gas in the soft tissue over the lateral femur.

He was emergently taken to the operating room for surgical debridement of suspected necrotizing fasciitis. Perioperatively, a complex abscess was found to be draining a large amount of feculent pus beneath the fascia lata, and extensive pus was found between the vastus lateralis and iliotibial band. Upon further exploration, a large portion of nonviable gluteus maximus was excised. Microbiology indicated a gastrointestinal (GI) source: *Streptococcus anginosus*, *Escherichia coli*, *Peptostreptococcus*, and *Bacteroides fragilis* group; blood cultures were negative.

A computed tomography (CT) scan of his abdomen (Fig. 2A and 2B) showed an abdominal fluid collection suggestive of an abscess from the sigmoid colon. After a failed colonoscopy, his abdomen was explored under general anesthetic, and the source of the abscess was found to be a perforated sigmoid diverticulitis. Because of the unremitting feculent drainage and sepsis, the patient required a sigmoid resection, extensive debridement, and end colostomy for source control. There was resolution of his abdominal sepsis in the following 4 weeks after a number of surgical debridements of the thigh (owing to fecal matter escaping into his leg) and a prolonged course of antibiotics, including imipenem, metronidazole, amoxicillin, and clavulanic acid.

There was gradual recovery and resolution of the abscess. Pathologic review of the resected colon specimen showed sigmoid diverticula with perforation and an absence of histologic evidence for Crohn's disease or actinomycosis. After a period

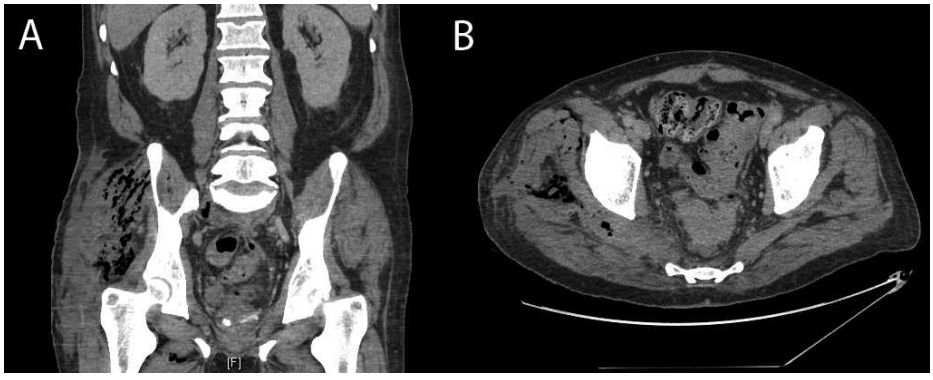

Fig. 2 (A) Coronal CT showing gas in the soft tissue, including muscle, of the right thigh. (B) Axial CT revealing an abdominal fluid collection suggestive of an abscess from the sigmoid colon.

of 11 months, the patient successfully underwent takedown of the colostomy and further resection of the sigmoid colon with reanastomosis of the rectum with a temporary loop ileostomy, which was eventually closed.

Discussion

Diverticulitis is well known to causes fistulas, predominantly colovesical and colovaginal.[2,3] Colocutaneous fistulas represent 6% of diverticular fistulas but are usually draining to the abdominal wall and almost always are a complication of surgery on the bowel and only very rarely occur spontaneously.[6] To our knowledge, only 2 cases have been reported of sigmoid diverticulitis presenting with *isolated* gluteal and thigh soft tissue infection without any gastrointestinal symptoms.[4,5]

The main abdominal sources to consider in thigh abscesses are colorectal carcinoma, diverticulitis, ischiorectal abscess, appendicitis, Crohn's disease, and tuberculous psoas abscess. Etiology is usually suggested by side of presentation: right side with cecal carcinoma and appendicitis and left side with sigmoid diverticulitis and other rectal disease.[7] We believe this is the second reported case documenting a right thigh abscess secondary to a typically left-sided process, sigmoid diverticulitis. While Crohn's disease and actinomycosis are associated with fistula formation and should be included in the differential diagnosis, the pathology in the present case showed absence of granulomas, mucosal ulceration or fissuring, or actinomyces organisms. A number of well-defined routes for intra-abdominal infections to reach extra-abdominal sites have been demonstrated. The most likely fistulization route in the present case is through the pelvic floor to the sciatic notch and into the right buttock and thigh.

The microbiology in this case is typical of infections associated with diverticulitis[8] and highlights the need for proper drainage and determination of antibacterial sensitivities, given the synergistic nature of the aerobic and anaerobic bacteria.

Gas in the thigh should increase the index of suspicion of bowel pathology, especially with the absence of an infectious source. While the etiology is usually based on location, all possibilities should be considered in the short term and ruled out accordingly, as the associated mortality of extra-abdominal infection is high.[9] Rapid recognition of the source of sepsis and adequate control with radical resection and debridement offer the best chance of successful outcome.

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