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Extraintestinal Manifestations of Crohn Disease Mimicking Septic Arthritis

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Citation:

Dufour L, Kruszewski P. Extraintestinal manifestations of Crohn disease mimicking septic arthritis [published online April 10, 2019]. Gastroenterology Consultant.

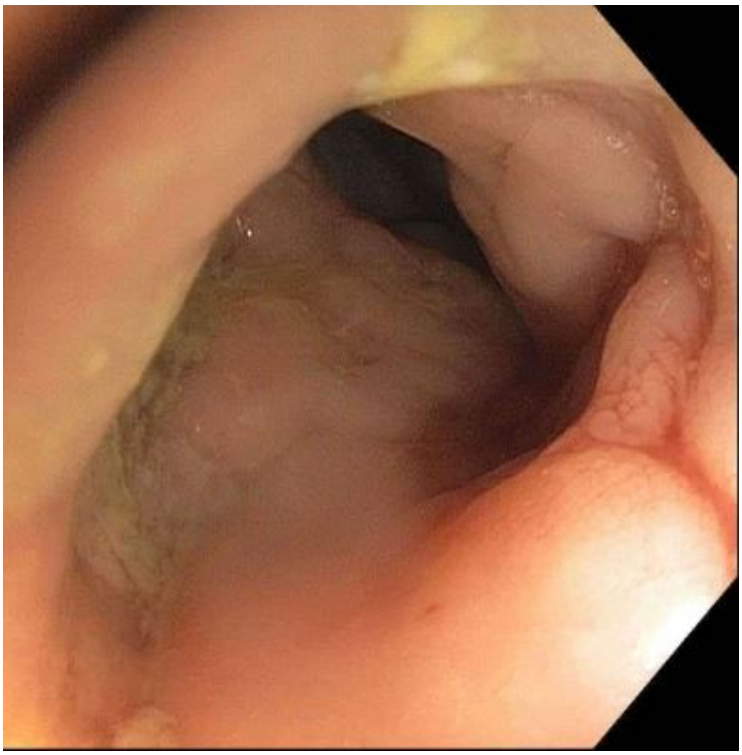
A previously healthy 9-year-old girl presented to the emergency department (ED) for evaluation of fever, unilateral ankle pain and swelling, and an inability to bear weight.

Initially laboratory test results were significant for a white blood cell count of 6900/μL, a hemoglobin level of 10.9 g/dL, a platelet count of 552 × 10^3/μL, an erythrocyte sedimentation rate of 96 mm/h, and C-reactive protein level of 12.7 mg/dL. She was evaluated by the orthopedics team in the ED and admitted for further evaluation with magnetic resonance imaging (MRI) out of concern for septic arthritis. Joint aspiration was initially deferred pending results of MRI, since it had been expected that imaging results could be obtained within a few hours. However, due to her continued high fever and the development of hypotension, she was started on empiric antibiotic therapy with ceftriaxone and vancomycin out of concern for sepsis.

Findings of an MRI scan done later that morning were concerning for septic arthritis in the right ankle, and she was taken to the operating room with orthopedics for irrigation. However, intraoperative findings showed no purulent material in the ankle joint, a finding that was concerning for a rheumatologic process.

Throughout her hospitalization, the girl had intermittent diarrhea. Rheumatology and infectious disease specialists were consulted. She then developed oral ulcers; because of her diarrhea, a gastroenterologist was consulted. Magnetic resonance enterography showed inflammatory changes predominantly involving the transverse colon consistent with inflammatory bowel disease (IBD). Stool studies did not reveal an infectious etiology of diarrhea.

Endoscopy was performed and showed esophageal ulcerations and a severely inflamed colon with pseudopolyps, erythema, exudate, and ulcerations throughout (**Figure**). Pathology test results showed chronic active ileitis and colitis and granulomatous inflammation, consistent with a diagnosis of Crohn disease.



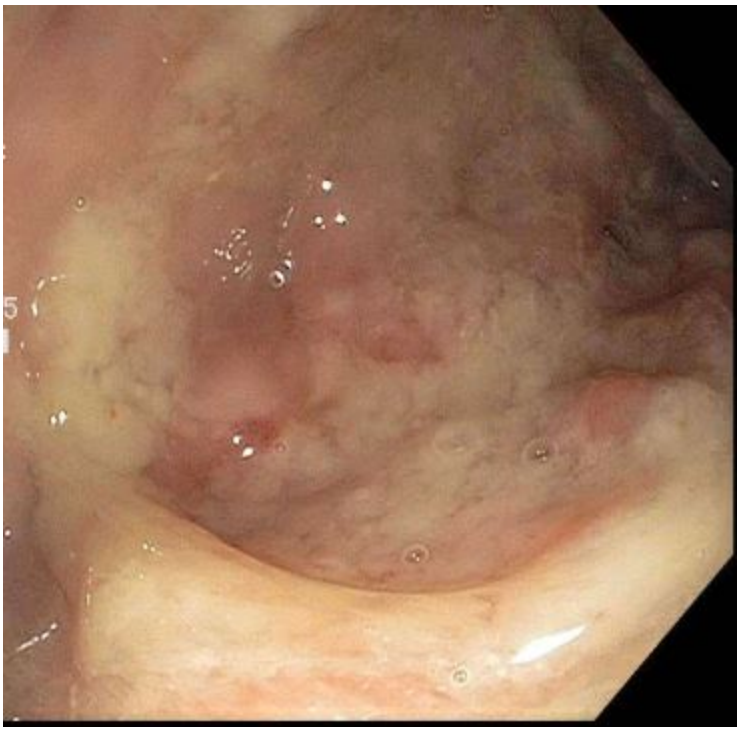


Figure. *Endoscopic features of Crohn disease: diffuse erythema, exudate, and pseudopolyps, as well as discontinuous areas of ulcerated mucosa throughout the terminal ileum (top) and descending colon (bottom).*

The patient was started on high-dose corticosteroids and infliximab, which led to significant improvement in symptoms and levels of inflammatory markers.

Discussion. Our patient presented with examination and laboratory findings that were concerning for septic arthritis, which was only ruled out after culture results from the joint aspirate were negative for bacteria. Also, the development of swelling of multiple joints during her hospitalization made the presence of a septic joint less likely. IBD was not initially considered given the absence of diarrhea or other gastrointestinal tract symptoms at presentation.

Joint pain is a common reason for pediatric patients to present to primary care or the ED. The differential diagnosis of joint pain in this population is very broad and ranges from benign to very serious conditions. Most commonly, isolated joint pain results from traumatic injuries or growing pains. More rarely, it can be caused by rheumatologic disease (such as reactive arthritis), oncologic disease, bone or joint infections (such as septic arthritis), or extraintestinal manifestations of IBD.

Crohn disease is an immune-mediated inflammatory disease that can affect any portion of the gastrointestinal tract. Children with Crohn disease can present with intestinal and/or extraintestinal manifestations, although intestinal manifestations are more common. According to one case series, the most common presenting symptoms in children aged 6 to 17 are

to one case series, the most common presenting symptoms in children aged 6 to 17 are abdominal pain, diarrhea, weight loss, and rectal bleeding.[1] In this study, only 7% of patients aged 6 to 17 presented with joint pain.[1]

Extraintestinal manifestations are more often associated with colonic disease but do not correlate with the degree of intestinal inflammation. However, arthritis is more commonly associated with Crohn disease than with ulcerative colitis.[2,3]

In conclusion, IBD should always be in the differential in the evaluation of a patient who presents with arthritis, fever, and diarrhea.

References:

1. Gupta N, Bostrom AG, Kirschner BS, et al. Presentation and disease course in early- compared to later-onset pediatric Crohn's disease. *Am J Gastroenterol.* 2008;103(8):2092-2098.
2. Jose FA, Garnett EA, Vittinghoff E, et al. Development of extraintestinal manifestations in pediatric patients with inflammatory bowel disease. *Inflamm Bowel Dis.* 2009;15(1):63-68.
3. Dotson JL, Hyams JS, Markowitz J, et al. Extraintestinal manifestations of pediatric inflammatory bowel disease and their relation to disease type and severity. *J Pediatr Gastroenterol Nutr.* 2010; 51(2):140-145.