

Introduction

- Ulcerative colitis and Crohn's disease are two major forms of inflammatory bowel disease (IBD).¹
- 25-40% of IBD patients have extra-intestinal manifestations (EIM) of IBD.²
- The most common organ systems affected are ocular, musculoskeletal, dermatologic and hepatobiliary.³
- Pulmonary manifestations are one of the rarest forms of EIM in IBD patients, particularly necrobiotic nodules.⁴⁻⁵

Purpose

- Necrobiotic lung nodules are a challenge to diagnose as it presents with signs and symptoms similar to autoimmune, vasculitis, or infectious pathologies.
- Here we present a rare case of necrobiotic lung nodules diagnosed in a patient during an acute ulcerative colitis flare.

Methods

- We performed a systematic search of literature, journal articles, and peer-reviewed publications related to necrobiotic lung nodules as well as ulcerative colitis.
- Data was obtained through NCBI, PubMed and DynaMed plus search engines. Resources were analyzed from published articles within the past 20 years.

Case Presentation

A 44-year-old male with newly diagnosed ulcerative pan-colitis (on vedolizumab), presented to the emergency department after being referred from his Gastroenterologist for evaluation of low hemoglobin and leukocytosis.

He reported worsening diarrhea, hematochezia and fatigue for the past 6-8 weeks and 4 weeks of bilateral leg ulcerations, worsening over time.

Just 4 months prior, he was started on high dose steroids that was tapered and eventually was switched to vedolizumab, which initially helped his symptoms. However, he began to relapse after steroids were tapered.

Past Medical History: Pan-colitis, cholecystitis

Past Surgical History: wisdom teeth extraction

Social History: No tobacco, alcohol, or drug use

Review of systems: Positive for diarrhea and fatigue. No fevers, chills, nausea, vomiting, constipation, abdominal pain, dyspnea or cough.

On admission his blood pressure was 122/75 mm Hg, HR 118, T 97.5F and saturation of 98% on room air.

Physical exam: Mild tenderness to palpation LUQ, no rebound or guarding. Lower extremity ulcers consistent with pyoderma gangrenosum.

Case Presentation

Laboratory Evaluation:

Leukocytosis: 16,500/ μ L, Hg of 6.8, Elevated CRP at 160.26

Findings were suggestive of IBD flare

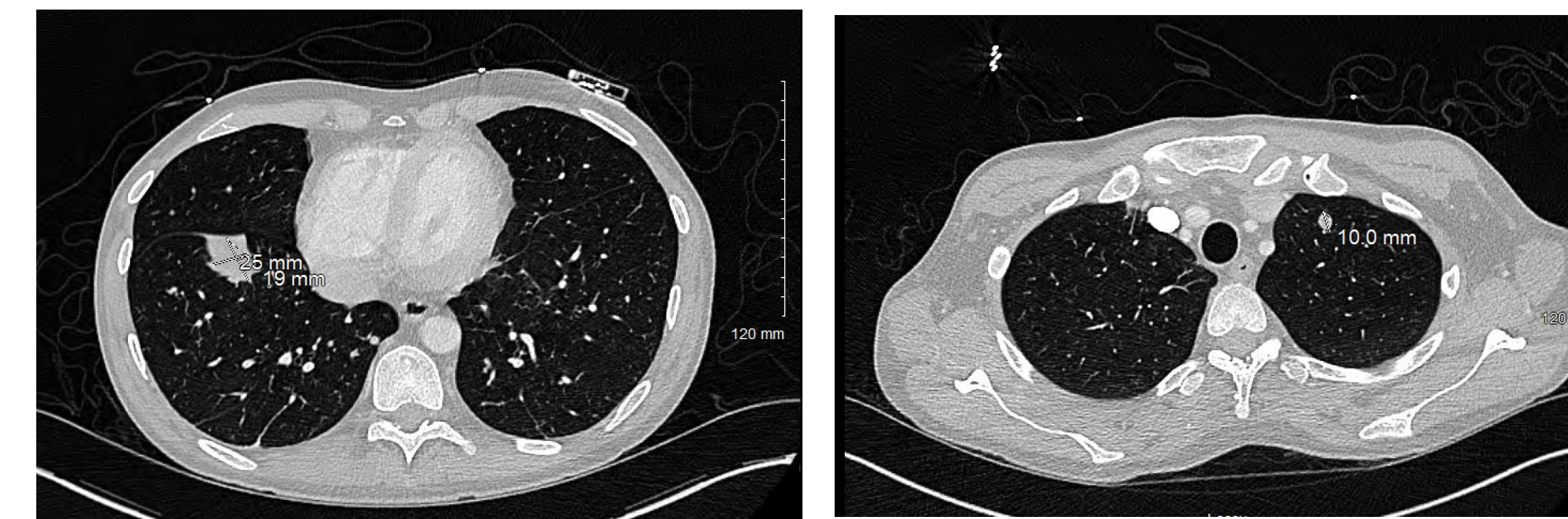
Patient also underwent infectious work up including chest x-ray which showed multifocal nodular airspace opacities, which appeared to have developed cavitation.

Investigative Work Up

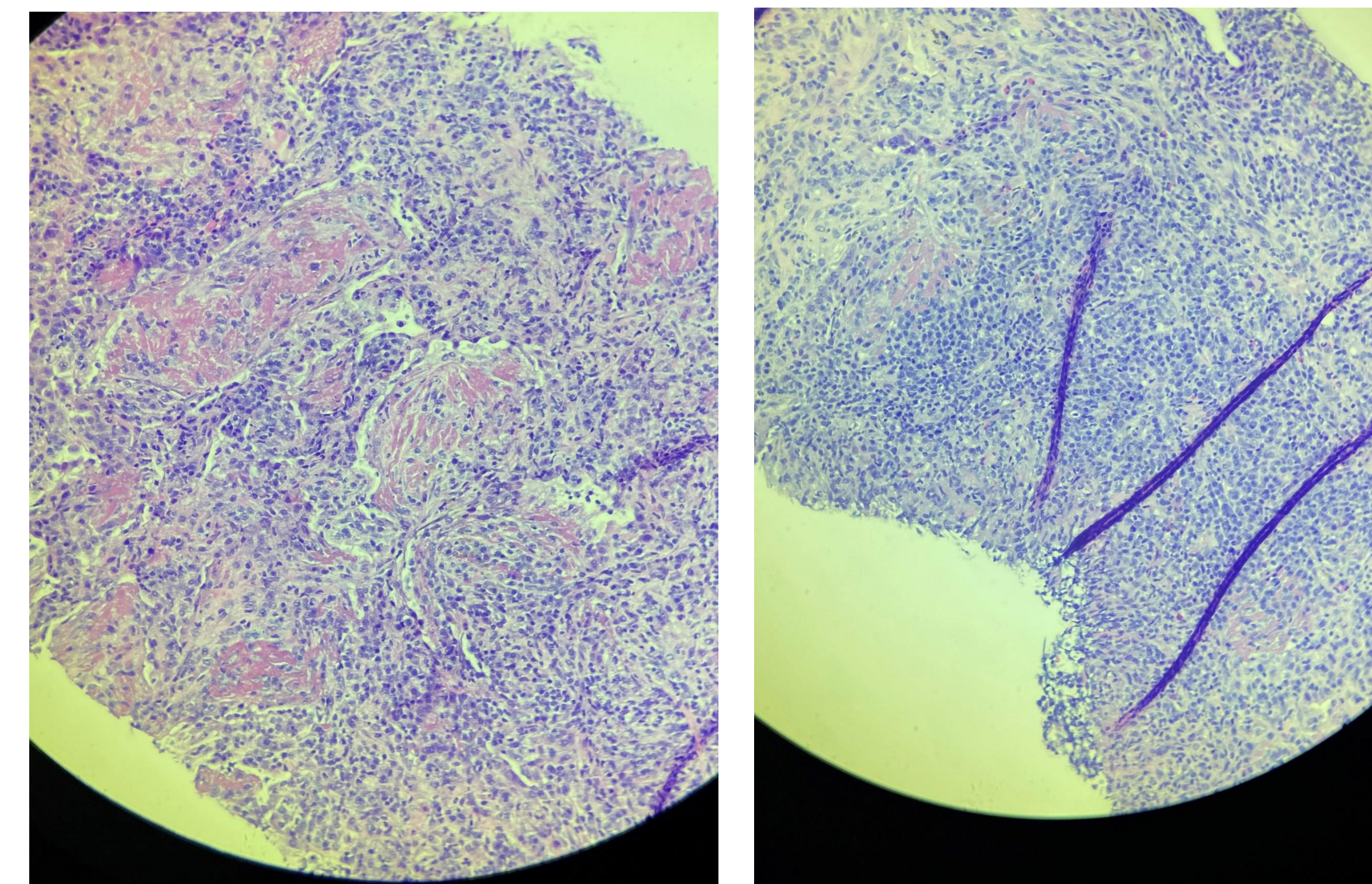
CT chest revealed bilateral pulmonary nodules.

He underwent extensive infectious, autoimmune and vasculitis work up including HIV, tuberculosis, bacterial, viral, endocarditis, ANA, ANCA as well as fungal serologic tests which were all negative.

Patient subsequently had CT guided biopsies, which were suggestive of necrobiotic lung nodules.



Picture 1. Numerous pulmonary nodules with at least one associated cavitation



Picture 2. Lung parenchyma with organized exudate, acute and chronic inflammation and fibrino-purulent debris

Discussion

We describe a rare case of necrobiotic lung nodules as an extra-intestinal manifestation of uncontrolled ulcerative colitis.

Our patient had a new diagnosis of ulcerative colitis, non-responsive to vedolizumab therapy, and presented with acute ulcerative colitis flare.

Necrobiotic nodules were originally described in patients with rheumatoid arthritis in association with pneumoconiosis, called Caplan syndrome⁶.

Histologically, these nodules are sterile aggregates of neutrophils, that can form cavitations and have a high degree of resemblance to pyoderma gangrenosum in cases of IBD^{7,8}.

Few cases of necrobiotic lung nodules with IBD have been reported and most of them had respiratory symptoms but our case did not present with respiratory manifestations⁹⁻¹².

Conclusion

In conclusion, necrobiotic lung nodules should be considered as a differential diagnosis of lung nodules in patients with IBD while excluding any infectious etiologies before starting treatment with steroids and biologics.

Contact

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