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Pleuritic Chest Pain in a 24-Year-Old Man with Crohn's Disease

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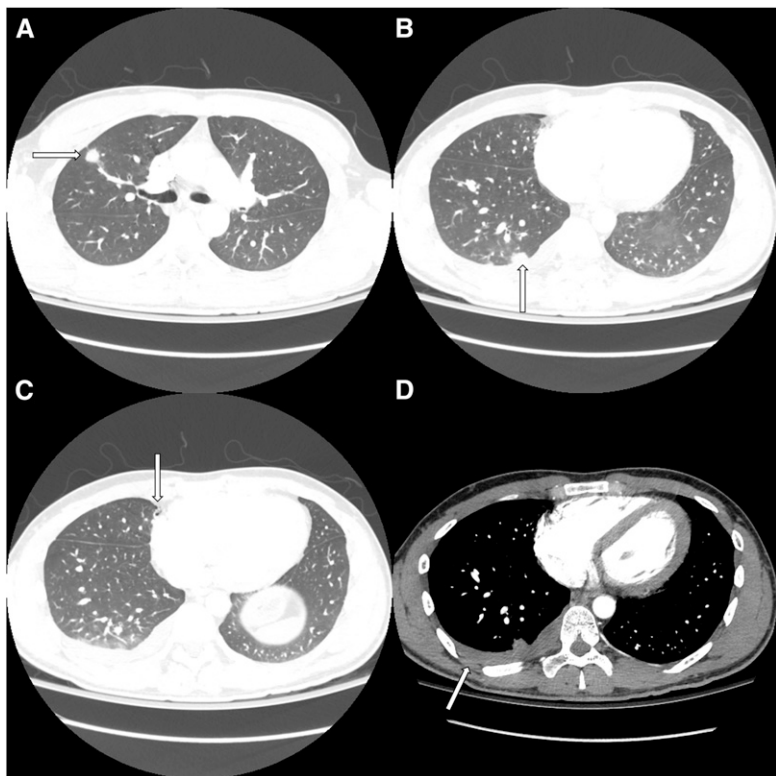


Figure 1. Multiple computed tomographic scan images of the chest, revealing (A–C) multiple pulmonary nodules (arrows), including (C) a cavitary nodule (arrow) as well as (D) a pleural effusion (arrow).

A 24-year-old man presented with 2 weeks of pleuritic chest pain and 1 day of dyspnea. He had asymptomatic Crohn's disease diagnosed via biopsy 2 years earlier. He had never received immunosuppressive therapy. Right flank tenderness was noted on examination. A chest X-ray suggested a small right pleural effusion. A computed tomographic scan additionally revealed multiple right-sided pulmonary nodules, the largest measuring 11 mm (Figure 1). Wedge resection of multiple nodules via thoracoscopy was performed, revealing necrotizing granulomas with surrounding acute and chronic inflammation (Figure 2). Mycobacterial and fungal staining produced negative results, and no evidence of systemic vasculitis or other granulomatous disease was evident. The diagnosis of necrobiotic granulomatous pulmonary nodules secondary to Crohn's disease was made. After treatment with prednisone, follow-up several weeks later revealed complete resolution of symptoms and of the pleural effusion (Figure 3).

To our knowledge, this is the sixth reported case of necrobiotic nodules secondary to Crohn's disease (1–5) and the first to report the presence of a concomitant pleural effusion. Three of the six

reported patients, including ours, had inactive bowel disease at the time of diagnosis. All but one patient had respiratory symptoms leading to diagnosis, whereas the last was found incidentally on imaging.

Extraintestinal manifestations of inflammatory bowel disease (IBD) are found in up to 41% of patients and are generally well recognized (6). Pulmonary manifestations of IBD, however, are an uncommon form of extraintestinal IBD and are therefore often overlooked (7). Although the prevalence of pulmonary manifestations is unknown (8), many forms of pulmonary disease have clearly been identified in association with IBD.

The most commonly associated pulmonary manifestation is airway disease, such as bronchiectasis or bronchitis (9). Up to 50% of patients with IBD have been found to have abnormalities on pulmonary testing, a rate higher than that of the general population and suggesting a high rate of subclinical disease (10). Pulmonary nodules in patients with IBD may be necrobiotic (as seen here),

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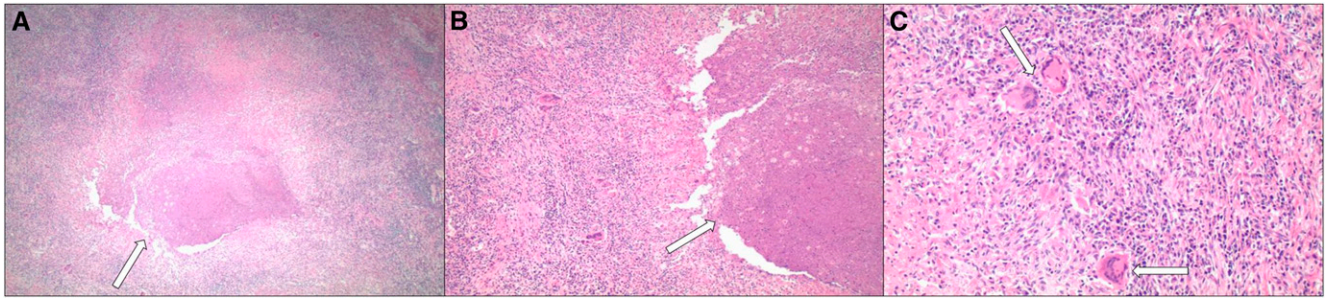


Figure 2. Histological images revealing (A, original magnification, $\times 4$; and B, original magnification, $\times 10$) necrotizing granulomatous inflammation (arrows) and (C) giant cells (arrows) (original magnification, $\times 20$).

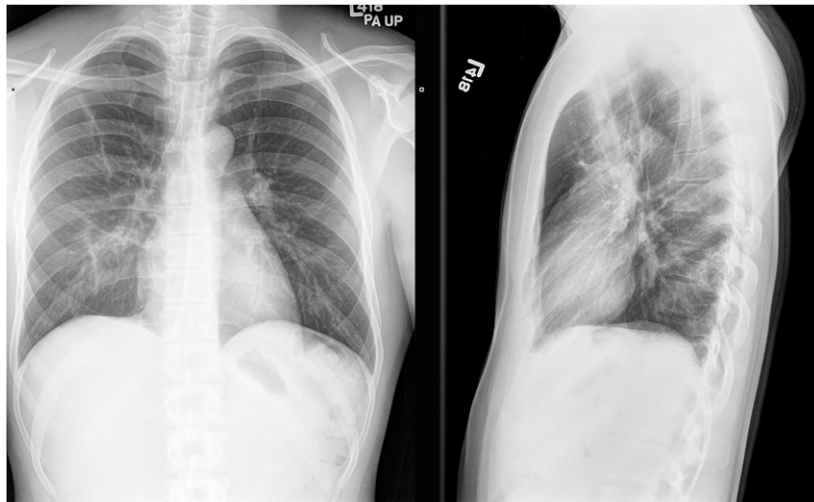


Figure 3. Posteroanterior (PA) and lateral chest X-rays, revealing resolution of the previously seen right-sided pleural effusion after treatment with prednisone.

granulomatous, or inflammatory (11). Also seen are parenchymal diseases such as cryptogenic organizing pneumonia and serositis causing pleural effusions or pericarditis (8). Patients with IBD also have a higher rate of thromboembolism and are at risk of developing drug-induced, post-treatment disease such as eosinophilic pneumonia or pulmonary fibrosis (8).

Pulmonary diseases are a rare and largely unrecognized extraintestinal manifestation of IBD. Physicians must be aware of their existence to ensure the proper diagnosis and management of patients with IBD presenting with respiratory abnormalities. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

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