



## A pulmonary nodule in a patient with Crohn's disease

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**Question:** A 44-year-old man presented with lower abdominal pain and diarrhea. He denied any respiratory symptoms. He had a 7-year history of ileocolonic CD. His medication included infliximab and azathioprine for 5 years, and mesalazine for 6 years. Loss of response to infliximab had been noted. Physical examination showed a body temperature of 37.2°C and left lower quadrant tenderness. Abdominal CT scan for bowel evaluation disclosed incidentally a nodule measuring 12 mm in diameter in the right lung (Fig. A, arrow). Sputum

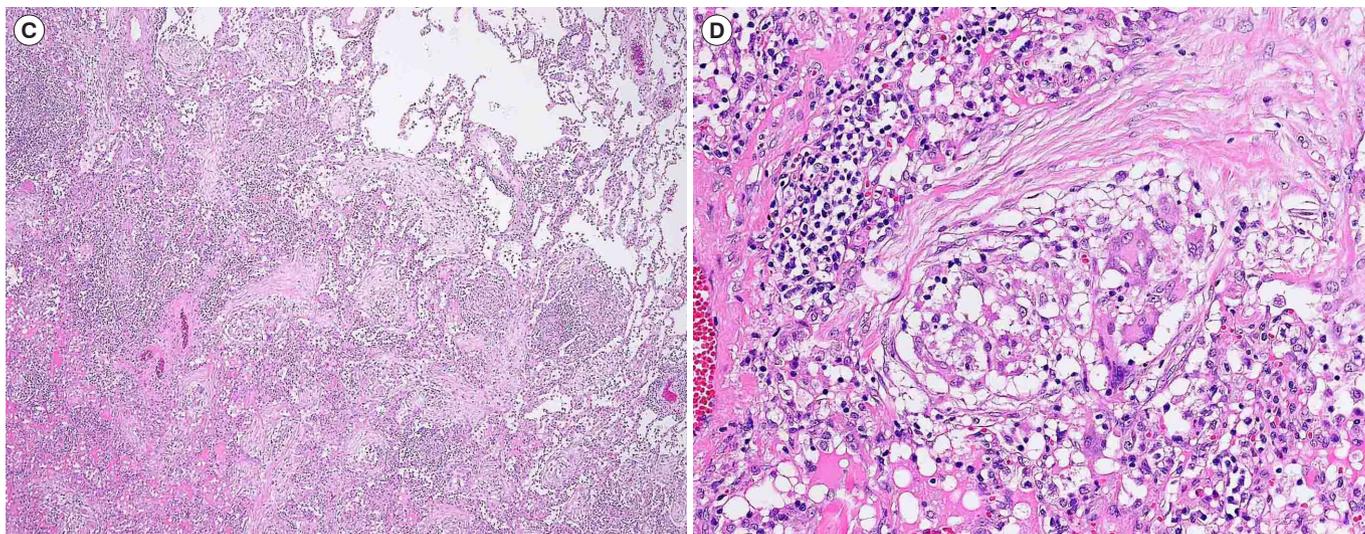
cultures and cytology showed negative results. Tests for tumor markers,  $\beta$ -D-glucan, the purified protein derivative, and *in vitro* interferon- $\gamma$  release assay were also negative. Both bronchoscopy and CT-guided percutaneous biopsy failed to diagnose the lesion. As the nodule grew and primary lung cancer was not ruled out, the lung mass was resected by video-assisted thoracoscopic surgery for definite diagnosis. Gross examination revealed a solid yellow-white nodule measuring 25 × 20 × 13 mm (Fig. B). What is the most likely diagnosis?



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**Answer to the Images: Pulmonary CD with Noncaseating Granulomas and Organizing Pneumonia**

The pathological examination showed numerous noncaseating granulomas and organizing pneumonia (Fig. C, H&E, × 40). The granulomas contained typical multinucleated giant cells (Fig. D, H&E, × 200). Pulmonary CD with noncaseating granulomas and organizing pneumonia was diagnosed. Pulmonary lesions have not recurred during 2 years of follow-up with ustekinumab.

Bronchopulmonary involvement in CD is rare, but recently recognized as an important extraintestinal manifestation. These disorders consist of CD-related bronchopulmonary diseases, such as, organizing pneumonia, interstitial pneumonia, and granulomatous inflammation.<sup>1</sup> There may be a certain link between IBD and bronchopulmonary inflammation.<sup>2</sup> In cases of pulmonary granulomatous lesions in CD, mycobacterial or fungal infections under immunosuppressive therapy, and sarcoidosis should be excluded, as in this case.

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**CONFLICT OF INTEREST**

No potential conflict of interest relevant to this article was reported.

**AUTHOR CONTRIBUTION**

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