

## Pulmonary manifestations of inflammatory bowel disease

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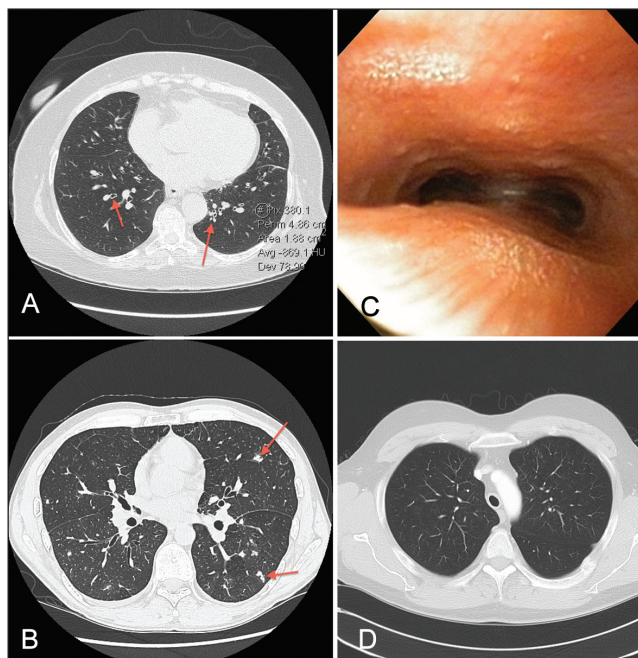
Three patients with Crohn disease were evaluated for cough and dyspnea. A 63-year-old woman was found to have bronchiolitis obliterans and bronchiectasis that responded to oral prednisone (Figure 1A). A 38-year-old man was found to have airflow obstruction and pulmonary nodules. Open lung biopsy revealed necrobiotic nodules and bronchiolitis obliterans (Figure 1B). A 49-year-old man experienced severe airflow obstruction and was confirmed via bronchoscopy and imaging to have three different manifestations of inflammatory bowel disease (IBD); tracheobronchitis, bronchiectasis and bronchiolitis obliterans (Figures 1C and 1D). Improvements in airflow obstruction and symptoms occurred with oral prednisone.

Although pulmonary manifestations have historically been believed to be a rare complication of IBD, recent publications suggest that this may be more frequent than previously recognized (1,2). Respiratory manifestations of IBD are varied and include bronchiectasis (most common), tracheobronchitis (including rare laryngeal and glottic involvement), chronic bronchitis, bronchiolitis obliterans, pulmonary nodules (necrobiotic or granulomatous), pleuritis and a variety of parenchymal and interstitial diseases (1). IBD patients are at increased risk for venous thromboembolic disease and a growing body of literature suggests a link between IBD and sarcoidosis, asthma and alpha-1 antitrypsin deficiency (1). Pulmonary manifestations rarely precede the diagnosis of IBD, do not correlate with colonic disease and may present years after colonic disease is controlled (3). A high index of suspicion for respiratory disorders is warranted in patients with IBD because it may be easily identified with appropriate history, pulmonary function testing and imaging, and may be treatable if identified early.

### KEY LEARNING POINTS

- A high index of suspicion for respiratory disorders is warranted in patients with IBD.
- Pulmonary manifestations rarely precede the diagnosis of IBD and may present years after colonic disease is controlled.
- Early identification of respiratory manifestations of IBD is important as early therapy may improve long-term outcomes in these patients.

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**Figure 1** A Computed tomography image of cylindrical bronchiectasis (arrows) and biopsy-proven bronchiolitis obliterans in a 63-year-old woman with Crohn disease who responded to oral prednisone. B Computed tomography image of open lung biopsy-proven necrobiotic lung nodules (arrows) in a 38-year-old man with Crohn disease. C Bronchoscopic image of the abnormal trachea and main carina in inflammatory bowel disease-related tracheobronchitis in a patient with Crohn disease. Note the concentric tracheal and mainstem bronchi narrowing, loss of the normal visibility of the cartilaginous rings and mucosal studding. D Computed tomography image of the concentric tracheal narrowing in inflammatory bowel disease-related tracheobronchitis in a 49-year-old man with Crohn disease (tracheal lumen 1.1 cm × 0.7cm)

### REFERENCES

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