

# Images in *Thorax*

## Bronchorrhoea complicating inflammatory bowel disease

A 25 year old Hispanic man with a 3 year history of ulcerative colitis presented with 8 months of productive cough with over 200 ml of yellow sputum, fatigue, dyspnoea, diarrhoea, night sweats, and weight loss. At the time of presentation the patient was on a low dose of mesalamine (400 mg three times daily) and azathioprine (25 mg/day). Examination revealed coarse crackles at the lung bases and a prolonged expiratory phase. The white blood cell count was normal. The chest radiograph showed bilateral reticulonodular infiltrates with acinonodular opacities, and a high resolution CT scan showed diffuse bronchiectasis, centrilobular nodules, and a "tree-in-bud" pattern (fig 1). Obstruction with air trapping was found on pulmonary function tests. Bronchoscopic examination showed diffuse purulent secretions throughout the major airways (fig 2A). BAL fluid smears and cultures were negative for acid-fast bacilli, fungus, and bacterial pathogens. Transbronchial biopsies revealed dense lymphoplasmacytic inflammation and infiltration of the bronchial mucosa (fig 2B). Rapid resolution of pulmonary and gastrointestinal symptoms occurred after initiation of prednisone 40 mg/day and an increase in azathioprine to 100 mg/day.

Pulmonary manifestations of inflammatory bowel disease are uncommon and present as a clinical spectrum including airway disease, interstitial lung disease, parenchymal nodules, and serositis.<sup>1,2</sup> Diagnosis is often delayed.<sup>3</sup> Our patient presented with a chief complaint of bronchorrhoea due to diffuse bronchiectasis and bronchiolitis which ultimately proved to be due to inflammatory bowel disease.

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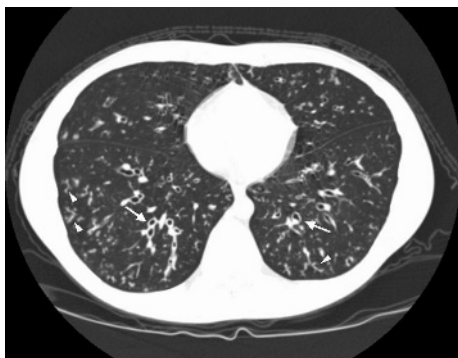
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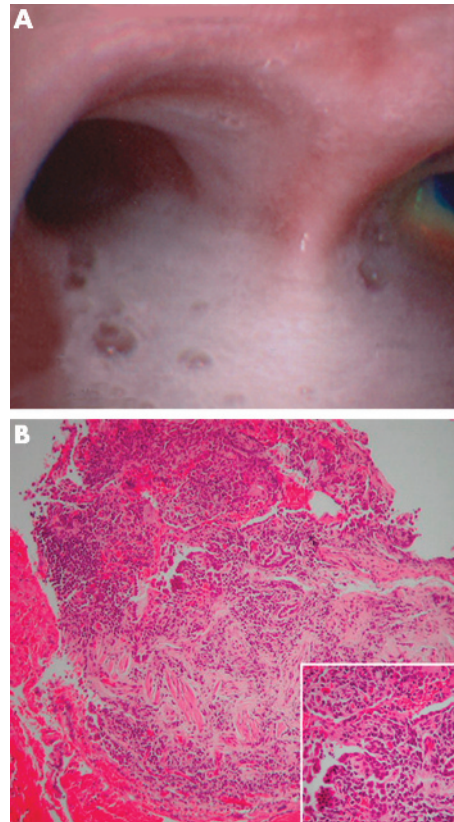
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**Figure 1** High resolution CT scan showing diffuse lower lobe cylindrical bronchiectasis (arrows) and centrilobular nodules with a "tree-in-bud" appearance (arrowheads).



**Figure 2** (A) Bronchoscopy showing purulent secretions. (B) Low power photomicrograph showing distortion of the bronchial wall with transmural chronic inflammation and fibrosis. Inset shows plasma cell-rich inflammation involving the bronchial mucosa. No granulomas were seen.

### Learning points

- Pulmonary manifestations of inflammatory bowel disease are rare and have a variety of clinical and radiographic presentations that primarily include bronchiectasis, chronic bronchitis, and bronchiolitis.
- After thoroughly excluding infections and other aetiologies of pulmonary symptoms in patients with inflammatory bowel disease, immunomodulating therapy should be started promptly, given the dramatic clinical response.

### REFERENCES

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- 3 Mahadeva R, Walsh G, Flower CD, *et al.* Clinical and radiological characteristics of lung disease in inflammatory bowel disease. *Eur Respir J* 2000;**15**:41–8.