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Mucoid Impaction of the Bronchi Apparently Responding to Antifungal Therapy

To the Editor:

Mucoid impaction of the bronchi is often difficult, both to diagnose and to treat. We report such a case of mucoid impaction of the bronchi associated with allergic bronchopulmonary aspergillosis, which appeared to respond dramatically to therapy with the antifungal drug, miconazole.

Case Report

A 46-year-old man with a history of asthma was found to have a large opacity arising from the left hilum (Fig 1). A thoracotomy was performed, and the left upper lobe was resected. Subsequent examination revealed pneumonitis secondary to bronchial obstruction from a large adherent mucous plug (but no carcinoma).

Two months later, shadowing appeared in the right upper lobe. Clinical and radiographic improvement followed the expectoration of a large mucous plug. Over the subsequent 12 months, recurrent episodes occurred, involving the right middle and left lower lobes.

Investigations showed that the level of eosinophils in the blood was 686 × 10^9/L, and there was a consistent eosinophilia of the sputum. The mucous plugs contained masses of eosinophils and Charcot-Leyden crystals folded together between layers of mucus. Fresh specimens of sputum contained Candida albicans, but Aspergillus fumigatus was not cultured. Cutaneous tests gave positive immediate reactions to many common allergens, including A fumigatus. The concentration of IgE was elevated at 2,280 mg/100 ml (normal, 800 to 1,800 mg/100 ml), with normal levels of IgM and IgA. The precipitin test for Aspergillus was positive (three lines).

Treatment included intensive physiotherapy and administration of bronchodilator drugs, sodium cromoglycate, and beclomethasone by nebulizer, all with little benefit. In January 1978, a ten-day course of therapy with miconazole was given (200 mg three times daily by intravenous infusion), followed by oral treatment (250 mg four times daily) for one month. Over the subsequent ten months the patient's condition showed remarkable improvement, and no further episodes of mucoid impaction occurred. The precipitin test for A fumigatus is now negative.

Discussion

This patient had recurrent mucoid impaction of major bronchi, a condition frequently mistaken for bronchogenic carcinoma, with mucoid impaction often being recognized only after lobectomy. The commonest cause of mucoid impaction is allergic bronchopulmonary aspergillosis, and in our case the eosinophilia of the blood and sputum, the proximal bronchiectasis, the precipitins to A fumigatus, and the cutaneous hypersensitivity are evidence of this diagnosis.

Miconazole is well established in the treatment of invasive fungal infections, but there is, to our knowledge, no experience of its use in the management of allergic bronchopulmonary fungal conditions. In this patient, therapy with miconazole was associated with marked clinical improvement, no further mucoid plugs, and the disappearance of precipitin reactions; however, late relapse may occur because of re-infection, as in a patient treated with econazole (Dr. R. Hay, written communication, August 1978).

Attempts at eradicating A fumigatus rather than treating the manifestations of hypersensitivity have been tried before with some success. With its low toxicity, miconazole offers many advantages over other antifungal drugs and may prove useful in the management of mucoid impaction and other manifestations of allergic bronchopulmonary aspergillosis.

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References