Diagnostic Images

Late complications of tuberculosis

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The patient

A female aged 32 with a history of pulmonary tuberculosis presented with haemoptysis for 1 year, cough and yellow sputum, and moderately diminished exercise tolerance. Clinically, bronchiectasis was suspected.

Figure 1 Chest radiograph shows cavitation with apical pleural thickening and marked fibrosis at the left hilum causing deviation of the trachea to the left. There is also adjacent apical calcification as well as a calcified focus at the left base with localized pleural calcification. The lateral aspect of the left hemidiaphragm is raised with obliteration of the left costophrenic angle. The appearances are those of old cavitating tuberculosis with pleurisy but no plain film evidence of bronchiectasis.

Figure 2 (a & b) Computed tomography. The fibrosis, cavitation, calcification, (arrows) tracheal deviation (T) and contracted left hemithorax are again shown.

Figure 3 (a) In addition there is an irregular nodule in a thick walled cavity. (b) Enlarged view to show the nodule in the cavity.

Figure 4 (a & b) On the decubitus views the 'nodule' in the cavity changes position indicating it is loose within the cavity. The appearances are characteristic of an aspergillus mycetoma.

Comment

The differential diagnosis of a 'loose body' of soft tissue density within a cavity includes a blood clot in an infarct cavity and tumour in a carcinomatous cavity. However, a mycetoma in a long standing tuberculous cavity is by far the commonest. In this case there are obvious signs of old tuberculous disease and marked apical pleural thickening, features usually associated with a fungus ball in a residual cavity. Occasionally fungus balls lyse spontaneously.

Cough, expectoration and haemoptysis are common symptoms but most patients with aspergilloma are healthy and asymptomatic.

Aspergillus fumigatus is commonly isolated from patients with asthma and is considered more than coincidental in 50% and may also be a cause of primary pneumonia with subsequent abscess formation. Hypersensitivity aspergillosis occurs particularly in asthmatics in association with mucus plugs that become infected with the fungus. The lesions on chest radiographs appear as finger-like densities or irregular patchy shadowing. Proximal bronchiectasis can result on resolution of the disease. Aspergillosis can also produce disseminated disease in immune suppressed patients.

References

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2. Fraser, R.G. & Pare, J.A.P. Aspergillosis. In: *Diagnosis of Disease of the Chest*. Vol. 2. W.B. Saunders, Philadelphia, London, 1978, pp 806–812.