Case Report

TUBERCULOUS ANEURYSM OF AORTA SIMULATING BRONCHOGENIC CARCINOMA

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Mediastinal tumours are always potentially serious. Sometimes an exact diagnosis may be made clinically with the assistance of good X-ray photos, but more often than not the diagnosis has to be made at thoracotomy, which should never be unduly delayed.

The commoner causes of mediastinal masses are enlarged lymph nodes from tuberculous or other infections, neoplasms, Hodgkin's disease, lymphomas or granulomas (including sarcoidosis).

Although less common, aortic aneurysm should never be forgotten, especially in the Bantu and other social groups with a high incidence of syphilis. That syphilis is not the only cause of aneurysm is illustrated in the case here reported.

Characteristically aortic aneurysms pulsate when observed fluoroscopically, but this sign may well be absent if they are partially filled with blood clot. Further diagnostic clues are sometimes found, e.g. calcification in the wall and erosion of adjacent bony structures. They may occur in any part of the aorta but are more common in the arch. If suspected, angiography is advisable, since this usually furnishes convincing evidence. Bronchoscopy could be hazardous since it has been known to result in rupture of the aneurysm.

Symptoms and clinical signs may well be scarce. When they occur there may be pain, circulatory obstruction, hoarseness, Horner's syndrome, dysphagia, cough, stridor, dyspnoea and even haemoptysis. Hinshaw and Garland, in *Diseases of the Chest* (a book I have referred to extensively), describe a case of syphilitic aneurysm of the aorta in a male aged 57, presenting with pain in the left shoulder and haemoptysis. Bronchoscopy showed a necrotic mass in the left upper lobe which bled on attempted biopsy. X-ray examination showed an opacity apparently in the left upper lobe, lateral to the level of the aortic arch. Subsequent thoracotomy showed a dense mass in the medial portion of the left upper lobe $8 \times 4 \times 3$ cm. in size. This was adherent to the aorta and bled freely. A clinical diagnosis of inoperable bronchogenic carcinoma was made, and no biopsy was taken. Radiotherapy was given with apparent improvement. The patient died 2 years later from a massive haemoptysis. At autopsy a ruptured aneurysm of the aortic arch was found. The case described hereunder is remarkably similar in many respects, differing however in aetiology.

CASE REPORT

In October 1963 a Bantu female aged 44 years was admitted to King George V Hospital, Durban, with a history of one year's treatment for pulmonary tuberculosis. Her original chest radiographs showed a miliary mottling (Fig. 1) and sputum had been positive for acid-fast bacilli. After routine antituberculous therapy she had gained weight, her sputum had converted to normal, and her radiographs had cleared completely.

In April 1963 she had a mild attack of haemoptysis, followed by larger episodes of bleeding of about one pint in July and in September.

On admission to King George V Hospital, X-ray examination of her chest showed an enlarged left hilum (Fig. 2). Comparison with a film taken 6 months previously showed that this shadow had then been present but that it was slowly growing larger.

Further Examination

Her blood showed a negative Wassermann reaction. Acid-fast bacilli could not be found in the sputum. She was examined with a bronchoscope on 18 October 1963 with negative findings. On 4 November 1963 she had a massive haemoptysis, necessitating blood transfusion. She was X-rayed on 8 November 1963 (Fig. 3). The radiographs showed the left hilar mass with diffuse mottling throughout the left lungfield —the latter densities being caused by blood in the lung. At this stage it was considered that thoracotomy was urgently required since it was extremely likely that the patient had a pulmonary neoplasm and that further delay courted the risk of a fatal haemoptysis.

Aortic aneurysm was not suspected and angiography was not suggested.

The left chest was therefore opened and a large hard mass was found apparently in the left upper lobe and firmly adherent to aorta. The mass did not pulsate and a diagnosis of inoperable carcinoma was made. It was decided that a biopsy should be taken in order to verify the diagnosis. While the surgeon was separating an adhesion with a swab in a holder the wall of the 'tumour' gave way and within minutes the patient succumbed to an uncontrollable haemorrhage. Autopsy showed that the tumour was in fact an aneurysm of the aorta which had ruptured.

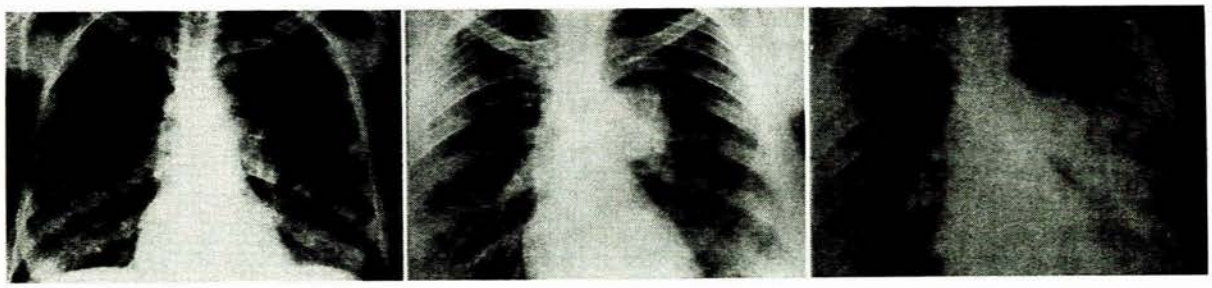

Fig. 1 *Fig. 2* *Fig. 3*

Fig. 1. Radiograph dated 15 October 1962, showing bilateral miliary mottling (the shadows in the upper zones have not reproduced well).
Fig. 2. Radiograph dated 5 October 1963, showing apparent mass in left hilum. There is no longer any evidence of the miliary mottling.
Fig. 3. Radiograph dated 8 November 1963, showing the mass and left lung filled with blood.

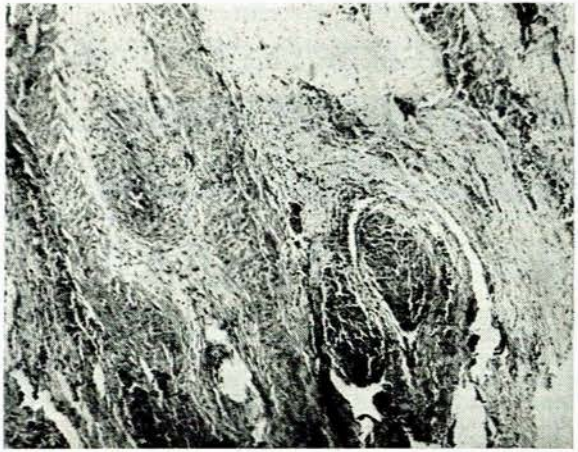

Fig. 4

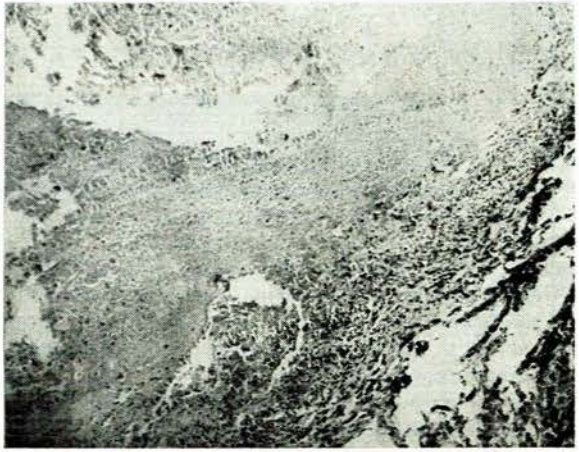

Fig. 5

Fig. 4. Microscopic section through aortic wall showing giant cell reaction at bottom left and tubercle formation at bottom right.
Fig. 5. This section of aortic wall shows caseation at top left and lymphocytic reaction at bottom right.

Microscopic section of the wall of the weakened portion of aorta disclosed a typically tuberculous lesion with caseation (Figs. 4, 5).

SUMMARY

The causes of mediastinal tumours are discussed. These are frequently malignant. However, malignant conditions may be closely simulated by aortic aneurysm which is usually syphilitic in origin. A case is described in which such an aneurysm was proved to be of tuberculous aetiology.

This paper is published with the permission of the Secretary for Health. I wish to thank Mr. Brand of the Durban Medical School for taking the photographs.