

A SOLITARY TUBERCULOUS CAVITY AT THE BASE OF THE LUNG

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A 22-year-old European male presented with an 18-day history of chest pain and cough. The pain was felt constantly at the left costal margin, and was aggravated by the cough, which was not productive of sputum. There had been no haemoptysis. During this period the patient had noticed nocturnal fever and sweating, and over the previous two months he had lost 15 lb. in weight. He was born in Portugal, and had come to Cape Town from Madeira 2 years before this illness. He had no history of previous ill health and there had been no tuberculosis or other serious illness in his family. Both parents and his two brothers were alive and well.

On admission his temperature was 100.6°F. Axillary and inguinal lymph nodes were slightly enlarged and the spleen was just palpable. There was no finger clubbing. Localized dullness was present posteriorly at the base of the left lung, and there was aegophony and a few crepitations in the same region. The patient was not anaemic, the WBC was 8,320; neutrophils 68%, lymphocytes 19%.

The ESR was 16 mm. (Westergren). No growth was obtained on blood culture and a brucella agglutination test was negative.

Plain radiography of the chest revealed a round, 2.5 cm., cyst-like lesion in the posterior basal segment of the left lower lobe (Fig. 1). Tomography demonstrated that the lesion was in fact a moderately thick-walled cavity with a smooth inner surface (Fig. 2).

Although the clinical features of the case were most suggestive of tuberculosis, this diagnosis was accepted with some reservation, owing to the rarity of tuberculous cavitation at a lung base. At this juncture, however, microscopy revealed the presence of acid-fast bacilli, morphologically identical with *Mycobacterium tuberculosis*, in gastric contents and in sputum, which had but recently become available for the first time.

The patient was transferred to the City Hospital for Infectious Diseases, where the sputum soon became negative on the appropriate medical treatment.

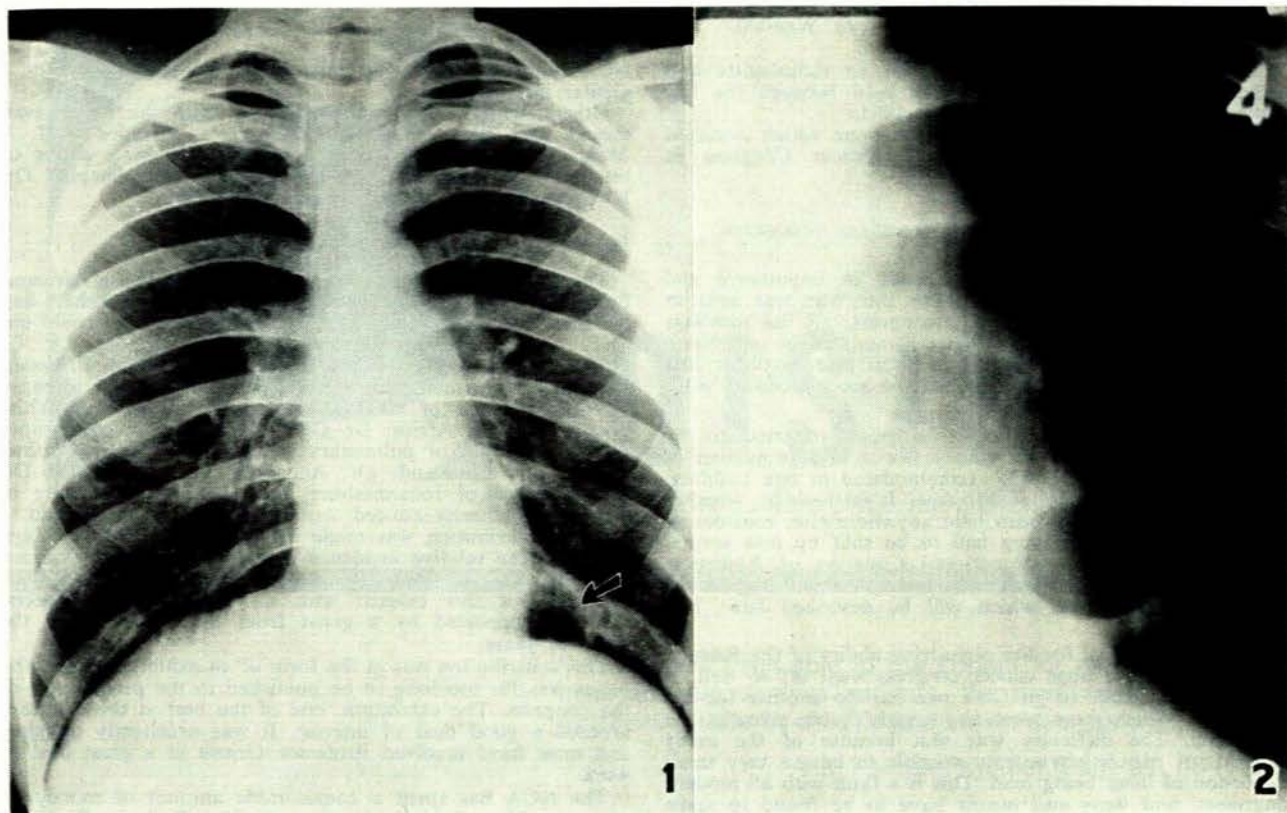


Fig. 1. Arrow points to cyst-like lesion in the base of left lower lobe.

Fig. 2. Tomogram at 4 cm. shows cavity in the base of the left lower lobe.

DISCUSSION

In 1819 Laennec produced a classical description of the pathology of pulmonary tuberculosis based on postmortem studies. He commented: 'It is extremely rare for excavations to be first developed in the middle or base of the lung'. This observation was subsequently confirmed by numerous workers, with the qualification, however, that such cavities are not uncommon in the apical segment of a lower lobe.¹ There is general acknowledgement of the marked proclivity of the apical and posterior segments of the upper lobes as sites of cavitation.

In a study of the position of primary cavities in pulmonary tuberculosis, Sweeny *et al.*² reported on a series of 268 early cavities in 204 patients. (The term 'primary' is here used in the sense of the first observable parenchymal excavation.) The distribution of the cavities was:

Upper lobes	83.3%
Apical segment of a lower lobe	13.7%
Basal segment of a lower lobe	Nil

In the differential diagnosis of tuberculous cavitation, Kerley³ enumerates among the cardinal features of tuberculous cavities that 'they are situated in the posterior

or apical segments of the upper lobes and the apical segments of the lower lobes'.

These observations were made with regard to persons of European descent, and were applicable to this particular patient. There may well be a higher incidence of such basal tuberculous cavitation in other races.

SUMMARY

A case is recorded of a solitary tuberculous cavity in the posterior basal segment of the left lower lobe of a European male patient; a most uncommon site of presentation of a common disease.

The radiographs illustrate the value of tomography in demonstrating the morbid anatomy of such a lesion far more accurately than plain radiography.

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