Localised fibrous mesothelioma arising in an intralobal pulmonary sequestration

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Abstract
A localised fibrous mesothelioma arising from an intralobal lung sequestration occurred in a 64 year old Turkish woman. This appears to be the first report of a mesothelioma occurring within a pulmonary sequestration.

Congenital anomalies and secondary lesions such as tuberculosis and parasitic infestations are occasionally observed in association with bronchopulmonary sequestrations, but neoplasms are rare.1 We present a case of a localised fibrous mesothelioma that had originated within an intralobal sequestration.

Case report
A 64 year old Turkish woman from the Mediterranean region of Turkey was admitted to hospital with chest and back pain, arthritic pain in the arms and legs, dyspnoe, general fatigue, and non-productive cough of three years' duration. The patient had no history of exposure to asbestos or other industrial agent. Routine biochemical and haematological investigations showed no abnormality.

A chest radiograph showed a mass in the left lower hemithorax (fig 1). At thoracotomy a large vascular, lobulated mass was found in the left lower hemithorax, adherent to the visceral pleura of the left upper and lower lobes and to the diaphragm. The mass had no bronchial connection. Its blood was supplied by an artery arising from the descending aorta and it was drained by a pulmonary vein. The operative diagnosis was intralobal sequestration. The postoperative course was uneventful.

Gross pathological examination showed an encapsulated and lobulated mass (20 × 14 × 6 cm), greyish white in colour, with a prominent vascular pattern visible beneath the covering. On its cut surface the mass showed a few nodular lesions in the homogeneous spongy, grey whitish parenchyma, the largest 5 cm in diameter (fig 2A).

Microscopy showed lung tissue containing bronchi and alveoli, with atelectasis and chronic inflammation. The findings were consistent with pulmonary sequestration. There was also a tumour, which was separated by a richly vascularised fibrous capsule from the adjacent lung parenchyma (fig 2B). The tumour was composed of spindle cells with a benign appearance forming interlacing bundles with an occasional wavy pattern. It was covered by pleura that also covered the normal lung, suggesting that the tumour arose from the shaped pleura.

Immunohistochemical studies showed a weakly positive reaction for vimentin and negative reactions for muscle actin, desmin, myoglobin, cytokeratin, epithelial membrane antigen, S-100, and factor VIII. On the basis of these microscopical and immunohistochemical findings the diagnosis of localised fibrous mesothelioma was made.

Discussion
A bronchopulmonary sequestration is defined as a mass of pulmonary parenchyma that is anatomically separate from the normal lung and has no connection with the bronchial tree.2 The intralobal type shares a common pleura with the normal lung.2,3 In a review of 540 published cases4 only one neoplasm, a squamous cell carcinoma, was found. Localised fibrous mesothelioma, unlike the malignant diffuse variety, is a primary localised tumour of uncertain histogenesis but thought to arise from the submesothelial layer of the pleura. The pathological1,5 and immunohistochemical findings in this case, particularly the absence of cytokeratin,6 are typical of localised fibrous mesothelioma. This, to the best of our knowledge, is the first reported case of localised fibrous mesothelioma arising in association with an intralobal pulmonary sequestration.

Figure 1 Chest radiograph showing the mass in the left lower hemithorax.

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Corynebacterium pseudodiphtheriticum pneumonitis in a leukaemic child

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Abstract

A 6 year old boy receiving chemotherapy for acute lymphocytic leukaemia developed pneumonia due to Corynebacterium pseudodiphtheriticum. He responded to antibiotics.

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Among the pathogenic non-diphteria corynebacteria, Corynebacterium pseudodiphtheriticum is reported to cause human infection uncommonly despite its presence in the common flora of the upper respiratory tract.1,2 We describe the first child recognised to have had lower respiratory infection with this bacterium.

Case report

A 6 year old boy was admitted to hospital with subacute pneumonia. He had been diagnosed as having acute lymphocytic leukaemia 30 months before and had received chemotherapy until admission. A persistent dry cough had developed six months before this admission, which seemed to improve with salbutamol. Pulmonary infiltrates had not been seen radiologically two months previously. Right middle and lower lobe infiltrates appeared one month before admission and the patient became febrile one week before. On admission he had tachypnoea (36/min) and tachycardia (116 beats/min) and adventitious sounds were heard at both lung bases. A central venous line was in place. The initial white blood cell count was 6.8 × 10⁹/l, with only 11% lymphocytic forms; the haemoglobin concentration was 7.8 g/dl. Quantitative immunoglobulin studies showed a low IgG concentration (5-62 g/l) but normal IgM and IgA. He had selective IgG₂ deficiency (0-31 g/l) but values for IgG₁, IgG₃, and IgG₄ were normal. At bronchoscopy purulent secretions were seen, which contained many polymorphonuclear cells and many cell associated diphteroid Gram positive bacilli. Vancomycin and erythromycin were started. The washings yielded a heavy growth of C...