Non-Hodgkin’s lymphoma of the pleural cavity: late complication of artificial pneumothorax for the treatment of pulmonary tuberculosis

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A 74-year-old male was treated by rightsided pneumothorax over a period of seven years for pulmonary tuberculosis 43 years ago. He presented now with chest pain, dyspnoea, low grade fever, and weight loss arising within a few weeks. The patient had stopped smoking 25 years ago. Chest X-ray showed a mass in the right apex. CT revealed a pleural tumour of 9 × 6.5 × 7 cm localised to the dorsal upper and apical lower lobe of the right lung. A periosteal reaction of the dorsal 4th rib was interpreted as chest wall invasion. There were coarse calcifications lining the visceral pleura. Lymph nodes were not enlarged. A clinical diagnosis of peripheral lung cancer was made. A left upper lobectomy was performed, revealing a firm, tan-white pleural tumour, sharply demarcated from the adjacent lung parenchyma. Microscopically the tumour consisted of anaplastic cells with abundant eosinophilic cytoplasm. The tumour cells were positive for CD45, CD43, CD30 and EBV (EBER) but negative for other B-, T-, or NK-markers. MIB-1 proliferation fraction was 50%. Southern blot analysis of the IgH gene showed B-cell clonality and confirmed the diagnosis of pyothorax-associated large B-cell lymphoma. Involvement of peribronchial lymph nodes was not seen.

Malignant lymphomas arising in the lung or pleura represent only 0.3% of all non-Hodgkin’s lymphomas and most reports of an association with long-standing chronic tuberculous pyothorax are from Japan. Case-controls suggest that therapeutic artificial pneumothorax for pulmonary tuberculosis or tuberculous pleuritis, leading to chronic non-healing inflammation of the pleura, results in a significantly increased risk of developing pleural-based lymphoma. This patient revealed no other lymphoma manifestation. Limited by his cardiac history, systemic chemotherapy with Cyclophosphamide, Etoposide and Prednisone was initiated.

References
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