

Chylothorax due to *Mycobacterium tuberculosis*

P A Antón, J Rubio, P Casán,
T Franquet

Abstract

Chylothorax in an adult is a rare cause of pleural effusion. *Mycobacterium tuberculosis* may cause chylous effusion, but usually in association with extensive intrapulmonary involvement. A case of chylothorax is presented in which *M tuberculosis* was isolated from the pleural fluid and was the only intrathoracic manifestation of tuberculosis.

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Chylothorax is a relatively rare cause of a pleural effusion and is usually associated with neoplasms or trauma to the thoracic duct.^{1,2} Tuberculous chylothorax constitutes an exceptional clinical condition.³⁻⁵ We report a case in which *Mycobacterium tuberculosis* was isolated from a chylous pleural effusion in a patient without any other associated thoracopulmonary abnormalities.

Case report

An 82 year old woman was admitted to our department with right chest discomfort, dyspnoea, and weight loss of 10 kg over the previous six months. She had a previous history of coronary heart disease but there was no history of previous thoracic trauma. On physical examination she was afebrile and breath sounds were absent in the right hemithorax. Chest radiography showed a right pleural effusion. Erythrocyte sedimentation rate was 38 mm/hour. A diagnostic thoracentesis was performed and milky fluid obtained, with 3300 mg/100 ml triglycerides, 54 U/l adenosine deaminase, and 102 mg/100 ml cholesterol. Ziehl-Neelsen stain of the pleural fluid was

negative but *M tuberculosis* was isolated on Löwenstein-Jensen culture. A computed tomographic (CT) scan of the thorax showed a fluid collection with no other abnormalities. A CT scan of the abdomen was normal.

Antituberculous treatment was initiated. Two months later another thoracentesis was performed and the Löwenstein-Jensen culture of this sample was negative. At follow up after nine months the patient was asymptomatic. The chest radiograph only showed obliteration of the right costophrenic angle.

Discussion

Spontaneous chylothorax in an adult is rare. Chylothorax should be suspected in those cases who present with a milky effusion. Definitive diagnosis will depend on a high triglyceride level (>110 mg/100 ml) in the pleural fluid.^{1,6} Several conditions are associated with chylous pleural effusions including malignant neoplasms, trauma to the thoracic duct, congenital malformations and, less commonly, filariasis, amyloidosis, thrombosis of the jugulo-subclavian confluence, hepatic cirrhosis, and lymphangiomyomatosis.^{1,3} The role of *M tuberculosis* in the development of a chylothorax remains controversial and only a few reports have been published. All such cases have been in association with extensive intrapulmonary involvement^{3,4} which accounts for the lesion in the lymphatic system. In our case, CT scans did not show abdominal or thoracopulmonary abnormalities apart from the chylothorax itself.

Although we do not know how the effusion developed, we suggest that the thoracic duct and/or major lymphatic channels may be directly involved by *M tuberculosis* in the absence of demonstrable thoracopulmonary disease. However, this hypothesis could only be proven by pathological evidence of a tuberculous lesion.

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Respiratory Department
P A Antón
J Rubio
P Casán

Radiology Department
T Franquet

Hospital de la Santa Creu i Sant Pau, Universitat Autònoma de Barcelona, Barcelona, Spain

Reprint requests to:
Dr P A Antón,
Respiratory Department,
Hospital de la Santa Creu i Sant Pau, Avgda. Sant Antoni Ma. Claret 167, 08025 Barcelona, Spain.

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