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CLINICAL IMAGE

Unusual pleural effusion in a patient with rheumatoid arthritis: chylothorax

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Presentation

A 78-year-old woman with rheumatoid arthritis (RA) in remission on prednisolone 5 mg/day and methotrexate (MTX) 12 mg/week presented with dyspnea and cough lasting 3 weeks. There was no history of intrathoracic surgery or trauma. She was admitted to our hospital for hypoxia. Physical examination revealed decreased breath sounds on the right lower lung. Chest radiograph showed moderate right pleural effusion. Computed tomography scan revealed pleural effusion without pleural thickening (Fig. 1A). The pleural fluid was milky yellow (Fig. 1B). Biochemical analysis showed an exudative effusion, decreased glucose (47 mg/dL), and elevated lactate dehydrogenase (244 IU/L), total cholesterol (141 mg/dL), and triglycerides (1098 mg/dL). Pleural fluid chylomicrons were detected by lipoprotein electrophoresis. Microbiological cultures and polymerase chain reaction for *Mycobacterium tuberculosis* were negative. No malignant cells were found. Positron emission tomography-computed tomography scan showed no abnormal uptake. She was diagnosed with chylothorax. Withdrawal of MTX, increase of prednisolone to 7.5 mg/day, and addition of tacrolimus 1.5 mg/day and loop diuretics remarkably improved the pleural effusion. She remained free of malignancy or infection for the next 2 years.

Discussion

Chylothorax is caused by chyle leakage into the lung cavity due to obstruction of the thoracic duct. The differential diagnosis of exudative pleural effusion includes mainly parapneumonic effusion, malignancy, and rarely chylothorax. A parapneumonic pleural effusion was unlikely as the patient had improved without antibiotics or drainage. Malignant lymphoma is the most common cause of non-traumatic chylothorax [1], but pleural cytology, clinical course, or radiological findings did not support its diagnosis. Chylothorax may be the first clinical sign of connective tissue diseases such as systemic lupus erythematosus and Behcet's disease [2, 3], and chylothorax in RA has only been reported in one case with amyloidosis [4]. Chylothorax should be considered a rare differential diagnosis in RA patients presenting with pleural effusion.

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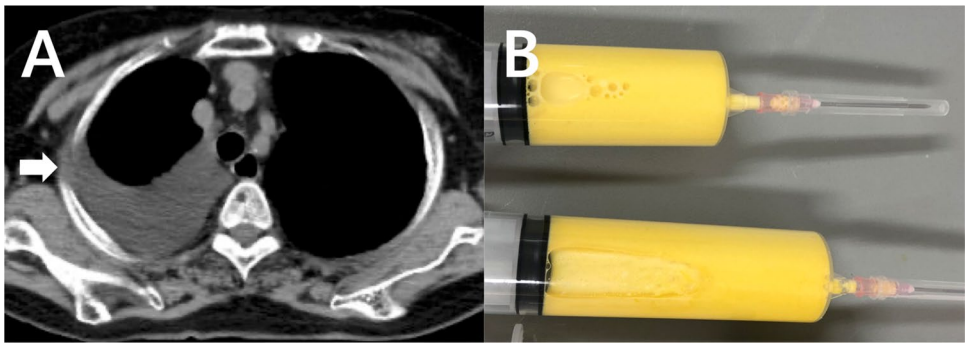

Fig. 1 **A** Computed tomography scan shows right-sided pleural effusion without pleural thickening (arrow). **B** Milky yellow pleural fluid

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Declarations

Consent and ethics statement Informed consent for publication was obtained from the patient. An ethical review was not required for this single-case report.

Competing interests The authors declare no conflicts of interest.

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