

## A case of sarcoidosis presented with massive pleural effusion and elevated serum and pleural fluid CA-125

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**Introduction** CA-125, a high mucin containing glycoprotein/tumor associated antigen, is generally known as a marker of ovarian cancer and has an established role in diagnosis and treatment response monitoring of the disease. Massive pleural effusion is often malignant in nature and it had been suggested that high CA 125 titer above 1000 U/mL could differentiate benign from malignant condition. It is unclear why sarcoid pleural effusion is rare. Some suggest the presence of a “protective pleural mechanism” inhibiting pleural fluid formation. Pleural effusion in sarcoidosis is considered to be a rare manifestation with most of reports ranging from 0.2 to 2%. Case report A 55 year old female was referred to pulmonology clinic for further evaluation of high serum CA-125 and right pleural effusion detected at routine health check up. She was asymptomatic except mild dry cough that persisted for several months. The chest X-ray showed massive left side pleural effusion. The chest CT scan revealed extensive bilateral paratracheal and mediastinal lymphadenopathy. The pleural fluid exam was exudate in nature and without malignant cell and normal adenosine deaminase. Serum and pleural fluid CA-125 were 229.5 and 2,846.8 U/mL. The result of whole body PET scan, done with the high suspicion of malignant pleural effusion, especially due to gynecologic or breast cancer, did not show any primary focus of malignancy. Therefore, we performed surgical thoracoscopic biopsy of mediastinal lymph nodes. The pathologic report revealed non-necrotizing granulomas, consistent with sarcoidosis. We started 60 mg of methylprednisolone. The left pleural effusion and dry cough disappeared after 1 month, the serum angiotensin converting enzyme level decreased from 119 U/L to 18 U/L after 1 month and the serum CA-125 level was normalized after 2 months. **Conclusion** CA-125 is secreted in coelomic epithelia derivatives which is also present in lung tissue. So, its elevated level in sarcoidosis related pleural fluid is at least an understandable event. Increased level of tumor markers in pleural fluid, in absence of positive cytology should be interpreted with caution.

## A Case of Empyema Necessitatis caused by Mycobacterium abscessus

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Acute pneumonia or pleural empyema is very rare in nontuberculous mycobacterial pulmonary disease. We report a case of severe *M. abscessus* infection causing empyema necessitatis in an immunocompetent patient. A 57 year old man was admitted to our hospital because of coughing and right anterior chest wall swelling with crepitus. A chest radiograph and CT showed empyema necessitatis with bronchopleural fistula in the right hemithorax and associated right chest wall abscess with air density formation. The sputum & pleural fluid stained positively for AFB. *M. abscessus* was identified by culture and PCR-restriction fragment length polymorphism(RFLP) method from sputum and pleural fluid. Two chest tubes were inserted into the pleural space and the anterior chest wall abscess. Then we started medication for *M. abscessus* including amikacin, clarithromycin, cefoxitin and ciprofloxacin. A CT scan taken about 2 months after the initial antibiotic treatment showed improvement in the right anterior chest wall mass containing air density and decreased multiple branching nodular lesions. Three months after initial antibiotic administration, the patient underwent skin graft implantation at the right anterior chest wall and is doing well. The sputum and pleural fluid AFB cultures were converted to negativity. He is currently awaiting right upper lobectomy.