Beware of non-traumatic chylothorax

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Sir

A chylothorax occurs when lymph fluid accumulates in the pleural space due to disruption or obstruction of the thoracic duct\(^1\). The following illustrates such a case. A 34 year old lady, current smoker presented with a 3-day history of worsening shortness of breath on exertion. She had no past medical history and was on no medication. There was no significant family history and she was unemployed. All her vitals were normal. Positive clinical findings on examination revealed reduced breath sound at the base of her left lung which was dull on percussion. CXR confirmed a moderate left sided pleural effusion. Her FBC, U&E, LFT and CRP were all normal. 1.5L of the pleural fluid were drained under ultrasound guidance. The fluid was milky white in appearance and the sample was sent to the lab for analysis. The fluid triglyceride came back as 17 mmol/L, fluid pH was 7.5, fluid LDH was 704 U/L, fluid glucose was 4.2 mmol/L and fluid protein 64 g/L. Cytology came back as predominantly lymphocytic in content. CT Thorax, Abdomen and Pelvis revealed a pericardial effusion with prominent thoracic mediastinal lymph node. After discussion at the Lung multidisciplinary meeting, the patient was then referred to the cardiothoracic team for a mediastinoscopy for lymph node sampling which eventually turned out to be a lymphoma.

Approximately 5 to 10 percent of chylothoraces are idiopathic. However, many idiopathic chylothoraces are eventually linked to an occult neoplasm after extensive patient evaluation or prolonged observation. Less common causes include Castleman’s disease, sarcoidosis, Kaposi sarcoma, yellow nail syndrome, histoplasmosis, tuberculosis, lymphangioleiomyomatosis (LAM), Noonan syndrome, Down syndrome, congenital lymphangiectasia, multiple myeloma, Waldenstrom macroglobulinemia, amyloidosis, filariasis, venous thrombosis, thoracic irradiation, superior vena cava syndrome, subclavian vein thrombosis, thoracic duct cysts, constrictive pericarditis, and goiter\(^2\). The mechanism of chylothorax in granulomatous infections like tuberculosis and histoplasmosis appears to be mediastinal lymphadenitis. Delayed chylothorax has been reported as long as 23 years following irradiation for Hodgkin lymphoma\(^3\). The diagnosis of chylothorax is based on the pleural fluid triglyceride level. A triglyceride concentration greater than 1.24 mmol/L strongly supports the diagnosis. For values less than 1.24 mmol/L a lipoprotein analysis of the pleural fluid is obtained to assess for chylomicrons if a chylothorax remains suspected\(^4\). The management of chylothorax varies depending on the etiology of
the chylothorax, the rate of accumulation, local expertise with various procedures, and the response to initial therapy. No management algorithm has been universally adopted. Most patients benefit from a staged care plan that moves gradually from least invasive to progressively more invasive options although some etiologies of chylothorax warrant early definitive therapy to avoid nutritional depletion.

Reflecting on this case, non-traumatic chylothorax should be thoroughly investigated as malignancy is one of the main differential diagnosis.

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References