Idiopathic Chylothorax: Is it a Benign or Malignant Diagnosis?

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Background

- Chylothorax is the presence of chyle in the pleural space with a triglyceride (TG) level >110 mg/dl or evidence of chylomicrons in the pleural fluid.
- The main etiologies for chylothorax are traumatic (thoracic surgery) and non-traumatic (malignancy).

Case Presentation

- Patient was a 29-year-old male presenting with acute onset of dyspnea and right-sided pleuritic chest pain.
- CT chest showed large right-sided pleural effusion. Thoracentesis was performed, draining 2 liters of turbid white pleural fluid; a chest tube was placed.
- Pleural fluid analysis: exudative effusion with lymphocytic predominance and TG of 1,100 mg/dl. Cytology and cultures negative for malignancy and infection.
- Patient was made NPO; TPN and IV Octreotide were started. Lymphangiogram showed chyle leak from the thoracic duct (TD) at the level of T7-T8. He underwent embolization, however high-volume chyle leakage was persistent.
- Patient underwent video assisted thoracoscopy (VATs) and TD ligation. Output downtrend, pleural effusion resolved, and chest tube was removed. Diet was advanced to low-fat, medium chain triglyceride (MCT) diet.
- No leak recurrence at 1-month follow-up.

Discussion

- An evaluation of the most common causes of non-traumatic chylothorax include:
  - Malignancy (lymphomas, lung and mediastinal cancers)
  - Infections (tuberculosis, fungal infections)
  - Congenital disorders of the lymphatic system
- Conservative management includes:
  - Nothing by mouth or a low-fat diet with MCTs
  - TPN to replace protein and electrolytes, and deliver lipids directly into the bloodstream, thereby bypassing the lymphatic system and decreasing chyle flow.
  - Octreotide is an adjunct to help reduce chyle absorption from the intestines.
- Possible interventional modalities include:
  - TD embolization
  - TD ligation
  - Pleurodesis
- A combination of conservative and operative interventions was performed in our case given high-output of chyle and absence of a clear etiology.
- It is crucial to perform a comprehensive assessment in non-traumatic chylothorax to exclude occult underlying etiology.

References