

Hepatic chylothorax, a rare finding in a patient with subacute hepatic hydrothorax

Background: The presence of chyle in the pleural space is termed chylothorax. Etiologies include traumatic (iatrogenic, blunt, or penetrating injury) and non-traumatic (non-malignant and malignant). Liver cirrhosis is a rare cause of non-traumatic, nonmalignant chylothorax. We describe a case of a transudative chylothorax in a patient with cirrhosis and hepatic hydrothorax.

Case presentation: A 72-year-old woman presents with complaints of shortness of breath for 7 days, altered mental status, and abdominal distention. Patient has past medical history of diabetes, hypertension, and liver cirrhosis. On arrival, vital signs demonstrated T 96.2 F°, HR 75, RR 16, BP 143/68, and SO₂ 97%. On physical exam, was found on 2 liters of oxygen, had decreased right-sided breath sounds, ascites, and lower extremity edema. Laboratory analysis showed, WBC 3.49, Hb 7.5, Hct 23.3, Platelets 57, AST 23, ALT 12, ALP 137, Cr 1.6, BUN 24, Albumin 2.3, Ammonia 19, INR 1.13, PT 12.2. Chest X-ray and CT showed complete opacification of the right hemithorax. Thoracentesis revealed transudative fluid, compatible with hepatic hydrothorax. A second thoracentesis revealed a cloudy appearance, PH 8, WBC 105, RBC 57, PMN 11%, lymphocytes 56%, glucose 329, LDH 39, protein <2, cholesterol <50, triglycerides 127, and positive chylomicrons. Serum analysis showed, LDH of 176 and total protein 5.1, confirming transudative chylothorax.

Conclusion: Chylomicrons in pleural fluid confirm the diagnosis of chylothorax. Transudative chylothorax has been associated with cirrhosis. These effusions occur after therapeutic thoracentesis due to reaccumulation of pleural fluid from chylous ascites. Elevated intraperitoneal pressures, atrophy in splanchnic lymphatics, and diaphragmatic anatomical defects allow fluid to cross compartments, driven by lower pressures in the pleural cavity. In our patient, malignancy and major lymphatic lesions were ruled out by imaging. Chylothorax is a rare condition with high morbidity and mortality, therefore a prompt diagnosis and treatment are of utmost importance.

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