



Case report

Transudative chylothorax in liver cirrhosis; an underappreciated entity



Asma Migaou^{a,*}, Ahmed Ben Saad^a, Hassene Baili^a, Saoussen Cheikh Mhamed^a,
Asma Achour^b, Wided Bouhlel^c, Nesrine Fahem^a, Mabrouk Abdelaaly^b, Naceur Rouatbi^a,
Samah Joobeur^a

^a Pulmonology Department, Fattouma Bourguiba Hospital, Monastir, Tunisia

^b Radiology Department, Fattouma Bourguiba Hospital, Monastir, Tunisia

^c Gastrology Department, Fattouma Bourguiba Hospital, Monastir, Tunisia

A B S T R A C T

Chylothorax is a rare pathology with potentially severe consequences. Transudative chylothorax remain an extremely rare entity. Cirrhosis is often an underappreciated cause. We report a case of transudative chylothorax in 62-year-old woman with cirrhosis due to hepatitis C.

1. Introduction

Chylothorax is a rare pathology with potentially severe consequences. It often occurs following a malignant obstruction of the lymphatic duct. Transudative chylothorax remain a rare entity. Cirrhosis is often an underappreciated cause. We report a case of transudative chylothorax due to liver cirrhosis.

2. Case

A 62 year-old female with decompensated cirrhosis due to hepatitis C presented with progressive shortness of breath and rightlow-thoracic pain which had evolved during the last few months associated with a productive cough in a context of apyrexia. The presence of trauma and/or thoracic surgery was eliminated by the interrogation. She was afebrile at 37 °C. Her respiratory rate was at 24/min with a saturation in ambient air at 94%. Physical examination and chest imaging (Fig. 1) identified large right pleural effusion. A slouching dullness was found on the abdominal examination. Pleural punctation revealed white milky appearing fluid (Fig. 2). Pleural fluid analysis was consistent with a transudative chylothorax (triglycerides level of 2.94 mmol/l, LDH level of 78 IU/l, a protein content of 13 g/l and a white blood cell count of 20/mm³). CT-thoraco-abdominopelvic revealed a pleural effusion of great abundance, a liver of chronic liver disease with sign of HTP without suspicious liver lesions and ascites of great abundance (Fig. 3). No biological inflammatory syndrome was found. A low platelet count at 46000/mm³ was secondary to hypersplenism. Tumor markers were normal except CA125 which was 8 times normal. Gynecological

examination and pelvic ultrasound showed no ovarian mass. The patient benefited from therapeutic thoracentesis with low fat diet without recurrence of the chylothorax.

3. Discussion

Chylothorax is a type of pleural effusion that results from the accumulation of fluid rich in triglycerides (>110 mg/dl) and chylomicrons in the pleural cavity. High triglyceride levels and chylomicrons give the fluid a characteristic turbid milky appearance [1].

In their review of 191 cases, Valentine et al. noted that the commonest cause of chylothorax (50%) was neoplastic obstruction of the thoracic duct. The second most common cause (28%) was traumatic lesion of the thoracic duct. The third largest group of cases (18%) comprised idiopathic and congenital chylothorax. The remaining 8% of cases were secondary to pulmonary lymphangiomyomatosis, tuberous sclerosis, and cirrhosis of the liver [2].

Chylothorax is nearly always exudative. Transudative chylous pleural effusion is an extremely a rare entity. It has been described most commonly in association with liver cirrhosis, nephrotic syndrome or heart failure [3].

The physiopathological mechanism suggested by Dumont and Mulholland is that in decompensated cirrhosis, portal hypertension can lead to increase pressures and lymph flow in the thoracic duct, causing extravasation of chyle into the pleural space [4].

Management of cirrhosis related chylothorax is mainly conservative including octreotide and somatostatin administration, parenteral nutrition, diuretics and iterative thoracentesis. Low fat oral diet

* Corresponding author.

E-mail address: migaou.asma@gmail.com (A. Migaou).

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Fig. 1. Chest X-ray showing a large right side pleural effusion.

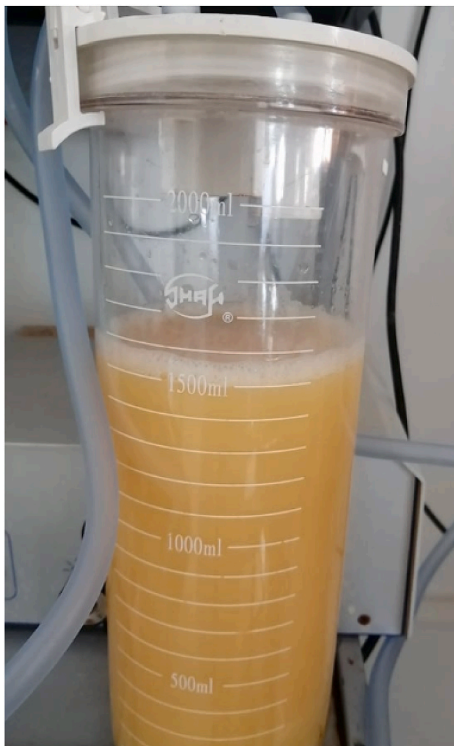


Fig. 2. Milky appearing pleural fluid.

associated with medium chain triglycerides supplementation is also recommended after a period of parenteral nutrition [5].

Talc pleurodesis is an alternative if the chylothorax is rapidly



Fig. 3. CT scan of chest showing left-sided pleural effusion.

recurrent, but this method often crowned with failure because of the rapid regeneration of the liquid [1].

Transjugular intrahepatic portosystemic shunt (TIPS), by reducing of portal hypertension and decreasing in thoracic lymph flow and pressures, is considered a better and safer option in those cases [6,7].

4. Conclusion

Hepatic cirrhosis is an exceptional benign cause of transudative chylothorax. But it can be associated with severe complication such as malnutrition, depletion of fluids, immunocompromise, and coagulopathy. The treatment is mainly conservative. Awareness of this association can avoid unnecessary explorations.

Declaration of competing interest

The authors declare no conflict of interest.

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