



CHYLOTHORAX AN INCIDENTAL FINDING

Pulmonary Medicine

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ABSTRACT

The term chylothorax refers to the presence of lymphatic fluid (chyle) in the pleural space secondary to leakage from the thoracic duct or one of its main tributaries. The most common causes are thoracic trauma of surgical or nonsurgical origin, neoplasms (most commonly lymphoma), and some infections, including tuberculosis. This is a case report of an unusual presentation of pleural effusion in a patient 67 yr old diagnosed case of CLD presenting with chest heaviness & complaint of breathlessness since 1 week on investigating he had massive pleural effusion which n drainage seemed as if it was empyema which on further investigations revealed out to be chylous effusion we concluded that in a patient of CLD or cirrhosis a differential diagnosis of chylothorax should be kept in mind and conservative treatment approach can opted for treatment in form of MCFA diet and Injection Octreotide in a tolerable dose.

KEYWORDS

Pleural effusion , CLD, chylothorax, MCFA diet, Injection Octreotide

INTRODUCTION:

The term chylothorax refers to the presence of lymphatic fluid (chyle) in the pleural space secondary to leakage from the thoracic duct or one of its main tributaries.¹ The most common causes are thoracic trauma of surgical or nonsurgical origin, neoplasms (most commonly lymphoma), and some infections, including tuberculosis. Chylothorax occurs in less than 1% of thoracic procedures, and its prevalence ranges from 0.5% to 2%.² The incidence seems to be much higher in cases of esophagectomy with mediastinal lymphadenectomy (3%) than after pulmonary resection (0.4%).⁴ Regardless of the cause, chylothorax is associated with high morbidity and mortality rates, mainly related to dehydration, malnutrition, and immunologic compromise. Mortality rates as high as 75% have been reported.³

CASE REPORT:

A 67 yrs male presented with complaint of breathlessness since 1 week, he was apparently well 1 week back after which he started experiencing difficulty in breathing which was insidious in nature, gradually progressive, he is a diagnosed case of CLD he gave history of minor injury from edge of table 7 days back, after which he noticed this difficulty in breathing he had no history of pain in chest fever cough hemoptysis, physical examination revealed icterus and percussion revealed stony dullness was present in right side of chest, radiological examination {HRCT CHEST & XRAYs} revealed massive right sided pleural effusion {fig 1 & fig 2}.

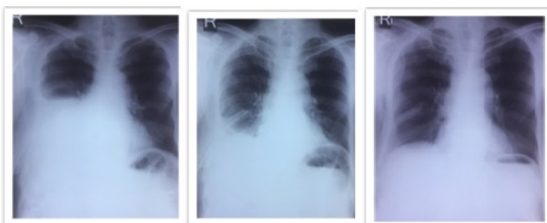


Fig 1: Sequential Xrays

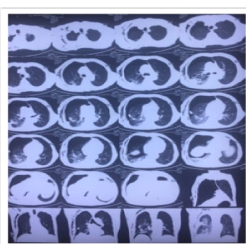


Fig2: HRCT CHEST

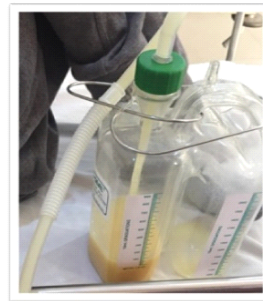


Fig3: Chylous fluid

ICD insertion was planned and after ICD insertion there was drainage of whitish thick fluid {fig 3}. Consequent Xrays showed expanded lung fields {fig 1}. Provisional diagnosis of right sided empyema was made. Drained fluid was sent for analysis culture sensitivity testing and gram stain and fungal smear examination. The analysis was suggestive of exudative fluid having TLC 660/mm, mononuclear cells 85 percent, protein 4.2 g/d, albumin-1.7g/dl first day approx. 5-6 L fluid was drained.

Suspicion of chylothorax came into picture after analysis report and amount of fluid getting drained was taken into consideration. To rule out any lymphatic duct injury or blockage a HRCT was also done which revealed right sided hydropneumothorax with partial collapse.

Next day around 4l fluid was drained, patient's general condition started deteriorating, fluid was sent for further analysis in terms of TGs, CHL, SALIVARY AMYLASE, AFB GENE XPRT

Triglycerides came out 230g/dl rest all negative thereby confirming diagnosis of Chylothorax {tg more than 110}

Till 4th day approx 13-14L fluid was drained with final provisional diagnosis of chylothorax he was put on MCFA diet along with Inj. Octreotide 100mg TDS, conservative approach showed positive result and amount of fluid being drained reduced significantly consequently, and turned predominantly transudative gradually. He was discharged with ICD in situ and was followed up on opd basis after 5 days with octreotide injections, strict diet instructions and supportive treatment on second follow up visit after 10 days his ICD was removed as there was drain cessation completely and his lung expanded.

DISCUSSION:

The term chylothorax refer to presence of lymphatic fluid (chyle) in the

pleural space that has been accumulated by leakage from the thoracic duct or one of its main tributaries.¹ Chylothorax is a rare and apparently underappreciated manifestation of cirrhosis resulting from trans diaphragmatic passage of chylous ascites.

We came across an incidental finding of chylothorax in a patient of CLD.

Diagnosis was made with a triglyceride level of >110 mg/dl, A fluid cholesterol-to-triglyceride ratio of <1 is also diagnostic.

Presently used treatment regimens include conservative and surgical approach, in conservative approach pleural fluid drainage with use of MCFA diet, TPN or even keeping patient NPO are most frequently used regimen. The MCFA diet is used because these fatty acids are absorbed directly into the portal venous system, rather than into the intestinal lymphatic system, thus reducing the amount of chyle produced.

Octreotide can be added when other conservative methods are inadequate. Octreotide is a long-acting somatostatin analog used for the relief of symptoms associated with functional gastroenteropancreatic endocrine tumors. It is used in the treatment of chylothorax, because it acts directly on vascular somatostatin receptors to minimize lymphatic fluid excretion. In addition, octreotide increases splanchnic arteriolar resistance and decreases gastrointestinal blood flow, indirectly reducing lymphatic flow.⁴ Surgical management is opted only when drainage persists for more than 3 weeks or if daily fluid loss exceed 1.5L.

In our patient both MCFA diet and octreotide management were started together and the patient responded well to the regimen. There was significant decrease in fluid drainage per day when he was managed on IPD basis once he was discharged after 10 days there was complete cessation of fluid drainage.

As the patient was a diagnosed case of CLD and his history of minor injury might have caused some lymphatic duct injury which was not evident on CT even or primarily the liver pathology was the cause behind this case presentation both ways due to deranged coagulation profile any surgical management could never been possible so opting for conservative management in terms of diet modification and Octreotide therapy are the mainstay helping elements and life saving too. This combined regimen is of value in patients those who are at high risk of surgery.

CONCLUSION:

Patients of cirrhosis or CLD presenting with pleural effusion can have this rare form of effusion also i.e. in form of chylothorax so this thing should be kept in mind while dealing with such similar scenarios. Keeping in mind the conservative approach in form of ICD insertion, MCFA diet & Octreotide injections which can be beneficial and can decrease morbidity and mortality in such patients thereby improving their quality of life as well.

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Nil.

Consent

Consent taken from patient and attendants after explaining concerned issues.

Conflicts of interest

There are no conflicts of interest.

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