

Picture Story

Neonate with chylothorax following bilateral pneumothoraces

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Introduction

Chylothorax is an uncommon cause of pleural effusion in children¹. It can result in significant respiratory morbidity, malnutrition and immunodeficiency². Among neonates with significant pleural effusion, chylothorax remains the commonest cause and it can be congenital or acquired¹. Out of the acquired causes, in the majority the aetiology remains unknown². First line of treatment of chylothorax is the thoracostomy drainage and respiratory support, but there are other modalities like octreotide³. If drainage is required for several weeks, pleurodesis with OK-432 (Picibanil), erythromycin, or povidone-iodine may be helpful⁵. Surgical management includes ligation of the thoracic duct⁶.

Case report

A non-syndromic baby boy was born to healthy non consanguineous parents as the third child of the family at 29+2 weeks of gestation by emergency lower segment caesarean section due to preterm pre-labour rupture of membranes and thin meconium stained liquor. Baby was admitted to the neonatal intensive care unit for respiratory support. Baby received two doses of surfactant and while on ventilator he developed bilateral pneumothoraces on day 2 of life (Figure 1).

This was managed with chest drains. Left sided pneumothorax completely settled by day 5. Unexpectedly, on the same day, milk like drain was noted from the right sided chest drain (Figure 2).

This was confirmed as chyle biochemically (Table 1).

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Figure 1: Right pneumothorax with right chylothorax



Figure 2: Chyle in intercostal drain

Table 1

Intercostal tube drain full report and lipid profile

Colour	Yellow
Appearance	Turbid
Protein	316mg/dl
RBC	4800/cu mm
WBC	800/cu mm (N85%, L15%)
Total cholesterol	20 mg/dl
Triglycerides	112 mg/dl

Lipid profile done after centrifugation and removal of top layer because turbidity may cause errors

However, by day 7 right sided chylothorax resolved (Figure 3).



Figure 3: Resolving right chylothorax with bilateral pneumothorax

Discussion

Neonatal chylothorax is not a frequently observed condition, though it is the commonest form of pleural effusion among neonates⁷. Acquired chylothorax may be due to trauma, rise in central venous pressure, tumours or other cause⁴. In this case the aetiology is probably traumatic during chest drain insertion. Since this a right sided chylothorax the damage to the thoracic duct must have happened below the T5 level. If it was above that it has to be bilateral chylothorax. Chylothorax was confirmed by measuring the triglyceride level in the drain. In managing a child with chylothorax drainage of the effusion is essential³. Other modalities in the management are dietary modifications and the other medical therapies like somatostatin and octreotide to diminish chyle flow so that the thoracic duct could heal⁵. Early surgical intervention would be warranted if medical

management fails or complications develop from the chylothorax¹. The site of rupture of the thoracic duct can be identified by lymphangiography³. Prognosis depends on the aetiology, response to therapy and complications¹.

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