

Innovative Management of Congenital Chylothorax Using Modified MCT-Enriched Breast Milk in a Resource – Limited Setting.

Hassan MHSM¹, De Silva BM¹, Pamarathne DV¹, Jayaweera PHS¹, Rathnayake KACJJ¹,

¹ *Teaching Hospital Badulla, Sri Lanka*

Introduction - Congenital chylothorax (CC) is a rare cause of neonatal pleural effusion, sometimes presenting antenatally as hydrops fetalis due to albumin loss in chyle. Management includes respiratory support, pleural drainage, nutritional modifications with medium-chain triglyceride (MCT) formulas or total parenteral nutrition (TPN), and pharmacologic agents like octreotide or sildenafil.

Case Presentation - A 32-week female infant, weighing 2.3 kg, was delivered via emergency caesarean section due to antenatally diagnosed bilateral pleural effusion. She required resuscitation at birth, with Apgar scores of 5 and 7. In the antenatal period, the fetus was evaluated for hydrops fetalis, likely secondary to hypoalbuminemia. Bilateral intercostal drains revealed transudative fluid and were removed by day 4. Re-accumulation of effusion occurred on day 5. Enteral feeds began by day 6. On day 9, the pleural fluid turned milky, suggestive of chylothorax. Lymphocyte-predominant pleural fluid confirmed CC. The infant was kept nil orally, started on TPN and intravenous octreotide. Oral sildenafil also commenced to promote lymphatic remodeling and reduce chyle production.

First time in the history, due to the unavailability of commercial MCT formula, breast milk was centrifuged under sterile conditions to remove long-chain triglycerides, and organic MCT oil was added. Enteral feeds with modified milk started on day 12 and were gradually increased. Octreotide was weaned off by day 16. By day 28, the baby resumed normal breastfeeding. Chest X-ray on day 36 showed resolution of effusion. She was discharged on day 39 with appropriate weight gain.

Discussion - This is the first known local use of centrifuged breast milk with added MCT oil for managing CC. It offers a cost effective, innovative solution in resource limited settings. Pharmacologic support with octreotide and sildenafil may enhance outcomes by reducing chyle production and supporting lymphatic healing.

Keywords - Congenital chylothorax, Pleural effusion, Medium-chain triglycerides, experimental feeding strategies, centrifuged breast milk