

Congenital chylothorax treated with octreotide

Hashem E. Aqrabawi, Aghadeer Hadidi

Neonatal Unit, King Hussein Medical Center, Amman, Jordan

ABSTRACT

Congenital chylothorax is the most common cause of pleural effusion causing respiratory distress in the neonate. Cases unresponsive to conservative management usually require

surgery. Herein, we report a case of congenital neonatal chylothorax managed with the use of octreotide with good outcome. (Rawal Med J 2014;39:220-221).

Key words: Congenital, chylothorax, octreotide

INTRODUCTION

Idiopathic congenital chylothorax is a rare condition and usually resolves by cessation of lymphatic flow in the thorax. It may be either acquired or congenital. Congenital chylothorax may be associated with abnormalities of the lymphatic system such as lymphangiomatosis and lymphangiectasia, abnormal karyotype or additional congenital anomalies. Independent of the aetiology, chylothorax leads to impairment of respiratory, nutritional and immunological functions.¹ The incidence of congenital chylothorax is reported as 1 in 2000 NICU admissions.²

CASE PRESENTATION

A 3.2 kg male neonate was delivered to a 24 year old Jordanian primigravida via cesarean section at 37 weeks gestation. There was no significant maternal medical history. A routine ultrasound at 20 weeks noted a bilateral sonolucent collection of fluid in the chest, more on left side. An amniocentesis revealed normal chromosomes. A fetal echocardiogram at 20 weeks was reported as normal. An ultrasound at 37 weeks demonstrated progression of the fluid collection. Apgar scores were 2,5, and 7 at 1,5, and 10 minutes, respectively. Resuscitation included intubation with assisted ventilation. Initial physical examination showed a normal infant with decreased air entry on left side. A chest-radiograph revealed a massive left sided pleural effusion (Fig. 1).



Fig 1: Lt sided massive congenital chylothorax.

Diagnostic thoracentesis produced 10 ml of straw-colored fluid. Analysis revealed total WBC count of 3200 with 98% lymphocytes, protein 0.5 gm/dl, glucose 56 mg/dl, gram stain and cultures were negative. Left sided chest drain was inserted with immediate evacuation of about 250 ml fluid. The patient remained hemodynamically stable, extubated on day 4, and the drain was removed on day 5. Feedings of expressed breast milk and Pregestamil were commenced on day 3 via orogastric tube and graded up gradually. A cranial, renal ultrasounds, and echocardiogram were normal. A chest x ray on day nine for respiratory distress showed recollection of left sided chylothorax that required thoracentesis of a yellowish and thick fluid. Fluid analysis showed high triglycerides and low cholesterol levels.



Fig 2: Complete resolution of chylothorax after octreotide treatment.

Octreotide was started via continuous intravenous infusion, initially at a dose of 100 mcg/day (1.4 mcg/Kg/ hr) to a maximum dose of 200 mcg/ day (2.8 mcg/ Kg/ hr). Total duration of treatment was 12 days. We monitored closely for evidence of cholelithiasis, liver and renal impairment, and glucose intolerance. No side effects were noted. Chest x ray on day 20 showed complete resolution of chylothorax (Fig. 2). The infant was discharged home on breast milk and pregestamil formula. The

infant is now six months old and so far he is doing very well.

DISCUSSION

Management of congenital chylothorax has been focused on the treatment of respiratory compromise, nutritional support (medium- or short-chain fatty acids formulas or total parenteral nutrition), and closure of the chylous leak, if conservative treatment fails.³

Octreotide, a somatostatin analog, is prescribed as an antisecretory agent. It reduces intestinal absorption of fats and decreases gut motility. It has been used for a variety of conditions, including acromegaly, secretory diarrhea, esophageal varices, breast cancer, cryptosporidiosis, Cushing's syndrome, insulinomas, small bowel fistulas, postgastrectomy dumping syndrome, chemotherapy-induced diarrhea, and Zollinger-Ellison syndrome.⁴ Octreotide has also been used in the treatment of severe neonatal hypoglycemia.⁵

Octreotide has been used successfully to treat post-traumatic chylothoraces in the pediatric and adult population.⁶ Its exact mode of action is uncertain but it is believed to reduce lymphatic drainage by a direct action on splanchnic lymph flow.⁷ The chylothorax in our case resolved completely with no adverse effects encountered. These findings are similar to other case reports of octreotide use in congenital chylothorax management and highlights that the treatment can be stopped soon after resolution of chylothorax with achievement of full enteral feeds.⁸⁻¹¹ In summary, octreotide by continuous intravenous infusion appears to be an effective alternative to surgery.

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Corresponding author email: h_aqrabawi@hotmail.com
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