Successful Surgical Treatment of Congenital Chylous Ascites

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Chylous ascites is an uncommon disorder of infancy and childhood and it's treatment is often frustrating. We report an infant with congenital chylous ascites successfully treated surgically.

Case Report

A 3-week-old female infant weighing 3.8 kg presented with rapidly increasing abdominal distention from the age of two weeks. She did not have any dysmorphic features. Abdomen was grossly distended and measured 45 cm in girth. She was dyspneic and examination of the cardiovascular and respiratory system was normal.

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Hemoglobin and total blood count was normal. Serum electrolytes, urea and creatinine were normal. Total protien was 59 g/L, albumin was 35 g/L, globulin was 24 g/L, total bilirubin was 9 mmol/L and alkaline phosphatase was 15 IU/L. Urine examination showed 0.1 g albumin/L. Chest radiograph was normal. Ultrasound abdomen showed large amount of fluid in the peritoneal cavity, inferior vena cava and hepatic veins were normal and there was no organomegaly. CT-abdomen with barium contrast showed no abnormality. Ascitic fluid analysis revealed: total protein 20g/L, glucose-4mmol/L, triglycerides > 100 mmo/L, cholesterol-18 mmol/L, lactic dehydrogenase-160 IU/L. Microscopy of ascitic fluid showed large number of lymphocytes.

The baby was given total parenteral nutrition (TPN) for 12 weeks. During the initial period of treatment, paracentesis was performed to relieve dyspnea. At the end of 4th week, ultrasound examination confirmed absence of ascites. Attempts at introduction of high medium chain triglyceride milk formula (Portagen : Mead Johnson) resulted in accumulation of ascites. Laparotomy was performed at the end of 12 weeks of TPN. Dissection at the lower esophagus revealed fluid leaking around the esophageal hiatus. Ligation of leaky lymphatics around the esophageal hiatus led to arrest of lymphatic leak. Prior to surgery, the patient was given high fat milk

formula to facilitate identification of lymphatics. Post operatively she was given portagen exclusively for four months. As the ascites did not recur, normal diet was gradually introduced. At 2 years of age she was well.

Discussion

Chylous ascites is uncommon in children. It is however, relatively more common in infancy(l). Congenital malformations of lymphatic system like congenital lymphangiomatosis, congenital chylous cysts and atresia of the lymphatic ducts are responsible for 39% of cases(2,3). Idiopathic condition accounts for 30% of cases and this condition said to have leaky lymphatics(4). "Leaky lymphatics" appears to be caused by delayed maturation or hypoplasia of lacteals which allows chyle to leak in to the peritoneal cavity(4,5). Secondary causes of chylous ascites which can occur at any time in life include inflammatory, neoplastic, traumatic, non accidental injury, mechanical obstructions like malrotation, adhesive bands and incarcerated hernias(6). Conservative and symptomatic measures like TPN, high medium chain triglyceride diet and repeated paracentesis form the initial management. The aim of conservative management is to provide time for the leaky lymphatics to get obliterated and for new lympho - venous channels to get established(5). The time required for the conservative management to be effective in congenital chylous ascites is highly variable and may require 10 weeks or more(7). As in our patient, it is desirable to give an adequate trial of conservative treatment since laparotomy may not always reveal a correctable surgical abnormality. It may be reserved for those who have an identifiable surgically correctable lesion or when conservative approach fails to provide sustained relief after the introduction of normal diet. When non-operative and operative therapy fails, peritoneovenous shunts have been placed with some success(8).

REFERENCES

1. Unger SW, Chandler JG. Chylous ascites in infants and children. Surgery 1983; 93: 455-461.
2. Smeltzer DM, Strickler GB, Fleming RE. Primary lymphatic dysplasia in children: Chylothorax, chylous ascites and generalized lymphatic dysplasia. Eur J Pediatr 1986; 145: 286-292.
3. Alazagasti JC, Fitzgerald JF, White SJ, and Chang SKF. Chylous ascites: A sign of unsuspected child abuse. Pediatrics 1994; 94: 737-739.
4. Sturmer FC. Infantile chylous ascites: Review of literature and case report. Am Surg 1965; 31: 281-284.
5. Cochran WJ, Klish WJ, Brown MR, Lyons JM, Curtis T. Chylous ascites in infants and children: A case report and literature review. J Pediatr Gastroentero Nutr 1985; 4: 668-673.
6. Kottmeier PK. Ascites. *In:* Text Book of Pediatric Surgery, 4th edn. Eds. Kenneth JW, Randolp MM, Ravitch MK, O' Neil Jr, Marc IR. Chicago, Year Book Publishers Inc, 1986; pp 925-928.
7. Aliet P, Young C, Lebenthal E. Chylous ascites: Total parenteral nutrition as primary therapeutic modality. Eur J Pediatr 1992; 151: 213-214.
8. Chang JHT, Newkirk J, Clinton G. Generalized lymphangiomatosis with chylous ascites-Treatment by peritoneo-venous shunting. J Pediatr Surg 1980; 15: 748-750.