

CASE REPORT

Chylous Ascites Following Choledochal Cyst Excision

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ABSTRACT:

Chylous ascites is accumulation of triglyceride rich fluid in peritoneal cavity. Apart from spontaneous causes, the iatrogenic type usually result from retroperitoneal operations. This is a case report of an eleven year old girl, who developed chylous ascites after choledochal cyst excision and roux-en-y hepatico-jejunostomy. The condition discovered in the seventh post-operative day and treated by percutaneous drain, low-fat diet, and octreotide . The condition was resolved after two weeks.

KEYWORDS: chylous ascites, choledochal cyst.

INTRODUCTION:

Chylous ascites is accumulation of opalescent fluid in peritoneal cavity, ranging from cloudy to completely opaque⁽¹⁾, it is white because of an excess of chylomicrons (triglycerides)⁽²⁾. If placed in the refrigerator for 48 to 72 hours, the lipids usually layer out⁽¹⁾

Chylous ascites is an uncommon finding with a reported incidence of 1:20,000 admissions at a large university based hospital⁽³⁾. There are multiple causes of chylous ascites, the most common cause of spontaneous chylous ascites in Western countries are abdominal malignancy^(2,3) and cirrhosis, which account for over two thirds of all cases. In contrast, infectious etiologies, such as tuberculosis and filariasis, account for the majority of cases of chylous ascites in Eastern and developing countries⁽³⁾.

While iatrogenic chylous ascites is a complication of retroperitoneal surgery. Most postoperative cases of chylous ascites are secondary to surgery on the abdominal aorta(81%). The postulated mechanism of postoperative chylous ascites is inadvertent damage to the cisterna chyli or one of its major lumbar tributaries during retroperitoneal surgery.

We present a rare case of iatrogenic CA following resection of choledochal cyst, which is according to our knowledge is a second case reported in English literature⁽⁴⁾ .

CASE REPORT:

An eleven year old- girl, who is a known case of choledochal cyst type 1 since the age of 3 year , presented with recurrent attacks of upper abdominal pain, vomiting, and jaundice. On examination there was a right hypochondrial swelling. abdominal ultrasound and CT scan revealed cystic dilatation of extrahepatic bile ducts(figure 1)

She was explored through a right subcostal incision , there was a thickened wall gallbladder, and fusiform dilation involving common bile duct, common hepatic duct and proximal right & left hepatic bile ducts, the common bile duct diameter about 20 mm(figure2)

cholecystectomy with total excision of choledochal cyst was performed. the right and left hepatic ducts fashioned as one duct(ductoplasty), Roux-en-Y end-side hepaticojejunostomy and entero-enterostomy was performed . The early post operative period was uneventful, the drain was removed and discharged well on 5th post-operative day.

She came back to the hospital on 7th post- operative day complaining from abdominal pain, distension, and fever. Ultrasound showed ascites, insertion of intra-abdominal drain under-ultrasound guidance was done which drain milky (chylous) fluid (figure 3).

Fluid analysis revealed triglyceride level 165 mg/dl and amylase level 87 u/l. The patient was treated by low fat diet and octreotide subcutaneous injection 0.5 mg six hourly per day. The chylous ascites drains between 750-1000ml/day but it gradually decreased until complete resolution after two weeks, the tube drain was removed and the patient was discharged well. The patient was well after 6 months of follow-up.

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CHOLEDOCHAL CYST

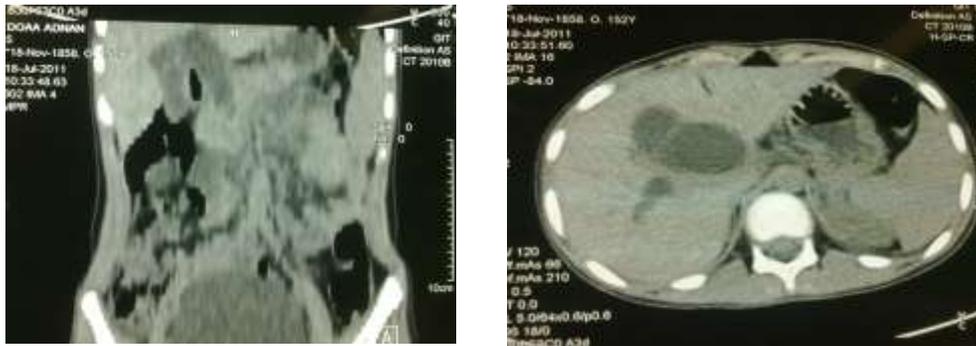


Figure 1: Native abdominal C T scan revealed extra-hepatic choledochal cyst

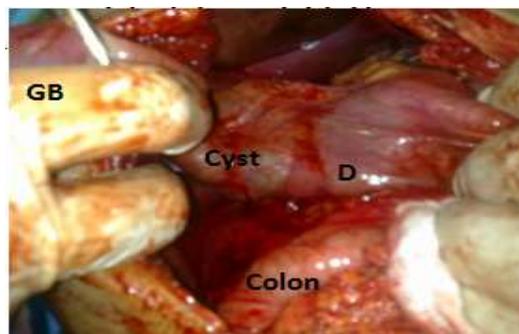


Figure 2: Operative photograph showing; gall bladder(GB), choledochal cyst(cyst), duodenum(D), and colon



Figure 3: Chylous fluid discharge.

DISCUSSION:

Postoperative CA can present with progressive abdominal distention, pain, nausea, vomiting, dyspnea and/or clinical signs of malnutrition.⁽³⁾

It is a difficult condition to treat with serious nutritional and immunologic consequences from the continuous loss of protein and lymphocytes

The diagnosis can be confirmed by aspiration and the identification of chylomicrons in the aspirated⁽²⁾ ascitic fluid via paracentesis.

The triglyceride content of chyle is usually > 200 mg/dl and protein concentration is 3 g/dl. Cell count reveal leukocytes with a predominance of lymphocytes⁽³⁾.

The outcome of chylous ascites mostly depends on the underlying pathological condition causing lymphatic leakage. The mortality of chylous ascites, especially those caused by surgery, has decreased much than before⁽⁵⁾, but that caused by malignancy remains high.

Conservative measures aim to reduce mesenteric lymphatic flow and lower chyle production via dietary measures, fat and salt restriction, diuretic use, and initiation of somatostatin.

Dietary measures include the provision of a high protein and low fat diet/medium chain fatty acids which directly enter the portal system; there by bypassing the mesenteric lymphatic vessels and attenuating lymph production.

Patient may require replacement of nutritional losses with TPN and frequent paracentesis for symptomatic relief.⁽³⁾

Fasting, together with TPN, can decrease the lymph flow in thoracic duct dramatically from 220 mL/kg/h to 1 mL/kg/h. Furthermore, TPN restores nutritional deficits and balances metabolic impairments imposed by long-standing chylous ascites and repeat sessions of paracentesis.⁽⁶⁾

Somatostatin is known to reduce splanchnic, hepatic, and portal blood flow and to inhibit intestinal motility and secretion; thus, it can reduce lymph flow⁽⁴⁾.

To the best of our knowledge, this is the second reported case (first reported case of chylous ascites developing 2 weeks after excision of a choledochal cyst with a Roux-en-Y hepaticojejunostomy, by Chun-Chieh Huang et al⁽⁴⁾) of chylous ascites after choledochal cyst excision in children, which was successfully treated with dietary measures.

CONCLUSION:

Chylous ascites should be kept in mind as a possible complication of choledochal cyst excision. On the basis of previous reports and our experience, dietary measures and octreotide should be considered as a first therapeutic option in managing pediatric postoperative chylous ascites.

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