

### A Case of Chyle Ascites Mistaken as Perforated Appendicitis

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The first case of chyle ascites in childhood was reported by Morton in 1683. Its reported incidence varies between 1 in 50,000 to 100,000 in hospital admissions. The clinical picture is similar to that of acute diffuse peritonitis, and is most commonly mistaken as perforated appendicitis. Paracentesis, if performed, is the most useful diagnostic option. Treatment modalities fall into four areas:- Exploratory laparotomy with either direct ligation or drainage, A medium chain triglyceride diet, NPO and hyperalimentation or Venoperitoneal shunting. An 11-years old boy was admitted with RLQ pain. He had diffuse abdominal guarding. The initial diagnosis was perforated appendicitis, and appendectomy was performed. During the operation, the abdomen was found to contain 750cc of a thin, milky fluid. It was later diagnosed as chyle ascites. The small bowel mesentery and transverse colon were thickened and edematous, with a pale white subserosal exudate. The laboratory analysis of the ascites was as follows:- protein 4.6 g/dL, albumin 3.0 g/dL, triglyceride 700 mg/dL, cholesterol 113 mg/dL, glucose 209 mg/dL, LDH 848 UL, and amylase 32 U/dL, with a pH of 9.0. An appendectomy was performed, and two drains placed in the pelvic cavity. In the postoperative-work-up from the abdominal CT scan, the results were normal. The patient-recovered and was discharged without complication 21 days postoperatively. (J Korean Surg Soc 2002;63:84-87)

**Key Words:** Chyle ascites, Perforated appendicitis

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1641 Morton  
 .(1)  
 ( leaky lymphatics: delayed maturation of the lacteals) 가  
 (2,4,5)  
 idiopathic .(7)  
 1. NPO hyperalimentation, 2. Medium chain triglyceride diet (MCT), 3.  
 , 4. venoperitoneal shunting (Internal drainage)  
 47가 .(4)

: 11 ,  
 : 7  
 1  
 :  
 가 :  
 : 130/80 mmHg, 20 /  
 , 108 / , 36.9°C ,  
 ,  
 ,  
 point McBurney's  
 Obturator sign Psoas sign Roving's sign ,  
 : 11.53 × 10<sup>3</sup> / μl,  
 14.7 g/dl, 354 × 10<sup>3</sup> / μl ,  
 7.5 g/dl, 4.7 g/dl, 139 mg/dl,  
 AST 13 IU/L, ALT 14 IU/L, alkaline phosphatase 246 IU/L,  
 10 mg/dl, 0.6 mg/dl,  
 26 IU/L, 139 mEq/L, 3.5 mEq/L,  
 0 2/HPF, 0 2/HPF .

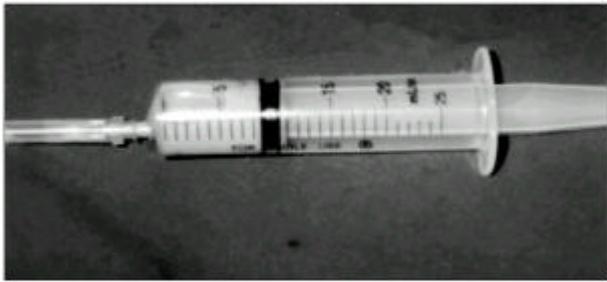


Fig. 1. Operative photograph. Chylous ascites.



Fig. 2. Operative photograph. The small bowel mesentery & transverse colon was thickened and edematous with a pale white subserosal exudate.

Table 1. Comparison of chylous ascites and this case

	Chyle ascites*	This case
Protein	> 4 g/dl	4.6
Triglyceride	> 200 mg or > 1,000 mg	700 mg
Ascitic white blood cell count	Lymphocyte dominant	190 u/L (lymph; 85%)
Ascitic red blood cell count	Few or none	Few
Specific gravity	1.010 - 1.021	1.015
Serum-ascites albumin gradient	usually < 1.1	1.021
Bacterial overgrowth	No	No
Cholesterol	Less than plasma cholesterol	113 mg/dl

\*Diagnostic criteria of chyle ascites (4, 10, 16)

g/dl, Triglyceride 700 mg/dl, 113 mg/dl, 209 mg/dl, LDH 848 U/L, 32 U/dl, PH 9.0, 1.015 (Table 1).

TPN 2 15

17

Silastic penrose

drain 21

1641 Morton 18

(1) 15

(leaky lymphatics: delayed maturation of the lacteals) 가 (1,2,5,6) 50%

가 2 (5) Vasko Tapper (5) 9%가 trauma

(2)

Silastic penrose drain

reactive methothelial

20%

20%

. 8%

cell

idiopathic . 4 TPN (9,14)

(1,3) Lymphangiogram 8 TPN 가 blunt trauma

4 6 .(4) 83% .(6,7,14)

.(9) 가

.(3) .(11)

.(4) , .(15) 2 NPO TPN

가

가 가

가

fat globule 100 u/L Wright

stain Lymphocyte가 50%

1.010 1.021 Alkaline PH,

4 g/dl ,

Triglyceride 200 mg/dl

1,000 mg/dl ,

(Table 1).(4,10,16)

가

(Table 1).

Lymphangiogram

가

.(6)

sterile 가

plaque . 50%

가 .(3)

가 .(4)

**1) NPO hyperalimentation:** TPN 가

30% .(13) TPN 가

가 1974 Viswanathan Putnam(12)

가 caloric

loss, hypoproteinemia malnutrition TPN

**2) Medium chain triglyceride (MCT) diet:** Dietary restriction  
Short- and Medium chain triglyceride

Short- and Medium chain triglyceride가 low-fat diet .(15)

3)

:

가

.(4,11,13)

가

.(4)

100%

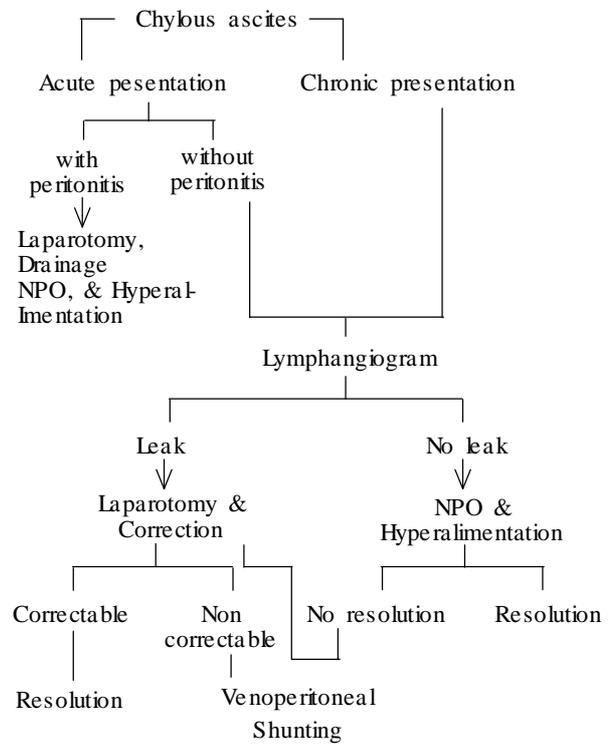


Fig. 3. Treatment algorithm for chylous ascites.

#### 4) Venoperitoneal shunting (Internal drainage): 1980

Chang (13)  
NPO hyperalimentation

50%

(Fig. 3).(4)

NPO TPN

1

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