Continuous chyle leak can cause a decrease in immunity and loss of fat, resulting in recurrent infections, malnutrition, and even obstruction of the peritoneal catheter (1). We report a case of chylous ascites occurring in association with intravenous infusion of long-chain fatty acids.

CASE DESCRIPTION

A 63-year-old woman had been treated for 4 weeks with continuous ambulatory peritoneal dialysis for end-stage renal disease related to chronic glomerulonephritis. Four weeks after catheter insertion by abdominal operation, she was initiated on an intravenous infusion of 10% medium and long-chain fat emulsion injection [250 mL, containing long-chain fatty acids 12.5 g (Baxter Healthcare Corporation, Deerfield, IL, USA)] and once-daily oral administration of an enteral nutrition emulsion (500 mL, containing long-chain fatty acids 8 g). The indication for these treatments was poor nutritional intake.

Three days later, the patient's peritoneal effluent became "milky," but catheter flow remained normal. The milky effluent was most apparent on the first drain of each day. The patient had not been prescribed calcium channel blockers, and she had no history of liver disease, portal hypertension, nephrotic syndrome, or pancreatitis. Peritoneal effluent cell counts were normal, and cultures were negative. Peritoneal effluent triglycerides were 220 mg/dL, which was higher than the diagnosis criterion for chyloperitoneum (defined as triglycerides > 110 mg/dL) (2). Investigations to detect a cause of chyloperitoneum were negative.

The intravenous infusion of long-chain fatty acids and the oral administration of enteral nutrition emulsion were then stopped, and the chyloperitoneum rapidly resolved. A decision was taken to transfer the patient from peritoneal dialysis to hemodialysis for 2 weeks to allow her peritoneum to rest. She subsequently resumed peritoneal dialysis with no recurrence of the chylous ascites. Because of the poor nutrition status of the patient, the two fatty-acid products were reused. The chyloperitoneum then reappeared. From that point forward, the two fatty-acid agents were no longer used for this patient.

DISCUSSION AND CONCLUSIONS

The causes of chylous ascites can be divided into two types: traumatic (3) and nontraumatic. Nontraumatic causes include intra-abdominal malignancy and liver cirrhosis (4). Use of dihydropyridine calcium channel

Chylous Ascites Because of Intravenous Infusion of Long-Chain Fatty Acids

Editor:

Chylous ascites typically occurs because of congenital anomalies of the lymphatic system or secondary to abdominal trauma or surgery in a child (1), but it is an uncommon clinical entity in peritoneal dialysis patients.

blockers is also known to cause chylous ascites with high levels of triglycerides (5). In the present case, the cause was high doses of long-chain fatty acids (supported by the fact that the chyloperitoneum disappeared when those agents were stopped and recurred when they were restarted because of the poor nutrition status of the patient). To our knowledge, this report is the first of such an occurrence.

The patient did not experience any side effects from the chyloperitoneum, and in particular, she did not develop peritonitis, lymphopenia, or worsening malnutrition.

Thus, we here highlight a new cause of chyloperitoneum in peritoneal dialysis patients.

DISCLOSURES

The authors have no financial conflicts of interest to declare.

Q.J. Wan
Y.C. He*
S.D. Luan
D. Zhu
Q. Peng
J. Li
T. Li
Y. Xu
H.L. Xu
Y. Liao
X. Dong

Department of Nephrology
Shenzhen Second People's Hospital
Shenzhen, Guangdong Province
PR China

*email: yongchenghecn@126.com

REFERENCES

1. Levy RI, Wenk RE. Chyloperitoneum in a peritoneal dialysis patient. *Am J Kidney Dis* 2001; 38:E12.
2. Kjeldsberg C, Knight J. *Body Fluids: Laboratory Examination of Cerebrospinal, Seminal, Serous and Synovial Fluids*. 3rd ed. Chicago, IL: American Society of Clinical Pathology Press; 1993.
3. García Falcón T, Rodríguez-Carmona A, Pérez Fontán M, Fernández Rivera C, Bouza P, Rodríguez Lozano I, et al. Complications of permanent catheter implantation for peritoneal dialysis: incidence and risk factors. *Adv Perit Dial* 1994; 10:206–9.
4. Jain S, Cropper L, Rutherford P. Chylous ascites due to bile

duct tumour in a patient receiving automated peritoneal dialysis. *Nephrol Dial Transplant* 2003; 18:224–6.

5. Unger SW, Chandler JG. Chylous ascites in infants and children. *Surgery* 1983; 93:455–61.

doi:10.3747/pdi.2012.00040