Chylothorax and Nephrotic Syndrome

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Dear Sir,

The nephrotic syndrome is not recognised as a cause of chylothorax. However, chylous ascites is a known complication of severe nephrotic syndrome [1] and chylothorax may be due to the transdiaphragmatic movement of chylous ascitic fluid [2].

We report a patient with severe nephrotic syndrome due to focal segmental glomerulosclerosis, who presented moderate chylous ascites and an impressive chylothorax. The patient had no recent surgery, subclavian vein catheter insertion or peritoneal dialysis.

This was a 37-year-old female, who was admitted to the Hospital because of dyspnea, anasarca edema, pleural effusion over two thirds of the posterior lung zone on the right and moderate ascites. No organomegaly or abdominal lymphadenopathy was present.

Laboratory data were as follows: BUN = 35 mg/dl, serum creatinine = 46 mg/dl, cholesterol = 508 mg/dl, triglycerides = 186 mg/dl, total protein = 3.9 g/dl, serum albumin = 1.5 g/dl and proteinuria = 26 g/day. Thoracentesis and abdominal paracentesis revealed a white milky transudate; chylomicrons were revealed by electrophoresis and fat droplets were noted on Sudan staining (table 1). The much higher levels of protein and cholesterol in the pleural fluid could be due to the preferential water reabsorption by the pleura.

A communication between the peritoneal and pleural cavities was determined by injection of ^{99m}Tc-sulfur colloid into the peritoneal cavity. Six hours later external scanning in the supine position showed accumulation of the radionuclide in the right hemithorax.

Chylous ascites may be responsible for the appearance of chylothorax in nephrotic syndrome by unidirectional transfer of fluid from the peritoneal to the pleural cavity because of the negative intrathoracic pressure during inspiration [3]. The role played by the diaphragmatic lymphatics and diaphragmatic defects is less well understood [4, 5].

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