Images in Nephrology
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Magnetic resonance imaging of non-tropical chyluria due to distal thoracic duct obstruction

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A 39-year-old white male with a history of subtotal thyroidectomy was referred because of intermittent nightly voiding of milky urine for a period of 1 year, suggestive of chyluria. Urine analysis revealed periodical proteinuria up to 3.8 g/day, triglyceriduria (137 mg/dl) and chylomicronuria. Screening for infectious disease and urological abnormalities was negative. Both kidneys and the renal pelvis were normal. There was no indication of lymph leakage to the renal collecting system at bipedal ⁹⁹mTc-DTPA (diethylene-triamine penta-acetic acid)-albumin lymphography. Magnetic resonance imaging (MRI) revealed both a dilated and tortuous thoracic duct from the suprarenal area to the outlet in the anonymous vein: full line arrows in (A) (axial T2-weighted image) and (C) [coronal MIP (maximum intensity projection) and RARE (rapid acquisition relaxation enhancement)]. (B) Dilated retroperitoneal lymph vessels extending to the renal hilum (dotted arrows on coronal T2-weighted image).

Fig. 1. MRI showing a dilated and tortuous thoracic duct from the suprarenal area to the outlet in the anonymous vein: full line arrows in (A) (axial T2-weighted image) and (C) [coronal MIP (maximum intensity projection) and RARE (rapid acquisition relaxation enhancement)]. (B) Dilated retroperitoneal lymph vessels extending to the renal hilum (dotted arrows on coronal T2-weighted image).

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area to the outlet in the anonymous vein [Figure 1A, axial T2-weighted; C, coronal maximum intensity projection (MIP) and rapid acquisition relaxation enhancement (RARE)] and dilated retroperitoneal lymph vessels extending to the renal hilum (Figure 1B, coronal T2-weighted). A contrast-enhanced chest computed tomography (CT) scan excluded external compression of the anonymous vein. Since clinical and biochemical parameters remain stable, no invasive repair has been attempted up to the present.

Two clinical varieties of chyluria are reported: (i) tropical and (ii) non-tropical. Tropical chyluria caused by filaria was ruled out based on screening. Several non-tropical aetiologies have been suggested as a cause of thoracic duct obstruction. Negative investigations in this patient suggest an idiopathic cause, although post-thyroidectomy scarring cannot be ruled out completely.

Conflicts of interest. None declared.