Nephroquiz for the Beginner
(Section Editor: T. J. Rabelink)

The young lady with massive proteinuria, biopsy-confirmed steroid-resistant minimal change glomerulonephritis and episodes of turbid urine

Fig. 1. (a) Clear urine, (b) turbid urine.

A 36-year-old patient was referred because of massive proteinuria with varying intensity, i.e. between 1.6 g/24 h and 27 g/24 h.

During the last trimester of the first pregnancy in 1984, the patient had noted transient turbidity of urine without signs of urinary tract infection. Urine cleared up immediately after delivery. During the second pregnancy in 1987, this phenomenon recurred, but reversed only 4–6 weeks after delivery.

Since 1992 she had noted repeated episodes of turbidity of the urine. Because of massive proteinuria, a renal biopsy was performed in 1994, which led to the diagnosis of minimal change glomerulonephritis. She was given a course of oral prednisolone which did not affect proteinuria.

On admission, the patient had no oedema or hypertension. She had hypoproteinaemia (54 g/l) with normal distribution of serum protein fractions (albumin 57.3%, alpha-1-globulin 4.2%, alpha-2-globulin 17%, beta-globulin 4%, gamma-globulin 7.5%), cholesterol 6.3 mmol/l, triglycerides 1.6 mmol/l, creatinine clearance 125 ml/min.

Urinary protein excretion was 4.4 g/24 h, but urinary sediment showed no erythrocyte casts. Figure 1a and b show urine during a period where it was clear and during a period where it was turbid, respectively.

At this point a study was performed to establish the diagnosis. What procedure was chosen?
Treatment of this condition consists in dietary restriction of long-chain fatty acids, which are primarily transported via the lymph. Fatty acids should be administered as fatty acids of intermediate chain length, e.g. Ceres® products. In the past decapsulation of the kidney or sclerosing of the lymph fistulae had been proposed, but these interventions are of dubious value because of the high rate of recurrence.

**Suggested reading**


Fig. 2. (a,b) Lymphography with spiral CT in early and late phase. Please note staining of the renal pelvis.