Microfilaria associated macroscopic hematuria and nephrotic range proteinuria

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A 57-year-old male, a case of diabetes mellitus and hypertension since 10 years presented with painless macroscopic hematuria of 1-month duration. He did not have diabetic retinopathy, and the urological examination was also normal, performed in view of macroscopic hematuria. Systemic examination revealed blood pressure of 140/80 mm of Hg, and absence of edema. Urine analysis showed 3+ protein, numerous red blood cells (RBC's), and 3–4 white blood cells. Urine culture showed no growth. 24 h urine protein was 3.21 g. Serum creatinine was 0.7 mg/dl, serum albumin was 4.2 g/dl, serum cholesterol was 240 mg/dl. Urine fat solvent ether test was negative. Urine for triglycerides was also negative. Complete blood count was normal.

A kidney biopsy performed in view of macroscopic hematuria and absence of diabetic retinopathy showed 12 glomeruli. Five of them showed microfilariae in the capillary lumen with no diabetic nephropathic changes [Figure 1]. Immunofluorescence study (Immunoglobulins-G, A, M and Complements-C3, C1q, and light chains-Kappa, Lambda) was negative. The patient was treated with oral diethylcarbamazine 6 mg/Kg/day in three divided doses for 21 days. On follow-up after 1-month, his urine examination revealed total disappearance of RBC's and protein.

The patient hailed from northern part of Karnataka (BIDAR) where wuchereria bancrofti is endemic. The nephrotic range of proteinuria in filariasis is known to occur.[1-4] Ether test and triglyceride tests were negative in our case, probably due to the absence of significant lymphatic obstruction and thereby no significant chyluria. There are two ways by which microfilariae can cause glomerular disease, either by direct physical invasion or as an immune-mediated disease.[5] The latter group of diseases includes mesangioproliferative glomerulonephritis (GN), mesangiocapillary GN, membranous GN or collapsing variant of focal segmental glomerulosclerosis.[6]

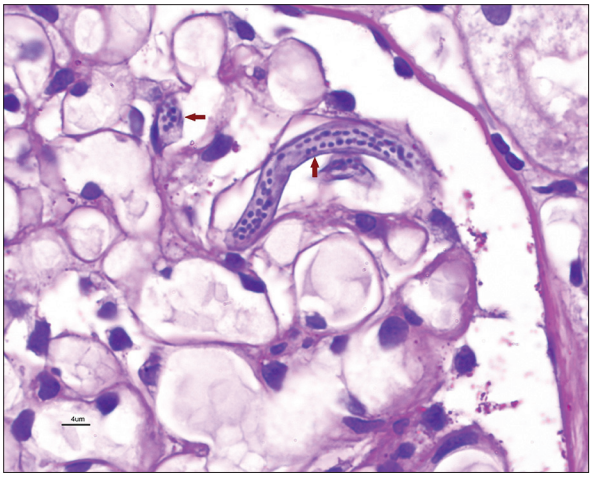

Figure 1: Glomerular capillary lumen are infested by microfilariae (arrow), possessing parallel arranged nuclei throughout its length and covered by sheath on external aspect (×100, PAS)

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Conflicts of interest

There are no conflicts of interest.

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