Membranous Nephropathy Associated with Hepatitis C Virus Infection and Human Immunodeficiency Virus Disease

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Dear Sir,

Several clinical observations and histo-logical studies have described human immunodeficiency virus (HIV)-associated nephropathy as being characterized by nephrotic syndrome, heavy proteinuria, varying degrees of renal insufficiency and rapid progressive decline of renal function. The commonest histological pattern encountered was focal segmental glomerulosclerosis (FSGS) [1]. However, a prospective study recently conducted in Hannover in patients with HIV infection has not confirmed these findings [2]; moreover, a lack of evidence of specific HIV-related glomerulopathy is noticed. In addition, the role of infectious agents other than HIV in the development of glomerular lesions was emphasized. We present a patient with nephrotic syndrome and membranous nephropathy associated with hepatitis C virus (HCV) infection and HIV disease.

A 33-year-old white man with a past history of intravenous drug abuse was found to be positive for HIV in 1989. At that time, lymphoid tuberculosis was diagnosed and treated with tuberculostatics during 9 months; zidovudine was also started. According to the classification of the Centers for Disease Control of 1988, the stage of the disease was IVc. In 1992, he developed edema and proteinuria. His blood pressure was 140/ 80 mm Hg, the liver was palpable, and there was moderate edema of the lower extremities. Leukocyte and differential count were normal. The ratio CD4 + /CD8 + was 0.6. Serum creatinine was 1.3 mg/dl, creatinine clearance 96 ml/min, proteinuria 265 mg/kg/day and urine red blood cells 146,000/min with hyaline-granular and granular casts. Serum albumin was 12 g/l and total protein 46 g/l.

Serum bilirubin and transaminases were within the normal range. C3 and CH50 were reduced: 49 mg/dl (normal 55-120) and 116 U/ml (normal 150-250), respectively; C4 was normal. Serum IgG and IgA levels were in the normal range (1,240 and 118 mg/dl, respectively), and IgM was 417 mg/dl (normal 70-280). Cryoglobulins, rheumatoid factor, antinuclear antibodies, lupus anticoagulant, anticardiolipin antibodies and serologic test for syphilis yielded negative results. Serologic studies for virus B markers disclosed: hepatitis B surface antigen (HBsAg) and antibody to HBsAg (HBsAb) negative and antibody to hepatitis B core antigen (HBcAb) positive. The anti-HCV test was positive by RIBA-2. Ultrasonography showed a diffuse hepatomegaly and enlarged kidneys with bilateral increase in cortical ecogenicity. The renal biopsy contained 16 glomeruli, all of them showing diffuse and uniform thickening of the capillary walls with well-defined sub-epithelial deposits. Silver stain revealed the presence

of 'spikes' as well as areas with reduplicated basement membrane. Proliferation of endothelial or mesangial cells was absent. No tubulointerstitial or vascular damage was seen. Immunofluorescence revealed intense diffuse granular deposits of IgG and C3, and less intense IgA, along the peripheral glomerular capillary walls. Despite salt-restricted diet and diuretics, edema in the lower extremities did not resolve. Inferior vena cava-gram demonstrated acute and chronic thrombosis of the inferior vena cava and proximal right renal vein; therefore, oral anticoagulation was started. At 6-month follow-up, heavy proteinuria persisted and serum creatinine raised at 2 mg/dl.

membranoproliferative glomerulonephritis the possible etiologies of glomerular involve- A wide spectrum of glomerular morphological changes can be observed in HIV-infected patients but, in fact, FSGS is found in most of them, and membranous nephropathy (MN) has been exceptionally reported [1]. On the other hand, HCV infection has been recently described associated with MN [3] and [4, 5]. Therefore, in our patient, MN seems to be linked with HCV infection, although a coincidental finding cannot be excluded. As these patients are at risk of multiple viral infections, HIV may not determine renal histopathology [6]. This case highlights one of ment in patients with HIV disease and raises the importance of renal biopsy in order to make a clinicopathological diagnosis.

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