□ LETTERS TO THE EDITOR □

Successful Interferon- α Treatment in a Patient with IgA Nephropathy Associated with Hepatitis C Virus Infection

Key words: hepatitis C, glomerulonephritis, IgA nephropathy, interferon- α

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To the Editor We read with great interest the study by Yamabe and colleagues (1). HCV infection has been reported in association with distinct histological patterns of glomerulonephritis. Membranoproliferative glomerulonephritis is the predominant type, followed by focal segmental

glomerulosclerosis, mesangioproliferative glomerulonephritis, membranous nephropathy (1-3), and fibrillary glomerulonephritis (4); IgA nephropathy is rare (5). We report the case of a man with IgA nephropathy associated with hepatitis C virus infection who was treated successfully with interferon- α and ribavirin.

A 35-year-old man presented with a 2-year history of malaise and lumbago, and 6-month ankle edema. He had a history of intravenous drug abuse 4 years previously and had no history of chronic kidney disease. On admission in October 2008 his blood pressure was 115/74 mmHg and he had mild face and ankle edema. Laboratory evaluation showed urea 4.2 mmol/L, creatinine 79 μ mol/L and elevated liver enzyme. Urinalysis showed proteinuria 2+ and hematuria 2+ and a 24-h urine collection demonstrated 1998 mg

Figure 1. Histological findings of the renal biopsy. (A) Periodic acid silver-methenamine (PAM) staining showed mild mesangial hypercellularity, increased extracellular material, epithelial cell vacuolization in tubules and normal basement membrane in glomeruli. Magnification $\times 400$. (B) Immunofluorescence studies revealed prominent mesangial deposits that stained for IgA 3+ (Magnification $\times 400$) and stained for C3 2+, IgM 2+ and fibrinogen 2+ (not shown). IgG and C1q were not detected. (C, D) HCV-NS5 was deposited mainly in epithelial cells of the tubule. (Magnification $\times 100$, $\times 400$)

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of protein. HCV antibody by ELISA and HCV RNA (genotype 2a) by PCR was detected in serum. Other laboratory results showed normal serum IgG, IgA, IgM, complement (C3 and C4) and rheumatoid factor, and hepatitis B surface antigen was negative. An ultrasound image of the kidneys showed diffusely increased echogenicity of the renal cortical bilaterally. The kidneys were normal in size.

Renal biopsy showed 7 glomeruli, all of which were diffusely and uniformly abnormal with features characteristic of a focal proliferative IgA nephropathy (Fig. 1A, B). Immunohistochemistry study of HCV-NS5 antigen showed granular deposition in epithelial cells of the tubules without deposition along glomerular capillary walls and/or mesangial region (Fig. 1C, D). A diagnosis of HCV-related IgA nephropathy was made. He was administered interferon- α (5 MU three times a week) and ribavirin (1,000 mg daily). His aminotransferase levels were normalized, and HCV RNA was undetectable at week 4, and the symptoms of lumbago and edema were resolved. After 24 weeks of antiviral treatment, urinalysis showed proteinuria + - and blood negative and a 24-h urine protein was reduced to 162 mg. For 12 months of follow-up, he has remained free from systemic symptoms, with serum HCV RNA undetectable, and normal urinalysis and liver function.

Matsumoto et al first described a case of HCV-related IgA nephropathy successfully treated with interferon- α in 2000. Urinalysis showed complete remission of proteinuria and hematuria despite the lack of pathological improvement (6). On the other hand, IFN therapy for HCV may exacerbate the underlying glomerulopathies through direct or indirect effects on glomerular endothelial and epithelial cells (7). To our knowledge, not all patients with HCV-related glomerulonephritis treated with IFN- α have a beneficial response, and this correlated with whether or not HCV

RNA remained detectable in the serum or cryoprecipitates. Therefore, we should carefully distinguish HCV-related nephropathy from other glomerular diseases and should also be careful in the administration of interferon for HCV-positive patients.

The two major goals of therapy for HCV-associated renal disease are eradication of the HCV infection and prevention of the progression of renal disease. Improved proteinuria and hematuria following the eradication of the HCV infection in our patient, further defined the causal relationship between HCV and IgA nephropathy.

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