

SPECTRUM OF RENAL PATHOLOGY IN HEPATITIS C VIRUS (HCV) INFECTION

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Purpose: HCV is known to cause Type 1 membranoproliferative glomerulonephritis (MPGN), but few studies have examined renal pathology in a cohort of HCV infected patients. We aimed to determine the spectrum of renal pathology and associated characteristics in HCV infected patients.

Methods: All 76 kidney biopsies performed at the Cincinnati VAMC between January, 1996 and January, 2008 were reviewed for pathologic diagnosis. Demographics, co-morbid characteristics, and laboratory data were extracted from electronic records. Univariate comparisons were performed by t-tests.

Results: Eighteen patients (23.7%) were seropositive for HCV antibody. The mean age at biopsy was 52. The mean serum creatinine (SCr) and urinary protein excretion (UPE) at biopsy were 4 mg/dl [SD 3.1] and 3.9 grams/day [SD 3.8] respectively. Seven patients (38.9%) had Diabetes Mellitus (DM). Six of the 7 had the pathologic diagnosis of DM glomerulosclerosis and one had diffuse global sclerosis.

The primary diagnosis in 5/18 (27.8%) was focal segmental glomerulosclerosis (FSGS). Comparing the FSGS vs. non-FSGS groups, significant differences were noted in SCr at time of biopsy (2.0 vs. 4.8 mg/dl; $p=0.01$) and age at time of biopsy (47.4 vs. 53.7 yrs; $p=0.01$). Over a mean follow-up of 2.8 years, there was a significantly greater decline in estimated glomerular filtration rate (GFR) in the FSGS group (22.3 vs. 2.2 ml/min/1.73m²; $p=0.02$).

Only 3 of 18 patients (16.6%) had HCV associated immune complex MPGN, one of who had crescentic GN. There was no correlation between complement levels and biopsy findings, but complement was reduced in all 3 of the patients with HCV associated GN.

Conclusion: FSGS was the most common pathologic pattern in HCV patients without diabetes; those with FSGS were younger, had lower SCr at biopsy, and had a greater decline in GFR after biopsy. Contrary to the prevalent notion, HCV associated MPGN occurred in a minority of kidney biopsies in our cohort. Although elevated cryoglobulins and reduced complements were found in all patients with immune complex GN, these findings were not restricted to these patients.