Evaluation of hepatitis B and hepatitis C virus-infected renal allograft recipients with liver biopsy and noninvasive parameters

Thomas Fehr, Hans-Martin Riehle, Luzia Nigg, Erwin Grüter, Peter Ammann, Eberhard L Renner & Patrice M Ambühl

BACKGROUND: Patients with end-stage renal disease are at high risk for hepatitis B (HBV) or hepatitis C virus (HCV) infection. Because therapy indication for viral hepatitis depends on virologic, biochemical, and histologic criteria, liver biopsy usually is necessary. Recently, a panel of serum fibrosis markers has been postulated to allow quantification of liver fibrosis by noninvasive means. METHODS: A cross-sectional study of all hepatitis B surface antigen (HBsAg)- and anti-HCV-positive renal allograft recipients among 900 renal allograft recipients regularly controlled in the authors' outpatient nephrology service was performed. The correlation between histologic, biochemical, and virologic parameters was assessed with an emphasis on the fibrosis marker hyaluronate in this immunosuppressed population. RESULTS: Twenty-two HBsAg- and 62 anti-HCV-positive patients were analyzed. Based on polymerase chain reaction results, 86% of anti-HCV-positive and 95% of HBsAg-positive patients had actively replicating infection. In 41 of 67 (61%) patients with replicating disease, liver biopsy was performed, and the association of various biochemical parameters with the histologic scores for necroinflammation and fibrosis was investigated. Less than 10% of these patients had advanced fibrosis, although the mean time of infection was more than 15 years. We found no correlation of any of the serum parameters (including hyaluronate) with histologic activity of liver disease except for the peak glutamate-oxalacetate transaminase value recorded during the entire posttransplant period. CONCLUSION: Liver biopsy remains the gold standard for evaluation of liver disease and therapy decision in immunosuppressed renal allograft recipients.