

Diabetes mellitus after liver transplantation: Another extrahepatic manifestation of hepatitis C

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ARTICLE

Bigam DL, Pennington JJ, Carpenter A, et al. Hepatitis C-related cirrhosis: A predictor of diabetes after liver transplantation. *Hepatology* 2000;32(1):87-90.

ARTICLE SUMMARY

The aim of this study was to determine whether the prevalence of post-transplant diabetes mellitus (PTDM) was higher in liver transplant recipients infected with hepatitis C virus (HCV). A retrospective review of 278 recipients with HCV, hepatitis B virus (HBV) and cholestatic disease (primary biliary cirrhosis and primary sclerosing cholangitis) between 1986 and 1997 was performed. Pre-transplant diabetes was higher in the HCV group. Diabetes prevalence one year after transplantation was 37% in the HCV group, 15% in the HBV group and 5% in the cholestatic group. Multivariate analysis revealed HCV and pretransplantation diabetes as independent factors for PTDM at one and two years. Immunosuppression and ribavirin use, and rejection episodes were similar. Cumulative steroid dose was lower in the HCV group. Survival was similar in patients with and without post-transplant diabetes.

COMMENTARY

There has been increasing evidence of a higher prevalence of diabetes mellitus in patients with HCV liver disease. Several epidemiological studies (1-3) have reported increased diabetes mellitus in HCV patients and have correlated this with more severe liver disease (1,2). Postulated mechanisms to link HCV and hyperglycemia include insulin resistance and hyperinsulinemia (4), direct viral effects on B cell function (2), and association of HCV with autoimmune disorders (5). Bigam et al also reported increased diabetes mellitus in HCV patients before transplantation.

Post-transplantation diabetes mellitus is usually attributed to the immunosuppressive regimen, notably tacrolimus (6-8).

Of interest, Bigam et al reported that patients who received liver transplants for HCV had a higher prevalence of de novo diabetes mellitus, up to five years after transplantation, with HCV being an independent factor predictive – a finding similarly reported by Knobler et al (9). Whereas Knobler et al (9) reported that the PTDM patients had increased rejection episodes, Bigam et al did not find this result. Moreover, Bigam et al reported that immunosuppression type, age and body mass index were not predictive of PTDM on multivariate analysis.

HCV appears to be independently associated with increased diabetes mellitus, even after transplantation when liver function is expected to be good. Due to the morbidity and mortality associated with hyperglycemia, HCV patients should be monitored and treated – both before and after liver transplantation.

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