

HEPATITIS C VIRUS AND LIVER TRANSPLANTATION

HL Thomas, KM Barber, D Collett and D Mutimer

On behalf of the UK Transplant Liver Advisory Group, UK Transplant, Bristol, BS34 8RR, United Kingdom

Background: The aim of this project was to assess the determinants of survival following liver transplantation of patients infected with hepatitis C virus (HCV-pos), and to examine whether these factors differed from those associated with survival of patients without HCV infection (HCV-neg).

Methods: Data on all first adult elective heartbeating liver only transplants in the UK, March 1994 to October 2005, were obtained from the National Transplant Database. Patients with unknown HCV status or with concurrent hepatitis B virus or liver cancer were excluded; 3,648 patients and transplants were available for analysis. Patient and graft survival times were calculated as time from first liver transplant to patient death or graft failure, respectively. The Kaplan-Meier method was used to estimate long-term survival. The effect of the following factors on post-transplant survival was assessed: (a) donor age, sex, diabetes and body mass index (BMI), (b) recipient age, sex and primary immunosuppression (cyclosporine or tacrolimus), and (c) year of transplant, cold ischaemia time (CIT) and warm ischaemia time (WIT).

Results: Eight-year patient survival for HCV-pos patients was significantly inferior to HCV-neg patients; 55% (95% CI 47-61) and 70% (95% CI 67-72), respectively. A similar effect was observed for graft survival.

In univariate analysis, WIT had a significant effect on patient survival in both HCV-pos and HCV-neg patients. Donor diabetes and BMI, recipient age and sex, and CIT also affected patient survival among HCV-neg patients. Graft survival in both HCV-pos and HCV-neg patients was significantly influenced by donor BMI, recipient age and WIT. In addition, there was an association with CIT in HCV-neg patients. There was no statistically significant effect of donor age or sex, year of transplantation or choice of immunosuppression in either group for patient or graft survival.

Conclusion: HCV infection is associated with inferior long-term patient and graft survival. In univariate analysis, there were no adverse determinants of survival that were specific for HCV-pos patients. It seems likely that there is interaction between some variables, so multivariate analysis will establish the true impact of HCV on survival, following adjustment for relevant risk factors.