ORAL ABSTRACTS

604. Risk Factors for Cytomegalovirus (CMV) Reactivation in CMV-seropositive Liver Transplant Patients

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Background. CMV causes significant morbidity in liver transplant (LT) recipients. Despite pre-existing CMV immunity, CMV-seropositive LT patients remain at risk of CMV reactivation. We aimed to investigate variables associated with CMV reactivation in CMV-seropositive LT patients.

Methods. A retrospective study of CMV-seropositive LT recipients in 2007-2013 who did not receive anti-CMV prophylaxis was performed. CMV reactivation was defined as presence of CMV regardless of symptoms. CMV was measured by polymerase chain reaction. Cox proportional hazard model was used to assess risk factors for CMV reactivation in CMV-seropositive LT patients.

Results. There were 231 CMV-seropositive LT patients with median age of 55.8 years (IQR, 46-62); 56% were male. During the median follow-up of 1147 days (IQR, 537-1792), 43 patients (18.6%) had CMV reactivation. Of those, twenty three (53.5%) had asymptomatic CMV infection, 5 (11.6%) had CMV syndrome, and 15 (34.9%) had tissue-invasive disease [GI (13), liver (1), lung (1)]. The median onset was 43 days (IQR 33-74) post-transplant. In univariate analysis, the 5 potential factors associated with CMV reactivation were: higher recipient body mass index per 1 kg/m^2 increase [HR 1.44; 95%CI, 1.09 to 1.89 ($P = 0.01$)], recipient pre-transplant CMV IgG titer <60 AU/mL [HR 1.75; 95%CI, 0.96 to 3.19 ($P = 0.069$)], older donor age per 10 years increase [HR 1.20; 95%CI, 1.02 to 1.43 ($P = 0.03$)], CMV donor seropositivity [HR 4.45; 95%CI, 1.87 to 13.13 ($P = <0.001$)], and induction with anti-IL2 antagonist [HR 2.46; 95%CI, 1.28 to 4.67 ($P = 0.007$)]. In adjusted model, pre-transplant CMV IgG titer <60 AU/mL was significantly associated with CMV reactivation [HR, 1.98; 95%CI, 1.07 to 3.66 ($P = 0.03$)].

Conclusion. Several donor and recipient factors correlate with CMV reactivation in CMV-seropositive LT recipients. A low pre-transplant CMV IgG titer is significantly associated with CMV reactivation. Quantitative measurement of CMV specific humoral immunity has a potential to optimize CMV prevention strategy in CMV-seropositive LT recipients.

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