

## CDA/CD8 RATIO $\geq 0.5$ IS A RISK FACTOR OF ACUTE REJECTION IN HIV INFECTED LT RECIPIENTS

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**Background:** HIV-infected liver transplant (LT) recipients have higher rates of acute rejection than uninfected recipients. Previously we identified host and donor genetic markers (HLA class I and II mismatches and interferon- $\lambda 3$  and - $\lambda 4$  gene polymorphisms) that can increase the risk of organ-rejection in HCV/HIV LT recipients. However, HIV-related factors of acute rejection have been poorly studied. We investigated whether virological and immunological status and type of antiretroviral therapy influence acute-rejection risk in HIV-infected LT recipients.

**Methods:** 272 consecutive HIV-infected patients undergoing LT from 2002–2012, then followed until December 2019, in 22 Spanish medical centers were included. All acute-rejection episodes were biopsy-proven. Acute-rejection prognostic-factor analysis was done using Cox proportional hazards model. Statistical analysis was done in SPSS 24.0.

**Results:** Median (IQR) age was 46 years (42-49); 78% of patients were male. Former IV drug use (74%) was the most frequent HIV risk factor. The etiology of end-stage liver disease was co-infection with HCV (80%), HBV (5%), HCV/ HBV (11%) and non-viral etiology (4%). 20% of cases were cured of HCV pre-LT. Hepatocellular carcinoma was diagnosed in 27% of cases. At pre-LT, median (IQR) MELD was 15 (11;20) and CD4+T cell count was 277 (176;414) cells/mm<sup>3</sup>. CD4/CD8 ratio was  $\geq 0.5$  in 77% of cases. 93% of patients had suppressed HIV viremia (VL3 times greater acute-rejection risk. This variable was also identified when focusing analysis only on HCV/HIV LT recipients (HR [95%CI] 5.02 [1.53; 16.52]).

**Conclusion:** Three HIV-infection related factors, namely CD4/CD8 ratio, time to restart ART post-LT and raltegravir-based ART are associated with acute rejection. These findings may help improve post-LT management in HIVinfected recipients.