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# P0628 Role of high Epstein-Barr virus DNAemia as surrogate marker of immunosuppression and risk of late infection after solid organ transplantation: a multi-centre validation study

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**Background:** Based on our preliminary data (*Transplantation* 2013;95:688-93) we aimed to validate in a multicenter cohort of solid organ transplant (SOT) recipients the role of Epstein-Barr virus (EBV) DNAemia (EBVd) at a cut-off of 1,500 IU /mL within the first six post-transplant months as a subrogate marker of the overall state of immunosuppression and the subsequent risk for late infection (LI).

**Materials/methods:** Kidney and liver transplant recipients between May 2014 and August 2016 at the four participating Transplant Centers who survived over the first six post-transplant months were included in the study. Whole blood EBVd were determined by RT-PCR at 1, 3 and 6 months after SOT. Patients were followed-up for a minimum of 24 months and LI episodes were collected. Event-free Kaplan-Meier survival curves and Cox regression analyses were performed in order to confirm the predictive capacity of EBVd >1,500 IU/mL for the development of LI.

**Results:** A total of 309 SOT recipients were included and followed-up over a median of 1,000 days (IQR: 822-1,124). A total of 225 episodes of LI were reported, 178 (74.7%) considered as non-opportunistic severe infection and 57 (25.3%) as opportunistic infections. At least one episode of LI was reported in 104 patients (33.6%) at a median time of 373 days after SOT (IQR: 250-688 days). EVBd >1,500 IU/mL both at post-transplant months 3 (hazard ratio [HR]: 2.3; 95% confidence interval [CI]: 1.1-5.6; p=0.03) and 6 (HR: 2.8; 95% CI: 1.14-6.9; p=0.02) and persistent EBVd >1,000 IU/mL were associated with increased risk for LI in the univariate analysis. In the final multivariate analysis EVBd >1,500 IU/mL at month 6 (HR: 2.6; 95% CI: 1.1-6.5; p=0.03) revealed as an independent risk factor for LI. Three-year LI-free survival was 42% in patients with EBVd >1,500 IU/mL at post-transplant month 6 compared with 63% in the remaining cohort (log rang test p =0.01).

**Conclusions:** Late infection is a common adverse event, occurring in one third of SOT recipients. EBVd determination at the sixth post-transplant month appears to be a simple and valuable tool to stratify SOT recipients according to the expected risk of LI.