

O213

Oral Session

Advances in CMV infection in transplant recipients

CMV AND EBV SPECIFIC IMMUNE RECOVERY IN LUNG TRANSPLANT RECIPIENTS IS NOT ASSOCIATED WITH PROTECTION FROM INFECTION

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Objectives: Lung transplants (LTx) are at risk of CMV and EBV infection and EBV-related disorders. Virus specific immune reconstitution is considered to play a relevant role in controlling both CMV and EBV infection. In this study LTx were prospectively monitored for CMV and EBV viral load and virus specific immunity in order to assess the ability of immunological assays to predict CMV and EBV infection.

Methods: 151 dual determinations of CMV and EBV ELISPOT and CMV and EBV blood and bronchoalveolar lavage (BAL) DNAemia were performed in 59 CMV seropositive LTx in the points 45, 90, 180, 360 and >360 days post transplant (dpt). Both CMV and EBV ELISPOT are expressed as number of spots/2x10⁵ PBMCs. LTx were kept with antiviral prophylaxis regimen up to 6 months with valganciclovir and HIG treatment (Valcyte and Cytotect) at standard dose.

Results: overall the results showed that 32/59 (54%) of LTx experienced CMV infection: in particular 11/32 (34%) had CMV positive BAL and concomitant negative blood CMV DNAemia, while 5/32 (16%) had positive CMV blood DNAemia occurring in absence of detectable CMV in BAL. In 16/32 (50%) LTx both CMV blood and BAL DNAemia occurred simultaneously. 27/59 (46%) LTx remained with undetectable CMV blood and BAL. 28/59 (47%) LTx were in the group of patients recruited in the cohort >360 dpt. Within this group 7/28 (25%) resulted negative both for CMV BAL and blood DNAemia, 12/28 (43%) resulted positive both for CMV BAL and blood DNAemia, 3/28 (10%) had positive CMV blood DNAemia with concomitant negative CMV BAL and 6/28 (21%) had positive BAL and negative CMV blood DNAemia. Median blood DNAemia was 7400 (range 1650-413000). CMV specific immune recovery showed a progressive and steady increase from 45 up to 360 dpt with median CMV ELISPOT of 61 (range 0-618) at 45 dpt, 47 (range 1-775) at 90 dpt, 75 (range 1-1000) at 180 dpt, 122 (range 2-794) at 360 dpt and 140 (range 0-948) at >360 dpt. Median EBV ELISPOT value was 7 (range 0-50) spots at 45 dpt, 3 (range 0-43) at 90 dpt, 10 (range 0-235) at 180 dpt, 2 (range 0-136) at 360 dpt and 12 (range 0-130) at >360 dpt. Statistical analysis revealed no association between immunity levels and viral replication.

Conclusions: the data suggest that CMV immune reconstitution in LTx proceeds with similar rate and efficiency compared with other solid organ transplants (ie kidney, heart), however, despite the presence of high immunity levels, both CMV and EBV specific immunity does not protect from viral infection both in blood and BAL.