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## **Usefulness of Pre- and Post- Transplant BK Virus-Specific ELISPOT Assay for Predicting the outcome of BK virus infection in Kidney Transplant Recipients**

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**Objectives:** To investigate if BK virus (BKV)-specific T-cell immunity measured by an interferon- $\gamma$  enzyme-linked immunospot (ELISPOT) assay at pre – and post-transplantation can predict the outcome of BK virus infection in kidney transplant recipients (KTRs).

**Methods:** We included 60 KTRs with BK viremia and checked BKV ELISPOT assay at pre and post-transplant 1month (M), 3M, and the time of BKV viremia detected. All participants were divided into Persistent-viremia group(< three months) and Cleared-viremia group (> three months) according to sustained duration of BKV infection. We compared pre- and post-KT BKV-ELISPOT results against five BKV peptide mixes (LT, St, VP1-3), and Fluorescence-activated cell sorting of immune cell (FACS) results.

**Results:** We included 60 KTRs with BK viremia and checked BKV ELISPOT assay at pre and post-transplant 1month (M), 3M, and the time of BKV viremia detected. All participants were divided into Persistent-viremia group(< three months) and Cleared-viremia group (> three months) according to sustained duration of BKV infection. We compared pre- and post-KT BKV-ELISPOT results against five BKV peptide mixes (LT, St, VP1-3), and Fluorescence-activated cell sorting of immune cell (FACS) results.

**Conclusions:** Pre- and Post-transplant BKV-ELISPOT assay may be effective in predicting clinical outcomes of BKV infection in terms of clearance of BK virus and development of BKVN.