Identifying the contributing factors for cytomegalo-virus (CMV) infection post kidney transplantation. Single centre data study.

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Introduction: CMV is common infection and associated with considerable morbidity and mortality in transplant population. The study objective was to identify the risk factors for CMV viremia.

Methods: A retrospective study of 395 kidney transplantation carried out between April 2010 and March 2014.

Results: The rate of CMV viremia was 24%. According to CMV serological mismatch between the donor (D) and the recipient (R). D+/R+ subgroup had higher rate of infection than D+/R- and D-/R+, which were 44.2%, 26.3% and 26.3%, respectively. While for D-/R- subgroup it was 3.1%. CMV viremia occurred more frequently when alemtuzumab is used for induction when compared with basiliximab, which 64.2% and 35.8%, respectively (P=.0017). Cadaveric donor kidney transplant recipients had higher rate of viremia than live donor kidney transplant (LDTx) recipients, which 80% and 20 %, respectively (p=.0104). Donation after cardiac death (DCD) recipients 47.3 % had higher rate of CMV viremia than donation after brain death (DBD) recipients 32.6% (p=.0118). Recipients of kidneys from 55 years of age or older had higher rate of CMV viremia than those had kidneys from younger donors, which 13.4% and 8.6%, respectively (p=.0001). Cold ischaemic time (CIT) 12 hrs or more was associated with increased rate of CMV viremia, 14.2% vs 9.8% (p=.0345).Donor history of alcohol abuse associated with higher rate of viremia than non-alcohol abuse, which 22% and 11.7%, respectively (P=.0172). Recipient and donor history of diabetes mellitus had no significant impact on CMV viremia.

Conclusion: CMV serological mismatch was the main factor for CMV viremia. D+/R+ were high risk group, D+/R- and D-/R+ pose intermediate risk and D-/R- were very low risk group. Other statistically significant contributing factors for CMV viremia in our cohort were alemtuzumab induction, cadaveric kidney transplantation especially DCD, prolonged CIT, donor history of alcohol abuse, and elderly donors.