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# A study to determine the efficiency of glomerular filtration rate as a predictor of subclinical viral infection in patients with allograft renal transplantation

**AASHAL SHAH**
Department of Pharmacology, GMERS medical college and civil hospital, India

**Objectives:** Viral infections are common cause of chronic allograft injury in renal transplant patients. Often the clinical symptoms of these infections are delayed. Using glomerular filtration rate (GFR) which is routinely performed in renal transplant recipients (RTR) to predict subclinical viral infection can help in treating them effectively before they cause kidney injury (CKI).

**Methods:** A prospective, observational study conducted in the department of nephrology at a tertiary care hospital in India for a duration of two years. All RTRs were included in the study. GFR investigation was performed using Modification of Diet in Renal Disease (MDRD) and Cockroft-Gault (CG) formula were noted. People with reduced GFR were screened for viral infections with cytomegalovirus (CMV), BK virus (BKV) and Epstein Barr virus (EBV) which are common in RTRs, using polymerase chain reaction. In the patients with subclinical viral infection, CKI was examined using hematuria, proteinuria and kidney biopsy results. The data obtained was analysed using statistics.

**Results:** In this study, results of 74 RTRs were analysed. Average age was 45.6 +/- 8.9 years. 58% participants were male. Out of 74 RTRs, 16 (21.62%) had reduced GFR. 11 out of 16 (68.75%) RTRs were diagnosed with subclinical viral infections which was statistically significant ($P<0.05$). 5 had CMV, 3 had BMV and EBV each. The agreement between MDRD and GC formula for GFR was very close with regard to the diagnosis of subclinical viral infection (kappa = 0.82) CKD was identified in all RTRs with subclinical infection. 7 had stage II CKD and 4 had stage III CKD.

**Conclusions:** Reduced GFR can be useful in predicting subclinical viral infections in RTRs and timely management of CKI. Future research with screening of all RTRs with reduced GFR for viral infections will help in clinical decision-making.