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Increased incidence of BK virus viraemia among patients undergoing chronic haemodialysis: a case-control study

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Abstract: Aims Incidence of BK virus (BKV) viraemia, a major risk factor for nephropathy, among patients undergoing chronic haemodialysis remains poorly investigated. This case-control study evaluated the risk of infection by BKV, in addition to hepatitis C virus (HCV) among haemodialysis subjects (n=100), compared with age-matched controls (n=100). Methods Subjects' blood plasma samples were subjected to nucleic acid extraction, followed by real-time PCR to evaluate viraemia by BKV and HCV, while sera samples were subjected to ELISA, to identify IgG seropositivity for HCV. Results Mean age±SD was 47.8±20.4 and 48.9±17.6 years for the haemodialysis and control groups, respectively. BKV and HCV viraemia was observed among 19% versus 8% (OR 2.38, 95% CI 1.09 to 5.18; p=0.023) and 3% versus 0% (p=0.081) of the haemodialysis and control groups, respectively. Mean BK viral load±SD did not vary significantly among the two groups; 914.8±2868 versus 44.30±74.04 copies/mL for the haemodialysis and control groups, respectively (p=0.4041). HCV seropositivity rates were 6% versus 2% (p=0.149), among the haemodialysis and control groups, respectively. Conclusions Subjects on haemodialysis may be at increased risk of nephropathy due to increased incidence of BK virus reactivations and may require optimisation of immunosuppressive therapy.