Risk factors and interventional strategies for BK polyomavirus infection after renal transplantation.

Abstract Objective. BK virus (BKV)-induced viraemia after renal transplantation can be associated with severe impairment of graft function. This study evaluated possible risk factors for BKV replication and examined the outcomes following various currently used treatment approaches. Material and methods. Fifty-seven renal transplant recipients with BKV viraemia were retrospectively compared with 71 BKV-negative recipients to identify risk factors for BKV viraemia. Furthermore, outcome and graft function in 14 patients with BKV replication, in whom mycophenolate mofetil (MMF) was discontinued with a dose reduction of the remaining immunosuppressants, were compared with 32 patients in whom both MMF and the additional immunosuppressants were reduced. Results. Patients with BKV viraemia received MMF (p < 0.01) and triple immunosuppression (p < 0.01) significantly more often, and displayed tacrolimus (p = 0.034) at higher blood concentrations (p = 0.002), a lower lymphocyte count (p = 0.006) and a longer warm ischaemic time (p = 0.019), and were more often male (p = 0.026). Patients in whom MMF was stopped had a higher chance of clearance of BKV viraemia (p = 0.022), which was achieved more rapidly (p = 0.048). Graft function improved during treatment and no graft losses occurred, compared with eight graft losses in the MMF-treated group (p = 0.04). Conclusions. MMF and
tacrolimus could promote BKV viraemia after renal transplantation. Discontinuation of MMF together with a reduction of calcineurin inhibitors and glucocorticoids could be an option to reduce BKV replication after renal transplantation.

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