

BK viremia was detected in 39 (63%) patients at a median of 3 months (range 1–24 months) after transplantation. BK viremia was detected in 13 (21%) patients at a median of 3 months (range 1–18 months) after transplantation. Pre-emptive reduction of immunosuppression resulted in viremia clearance in all 13 patients, taking a median of 2 months (range 1–8 months). Viremia was cleared in 12 of the 13 viremic patients during the study, taking a median of 8 months. At last follow-up, no PVAN had been detected. Pre-emptive immunosuppression tapering did not cause any cases of acute rejection.

Original article Ginevri F *et al.* (2007) Prospective monitoring of polyomavirus BK replication and impact of pre-emptive intervention in pediatric kidney recipients. *Am J Transplant* 7: 2727–2735

Individualized dosing of MMF is superior to fixed dosing in renal transplant patients

Mycophenolate mofetil (MMF) at a fixed dose of 2 g/day has been approved for the prevention of kidney allograft rejection in adults. The complex pharmacokinetics of MMF mean that actual exposure to the active metabolite of the drug (mycophenolic acid or MPA) can vary substantially between patients and in the same patient over time

Le Meur *et al.* recently developed an accurate model for determining MPA exposure. They have now applied this model during a 12-month, open-label, multicenter study.

Renal transplant recipients on an immunosuppressive regimen of basiliximab, ciclosporin (low target levels), gradual corticosteroid withdrawal and MMF were randomized to receive MMF at doses varied according to the Bayesian model or at fixed doses of 2 g/day ($n=65$ in each group). The target for MPA exposure was 40 mg.h/l. Doses of MMF in the concentration-variable group were individualized at 7 days, 14 days, 1 month, 3 months and 6 months after transplantation.

After 1 year, significantly fewer patients in the group assigned to individualized MMF dosing had experienced treatment failure (a composite end point of death, graft loss, acute rejection and discontinuation of MMF; 29% vs 48%, $P=0.03$). Variation in acute rejection rates accounted for the majority of this difference;

12% of patients in the concentration-variable group experienced an acute rejection episode, compared with 31% of those in the fixed-dose cohort. There were no differences in adverse event frequency between the two groups (>90% for both).

Original article Le Meur Y *et al.* (2007) Individualized mycophenolate mofetil dosing based on drug exposure significantly improves patient outcomes after renal transplantation. *Am J Transplant* 7: 2496–2503

Systematic review of ARB and ACE inhibitor use in kidney transplant recipients

Routine use of angiotensin-converting-enzyme (ACE) inhibitors or angiotensin-receptor blockers (ARBs) is recommended in proteinuric nontransplant kidney disease patients, to reduce proteinuria and slow progression of chronic kidney disease. Data on use of these drugs in kidney transplant recipients, however, are limited. A recent systematic review analyzed data from 21 randomized controlled trials of ACE inhibitors or ARBs involving 1,549 kidney transplant recipients.

Pooled analyses showed that use of an ACE inhibitor and/or an ARB was associated with a greater decrease in glomerular filtration rate (GFR) than were control management strategies (weighted mean difference [WMD] -5.7 ml/min, 95% CI -8.7 to -2.8 ; $P<0.001$). Baseline GFR, duration of follow-up and time after transplantation did not influence the change in GFR. When analyses were restricted to studies with at least 12 months of follow-up, use of an ACE inhibitor and/or an ARB was associated with a significantly greater decline in proteinuria than were control strategies (WMD -0.47 g/day, 95% CI -0.86 to -0.08 ; $P=0.02$), but there was no difference in the degree to which potassium level changed. Use of either drug was associated with a greater decline in hematocrit than were control strategies (WMD -3.5% , 95% CI -6.1 to -0.95 ; $P=0.007$). Mean arterial blood pressure changes in patients on ACE inhibitors or ARBs were similar to those in controls.

Clinicians should consider the benefits and risks of ACE inhibitors and ARBs before prescribing them to renal transplant recipients.

Original article Hiremath S *et al.* (2007) Renin angiotensin system blockade in kidney transplantation: a systematic review of the evidence. *Am J Transplant* 7: 2350–2360