**A single centre retrospective study of CMV prophylaxis with valganciclovir in *de novo* renal transplant recipients**

**Introduction**: Cytomegalovirus (CMV) is a prevalent opportunistic infection after renal transplantation and can negatively impact long-term graft survival and function, resulting in increased morbidity and mortality2,4. CMV-seronegative recipients of CMV-seropositive donors (CMV R-/D+) are at a high risk of primary CMV infection1,4. In University Hospitals of Leicester (UHL), CMV donor and recipient status is checked at transplantation to assess the risk of developing CMV disease. CMV R-/D+ patients receive 100 days of prophylactic valganciclovir following renal transplantation adjusted according to creatinine clearance (CrCl). Valganciclovir prophylaxis is also given following treatment with T-cell depleting therapy if either donor or recipient is seropositive to prevent CMV re-activation of latent virus. This protocol is in keeping with national guidelines1,4.

Between April 2015 and May 2016, 95 patients were transplanted in UHL. 21 of these were CMV R-/D+ and 11 (50%) developed CMV infection, on average 4.75 months post-transplant. The increased rate of CMV disease compared to local historical data and published studies4 prompted a review of local practice.

**Aim:** To evaluate the appropriateness of valganciclovir prophylaxis (course length and dosing) in CMV R-/D+ renal transplant recipients.

**Method**: Retrospective analysis of 21 CMV R-/D+ patients transplanted between April 2015 and May 2016. CrCl was calculated using the Cockcroft and Gault equation at discharge, week 2, 4, 6, 8, then 4-weekly until valganciclovir was stopped. The documented valganciclovir doses at these intervals were compared to the recommended doses as per summary of product characteristics (SPC)3.

**Results**: All 21 patients received valganciclovir prophylaxis. The average course length was 3.8 months and 64% of the patients received between 4 and 6 months prophylaxis. Only 14% of patients received the appropriate dose for the entirety of their course. 47% of all doses evaluated (n=134) were suboptimal, 20% overdosing and 27% underdosing. Incorrect doses were more common in the initial 8 weeks post- transplantation, particularly in patients with delayed graft function (DGF). 54% of patients with DGF (n=13) had CMV disease and 92% had inappropriate valganciclovir doses, 48% underdosing and 11% overdosing.

**Conclusions:** The study shows that a large proportion of CMV R-/D+ patients did not receive prophylactic valganciclovir as per local protocol and SPC dosing schedule. The results suggest these patients may have not had adequate valganciclovir prophylaxis and this could have contributed to higher rate of CMV disease observed.

The authors recommend ongoing education of relevant staff on CMV infection in renal transplant recipients, including dosing and duration of valganciclovir prophylaxis. In addition, regular review and optimisation of valganciclovir doses will be undertaken during multi-disciplinary patient review meetings. These measures will be evaluated by prospective monitoring valganciclovir therapy and CMV infection rates in the renal transplant population at UHL. Depending on the results, consideration will be given to extending the duration of valganciclovir prophylaxis to 200 days.

**References**:

1. UK renal association (2011) Post-operative care of the kidney transplant recipient (5th ed) Clinical practise guideline

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