Incidence of CMV Viremia with Mini-Dose Valganciclovir Prophylaxis After Renal Transplantation

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Cytomegalovirus (CMV) is an opportunistic infection that can lead to pancytopenias, increased infection risk, allograft dysfunction, and rejection after renal transplantation. Universal prophylaxis is an option used to prevent CMV after renal transplantation. The antiviral agent, dose, and duration of prophylaxis are dependent on donor (D) and recipient (R) CMV serostatus. Historically, high risk patients (D+/R-) have utilized valganciclovir 900 mg orally once daily for 6 months after transplant for CMV prophylaxis. Evidence suggests that calculated creatinine clearance (CrCl) is overestimated after renal transplant and patients may not achieve a true renal function of a CrCl > 60 ml/min. Because valganciclovir 900 mg daily is the dose for patients with a CrCl > 60 m/min this may be leading to inappropriately dosed valganciclovir, and ultimately increased side effects. In response, a lower dose of 450 mg daily, referred to as mini-dose has been used in practice. There is limited literature evaluating this strategy, and existing literature shows conflicting results. Herein we compare the two dosing strategies in patients at high-risk of CMV at our center.

We completed a retrospective, single-center chart review from January 1, 2016 to August 1, 2020 comparing high risk adult renal transplant recipients taking mini-dose valganciclovir (450 mg daily) versus standard dose valganciclovir (900 mg daily). We found a similar incidence of CMV viremia within 1 year post transplant with mini-dose (30.7%) versus standard dose (36.6%; p=0.59). Additionally, we saw similar rates of breakthrough CMV viremia while on antiviral prophylaxis, CMV tissue invasive disease, valganciclovir-resistant CMV infection, and early valganciclovir discontinuation. Safety results were also similar between groups with no differences in leukopenia, thrombocytopenia, acute rejection, allograft loss, and death.

Although we saw similar efficacy and safety with mini-dose and standard dose valganciclovir, our small sample size limits the ability to draw strong conclusions. Based on the inconclusive results in our and other available literature, further evaluation is warranted.