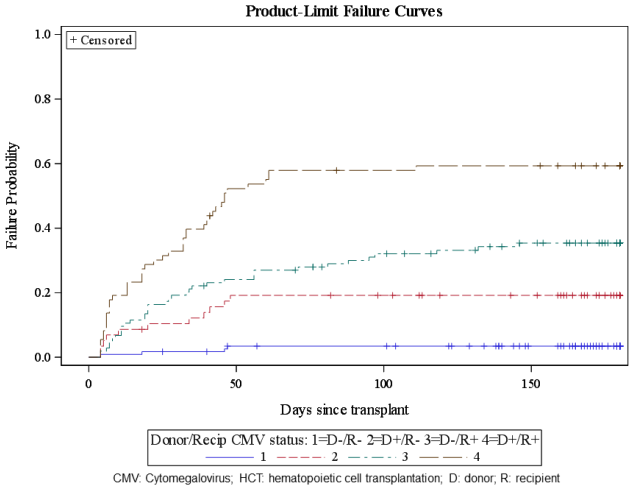
Figure 2. Kaplan-Meier failure curves of time from transplant to first CMV detection by PCR, by donor/recipient CMV status.



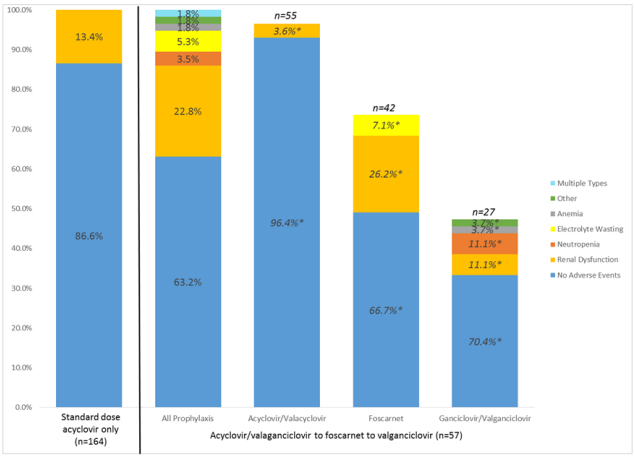
CMV: Cytomegalovirus; HCT: hematopoietic cell transplantation; D: donor; R: recipient

Figure 3. CMV infection rates by intended prophylactic regimen in pediatric allogeneic HCT recipients under CMV surveillance.

		Donor/Recipient CMV Serology Status			
	All (n=245)	D-/R- (n=75)	D+/R- (n=44)	D-/R+ (n=77)	D+/R+ (n=49)
No prophylaxis, n (%)	24 (9.8)	12 (16.0)	5 (11.4)	3 (3.9)	4 (8.2)
CMV infection	*6 (25.0)*	*0 (0)*	*2 (40.0)*	*1 (33.3)*	*3 (75.0)*
Prophylaxis, n (%)					
SD acyclovir only	164 (66.9)	63 (84.0)	34 (77.3)	33 (42.9)	34 (69.4)
CMV infection during this prophylaxis regimen	*34 (20.7)*	*4 (6.4)*	*5 (14.7)*	*9 (27.3)*	*16 (47.1)*
SD acyclovir to day + 7, foscarnet to engraftment, valganciclovir to day + 100 *	57 (23.3)	0 (0)	5 (11.4)	41 (53.3)	11 (22.5)
CMV infection during this prophylaxis regimen	*28 (49.1)*	--	*2 (40.0)*	*17 (41.5)*	*9 (81.8)*

*Includes 4 subjects on "Valganciclovir to day +7, foscarnet to engraftment, valganciclovir to day +100" prophylaxis regimen
CMV: Cytomegalovirus; HCT: hematopoietic cell transplantation; SD: Standard dose; D: Donor; R: Recipient

Figure 4. Rates of adverse events detected during prophylaxis administration, by intended prophylaxis regimen and specific antiviral agent.



*Proportions are relative to total number of subjects receiving the specific antiviral(s)

Disclosures. **All authors:** No reported disclosures.

1746. Prevalence and Resistance Patterns of Cytomegalovirus Viremia in Immunocompromised Patients

Edward Kim, MD[1]; Basim Asmar, MD[2]; Ronald Thomas, PhD[3]; Nahed M. Abdel-Haq, MD[2]; [1]Children's Hospital of Michigan, Detroit, Michigan; [2]Children's Hospital of Michigan/Wayne State University, Detroit, Michigan; [3]Children's Research Center of Michigan/Wayne State University, Detroit, Michigan

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Background. We noted a recent increase in the number of patients with CMV viremia among immunocompromised children at our institution. The study was undertaken to determine the prevalence of CMV viremia and to evaluate factors associated with the development of antiviral drug resistance.

Methods. A retrospective study of immunocompromised hosts 0–21 years of age who had CMV viremia (2007–2017). We collected demographic data as well as details of antiviral therapy and resistance testing.

Results. A total of 31 patients were identified including 10 (32%) during the last 2 years. The age range was 3 months to 20 years (median 12.6 years); 23 (74%) were male and 12 (39%) were African American. Among the 31 patients, 18 had hematopoietic stem cell transplantation, 5 had primary immunodeficiency (2 common variable immunodeficiency, 1 SCID, 1 Langerhans cell histiocytosis, 1 DiGeorge syndrome), 4 had malignancies receiving chemotherapy, 3 with heart transplantation and one 17 year old with newly diagnosed HIV infection who presented with CMV pneumonia and viremia. Antiviral resistance testing was performed on 7 CMV isolates: 5 due to persistent viremia (> 1 months) despite treatment, and 2 prior to starting antiviral therapy. CMV resistance was identified in 3 patients including 2 with CVID and one with Hodgkin's disease status post bone marrow transplantation. The 2 CVID patients had other comorbidities including chronic diarrhea and malabsorption and were TPN dependent. Both were diagnosed with CMV colitis and one also had pneumonitis. One had received a prolonged oral valganciclovir course (> 1 year) prior to diagnosis of resistance and the other received long-term intermittent oral valganciclovir courses. The patient with Hodgkin's disease received a prolonged IV ganciclovir course. All 3 tested positive for UL97 mutation and one had both UL97/UL54 gene mutations.

Conclusion. Most of our patients with CMV viremia were transplant patients. Antiviral drug resistance was detected among 3 of 31 (10%) of our patients during the study period. Two had malabsorption that may have resulted in sub-therapeutic blood levels. Treatment with oral valganciclovir should be avoided in patients with poor gut absorption because it may increase risk of drug resistance.

Disclosures. **All authors:** No reported disclosures.

1747. Impact of Inappropriately Low Cytomegalovirus (CMV) Prophylaxis Dosing on CMV Outcomes Among Lung Transplant (LT) Recipients

Corey Watts, BA; Emily Blumberg, MD, FIDSA; James Lee, MD; Tamara Claridge, PharmD; Maria Crespo, MD; Judith A. Anesi, MD; Judith A. Anesi, MD; University of Pennsylvania, Philadelphia, Pennsylvania

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Background. Valganciclovir (VGCV) and ganciclovir (GCV) are commonly used to prevent CMV in at-risk lung transplant recipients (LTRs). Because renal function changes frequently in the post-transplant setting, antiviral under-dosing may occur. We sought to determine the frequency of GCV/VGCV under-dosing and its impact on CMV-related outcomes among LTRs.

Methods. We conducted a retrospective cohort study of all adult LTRs with a CMV seropositive donor (D+) between 2014 and 2016 at the Hospital of the University of Pennsylvania. Exposed patients were those with exposure to inappropriately low-dose GCV/VGCV. Unexposed patients were those whose antiviral dosing was consistently appropriate for their creatinine clearance. We employed a multivariable Cox proportional hazard analysis to determine the impact of low-dose prophylaxis on time to CMV infection post-transplant; prophylaxis dosing was incorporated as a time-varying covariate in this survival analysis.

Results. 108 adults underwent CMV D+ LT during the study period. 46 (43%) experienced low prophylaxis dosing at some point during their prophylaxis course. 47 (43%) LTRs developed CMV viremia, of which 10 (9%) were still on prophylaxis. 20 (19%) LTRs developed CMV disease and 6 (6%) had ganciclovir-resistant CMV. In the multivariable Cox analysis, we found that there was not a significant association between exposure to any low-dose prophylaxis and the hazard of CMV infection (HR = 1.001, 95% CI 0.99–1.01, $P = 0.75$; Table 1), even among CMV seronegative recipients (D+/R–) (HR = 1.002, 95% CI 0.99–1.01, $P = 0.68$). When only those who received > 28 days of low-dose prophylaxis ($N = 6$, 6%) were evaluated, there was a trend toward an increased hazard of CMV infection (HR = 1.001, 95% CI 0.999–1.004, $P = 0.18$; Table 2).

Conclusion. CMV D+ LTR are frequently exposed to inappropriately low CMV prophylaxis dosing. This does not appear to significantly increase the risk for CMV infection, though prolonged subtherapeutic exposure merits further exploration as a risk factor for CMV outcomes in higher-risk patients.

Table 1. Multivariable Cox analysis of time to CMV infection with exposure to inappropriately low prophylaxis

Exposure	HR	95% CI	P value
Any low GCV/VGCV dosing	*1.001*	*0.99-1.01*	*0.75*
Recipient CMV seropositive (D+/R+)	0.28	0.13-0.58	0.001
Days of CMV prophylaxis	0.97	0.96-0.98	<0.001
Chronic obstructive pulmonary disease (COPD) as indication for LT	0.56	0.22-1.37	0.2
Bronchiolitis as indication for LT	2.41	0.65-8.87	0.19

Table 2. Multivariable Cox analysis of time to CMV infection with prolonged exposure to inappropriately low prophylaxis

Exposure	HR	95% CI	P value
>28 days of low GCV/VGCV dosing	*1.001*	*0.999-1.004*	*0.18*
Recipient CMV seropositive (D+/R+)	0.25	0.12-0.54	<0.01
Days of CMV prophylaxis	0.97	0.96-0.98	<0.01
COPD as indication for LT	0.49	0.19-1.24	0.13
Bronchiolitis as indication for LT	2.49	0.67-9.20	0.17

Disclosures. **All authors:** No reported disclosures.