men. IFI occurred at a median of 3.7 (0.3–18) years from MM diagnosis. At the time of IFI diagnosis, patients had received a median of 4 (1–12) lines of chemotherapy, 18 (60%) had undergone autologous stem cell transplant (ASCT), and 21 (70%) had progressive disease status. Agents received immediately prior to IFI were immunomodulators (n = 14), proteasome inhibitors (n = 14), conventional chemotherapy (n = 11), monoclonal antibodies (n = 6), checkpoint inhibitors (n = 3) and other (n = 3). Twenty-two (73%) patients received corticosteroids in the prior 30 days. Neutropenia and lymphopenia were present in 12 (40%) and 13 (43%) patients, respectively. There were 9 proven and 21 probable IFIs: invasive aspergillosis (n = 19), candidemia (n = 5), cryptococcosis (n = 3), talaromycosis (n = 1), mucormycosis (n = 1) and other (n = 2). Bacterial and viral respiratory co-infections occurred in 7 and 4 patients, respectively. Eight (27%) patients required ICU admission and 9 (30%) died within 30 days of IFI diagnosis. In univariate analysis, number of lines of chemotherapy (P = 0.05), progressive disease status (P = 0.03), and prior ASCT (P = 0.004) were associated with 30-day mortality.

Conclusion. IFIs are uncommon in MM patients receiving newer agents but are associated with significant morbidity and mortality. Further study is needed to identify high-risk subgroups that may benefit from antifungal prophylaxis or increased surveillance.

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1742. Kinetics of CMV Viremia with Letermovir Prophylaxis in the First 100 Days post Hematopoietic Cell Transplantation (HCT): A Single-center Experience

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Background. Letermovir (LTV) is approved for the prevention of CMV infection in CMV seropositive (R+) HCT recipients. Low rates of CMV breakthrough viremia have been reported with LTV prophylaxis. We studied the kinetics of CMV reactivation up to day (D) +100 in patients (patients) receiving LTV prophylaxis and compared them to historical controls not receiving LTV.

Methods. Retrospective cohort study of CMV R+ recipients of peripheral blood or marrow allografts at MSKCC during 2017–2018. Routine LTV prophylaxis was implemented in MSKCC in December 2017. Patients were categorized based on LTV prophylaxis to LTV group (LTV prophylaxis) and no LTV group [managed with preemptive therapy (PET)]. Routine CMV monitoring was performed weekly by a qPCR assay in plasma from D +14 through D +100. CMV viremia was defined as any detectable CMV viral load (VL). Clinically significant CMV viremia (csCMV) was defined as any CMV VL treated preemptively. CMV end-organ disease (EOD) was assessed by standard criteria. LTV resistance was tested at Viracor-Eurofins Laboratories after May 2018.

Results. Of 193 R+ HCT, 98 (50.8%) were in the LTV and 95 (49.2%) in the no LTV group. CMV viremia occurred in 43 (43.9%) patients in LTV and 63 (66.3%) in no LTV (Figure 1). CMV viremia occurred earlier in LTV compared with no LTV (median, 19 vs. 26 days post HCT, respectively, P = 0.009). The duration of CMV viremia was shorter in LTV compared with no LTV (median 16 days vs. 35 days, respectively; P < 0.0001). The peak CMV VL was lower in LTV compared with no LTV (median, 137 IU/mL vs. 578 IU/mL, respectively); P < 0.0001. Rates of csCMV viremia were significantly lower in LTV compared with no LTV (5.1% vs. 54%, respectively); P < 0.0001 (Figure 2). LTV group received a total of 134 PET-days and no LTV group received 2,160 PET-days by D +100. No patient in LTV developed CMV EOD, while two patients in no LTV developed CMV duodenitis. LTV resistance was documented in 2 patients (2% of the LTV group). Overall survival by D +100 was similar between LTV and no LTV groups.

Conclusion. Implementation of LTV prophylaxis significantly reduced rates of csCMV infection and resulted in 93.8% reduction in total PET days. Among patients with csCMV viremia, LTV group had a shorter duration of viremia and lower peak CMV VL compared with no LTV.

Figure 1. CMV Viremia

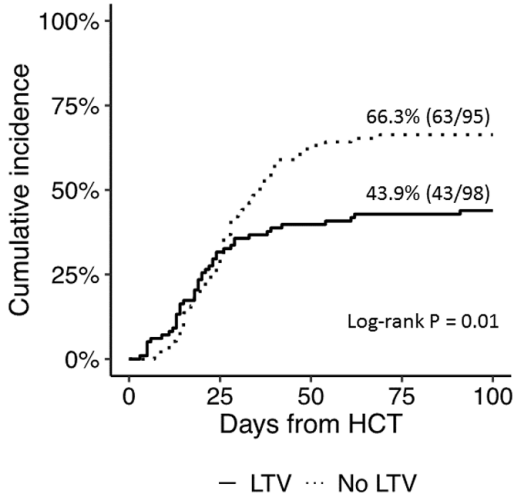

Figure 2. Clinically Significant CMV viremia (csCMV)

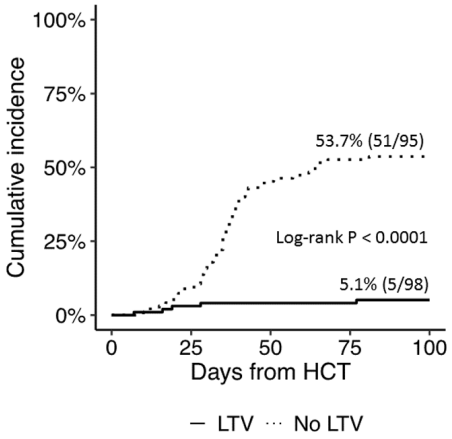

Table 1. Percent reduction in PET days after implementation of LTV prophylaxis	No LTV n = 95	LTV n = 98	% reduction
Days on PET			
(Val)ganciclovir	1660	74	95.5
Foscarnet	500	60	88
(Val)ganciclovir + Foscarnet	2160	134	93.8

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1743. Impact of Cytomegalovirus Serostatus on Allograft Loss and Mortality within the First Year after Kidney Transplantation: An Analysis of the National Transplant Registry

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Background. Cytomegalovirus (CMV) infection is one of the leading causes of morbidity and mortality in kidney transplant (KT) recipients. We investigated the association of CMV serostatus and allograft outcome within the first year after KT.

Methods. All KT recipients from 2007 to 2017 were derived from the Thai Transplant Registry. The prevalence of allograft loss and mortality within the first year after KT was estimated by Kaplan–Meier analysis. CMV serostatus of the donor (D) and the recipient (R) was assessed as a prognostic factor of allograft loss and mortality by Cox proportional hazards models.

Results. During a 10-year study period, the population consisted of 4,556 KT recipients with a mean ± SD age of 43 ± 14 years and 63% were male. Fifty-two percent underwent deceased donor KT and 58% received induction therapy. Among 3,907 evaluable patients, the CMV seroprevalence were D+/R+ (88.9%), D+/R− (6.1%), D−/R+ (2.9%), and D−/R− (1.9%). The estimated prevalence of allograft loss and mortality within the first year were 3.8 and 2.8%, respectively. In univariate analysis, CMV D+/R- was significantly associated with mortality within the first year after KT [hazard ratio (HR), 2.10; 95% confidence interval [CI], 1.18–3.75 (P = 0.01)] however not with an allograft loss [HR, 1.51; 95% CI, 0.85–2.66 (P = 0.16)]. In multivariate analysis, CMV D+/R- serostatus was associated with mortality within the first year after KT [HR, 2.04; 95% CI, 1.05–3.95 (P = 0.04)]. Other independent prognostic factors for mortality were older recipient age, deceased donor KT, and hemodialysis after KT (Table 1).

Conclusion. In the setting where the donor and recipient CMV seropositivity is predominant, CMV seromismatch still negatively affects patient survival within the first year after KT.

Table 1. Prognostic factors of mortality within the first year after kidney transplantation analyzed by Cox proportional hazards models.

Risk factors	Univariate analysis		Multivariate analysis	
	HR (95% CI)	P value	HR (95% CI)	P value
Recipient age (per year)	1.04 (1.02-1.05)	<0.05	1.02 (1.003-1.04)	0.02
Recipient female sex	0.92 (0.63-1.33)	0.65		
Donor age (per year)	1.01 (0.99-1.03)	0.11		
Donor female sex	0.62 (0.41-0.93)	0.02	1.12 (0.67-1.87)	0.66
HLA mismatch ≥ 4	1.55 (0.58-4.10)	0.38		
CMV seromismatch	2.09 (1.18-3.75)	0.01	2.05 (1.06-3.97)	0.03
Deceased donor kidney transplantation	3.48 (2.22-5.45)	<0.05	3.01(1.22-7.44)	0.02
Second transplantation	1.29 (0.53-3.15)	0.58		
Cold ischemic time (per minute)	1.00 (1.00-1.00)	<0.05	0.99 (0.99-1.01)	0.09
Receiving induction therapy	1.49 (1.01-2.21)	0.04	0.96 (0.59-8.10)	0.87
A need for hemodialysis after KT	4.59 (3.06-6.86)	<0.05	3.99 (2.33-6.82)	<0.05
Creatinine on discharge	1.03 (1.01-1.04)	<0.05	1.02 (1.01-1.04)	<0.05

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