Abstract 5029

Impact of letermovir (LTV) on utilisation of pre-emptive therapy for *cytomegalovirus* after allogeneic haematopoietic cell transplantation: a single-centre experience

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Background: Quantitation of antiviral utilization using Pre-emptive therapy (PET) strategy for CMV is important for assessing the net value of preventive strategies. We examined a contemporary cohort managed by PET to 1) quantify CMV antiviral utilization and 2) report readmissions related to CMV and 3) report net changes in PET days after Letermovir prophylaxis.

Materials/methods: Retrospective review of adult, CMV R+ HCT recipients of first peripheral blood or marrow HCT from 3/2013 to 12/2017 managed by PET (PET-group) and from 12/2017 to 12/2018 who received Letermovir prophylaxis (LTV-group). Ex vivo T-cell depletion (TCD) or unmodified graft from mismatched donors defined high CMV risk (HR). All others were low risk (LR); Routine monitoring was performed by CMV quantitative PCR assay. PET was initiated per standard of care. Clinical characteristics, PET and readmission through Day 180 were extracted from the electronic medical records/databases. Inpatient charges were obtained from the Vizient database and converted to adjusted costs using cost-to-charge ratio, wage index and inflation rate.

Results: PET group comprised 368 R+ recipients (HR 52%). Overall, 208 (57%) patients initiated PET (Figure 1a) at median of 35 days; Interquartile range (IQR): 28-41 post HCT for a median duration of 47 days (IQR:34-70) (Figure 1b). Of 11,759 total antiviral-days 8,943 (76%) were (val)Ganciclovir and 2816 (24%) Foscarnet; 80% of antiviral-days occurred <D100 and 18% were administered in-patient. 112/208 (54%) PET recipients were readmitted compared to 53/160 (33%) of No-PET recipients (p=0.00005). Of 180 readmissions among PET recipients 67 (37%) were CMV-related with an average total cost of $185,053; standard deviation (237,099). Of 98 patients in the LTV group, 5 (5.1%) received PET (figure 1c). PET utilization by D100 was compared to 95 patients that received HCT during 2017 and managed preemptively (No LTV-group). Clinical characteristics were similar between the two groups. There was a 96% reduction in total PET-days in 2018 (LTV-group compared with 2017 no-LTV group) (figure 1d).

Conclusions: 1) 80% of PET-days occurred before D100. 2). CMV-related readmissions cost an average $185,053 USD per patient. 3) Implementation of LTV prophylaxis resulted in a 96% reduction in total PET days by D100 post HCT.

Figure 1a. PET initiation for PET Group by D100 post HCT (n=368)

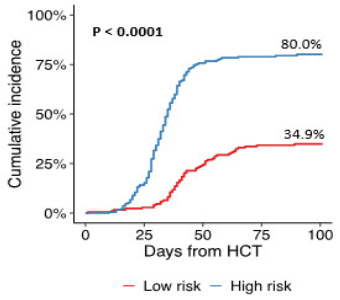


Figure 1b. Duration of PET-days by D180 post HCT (n=208)

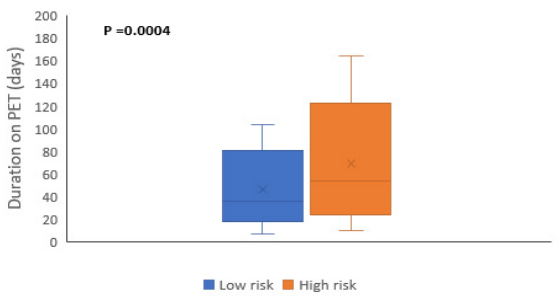


Figure 1c. PET initiation for LTV Group by D100 post-HCT (n= 98)

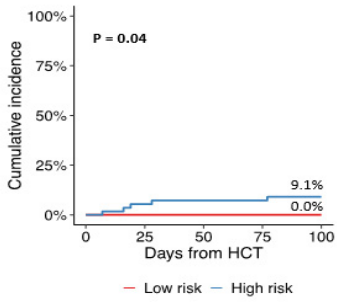
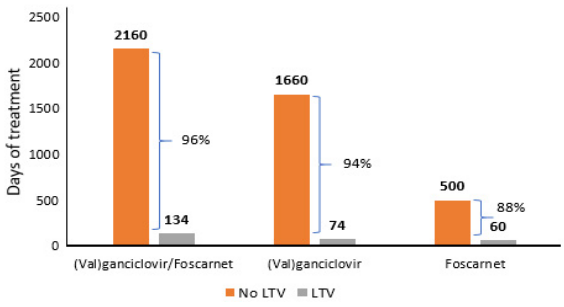


Figure 1d. Reduction in antiviral days after LTV PPX by D100 post HCT



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