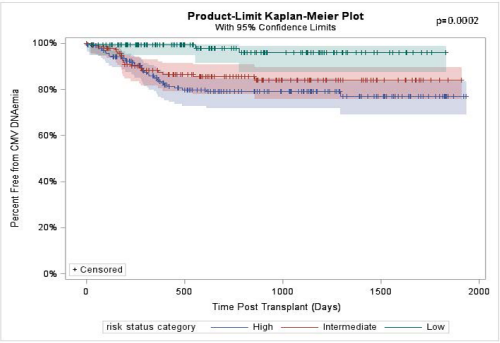
Figure 2: Kaplan-Meier plot of the percent of patients free from CMV DNAemia > 1000 IU/ml by CMV risk status



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1751. The Impact of Prophylactic Systemic Antibiotics (PSA) on *Cytomegalovirus* (CMV) Infection: A Post-hoc Analysis of a Randomized Controlled Trial (RCT) in Hematopoietic Cell Transplantation (HCT) Recipients

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Background. Prophylactic systemic antibiotics (PSA) during conditioning regimen-induced neutropenia after hematopoietic cell transplantation (HCT) reduce bacteremia but may disrupt the gut microbiota, potentially affecting viral immunity and risk for viral infections. Prior studies suggest a critical role of gut microbiota in the reconstitution of CMV-specific CD8+ T cells and in protection from respiratory viral infections after HCT (J Immunol 2007; 178: 5209; Blood 2018; 131:2978). To identify whether PSA is associated with differences in CMV infection outcomes after HCT, we conducted a post-hoc analysis of CMV infection in the only RCT of PSA exclusively performed in HCT recipients (Infection 1986; 14:115). In that trial, HCT patients received either PSA (ticarcillin/tobramycin/vancomycin or mezlocillin/ceftizoxime) or no systemic antibiotics during neutropenia (absolute neutrophil count <500/mm^3).

Methods. A post-hoc analysis was performed of a previously conducted RCT in the pre-antiviral era (1984–1986) at the Fred Hutch. Patients received unscreened blood products and were tested weekly by CMV culture in throat, and disease was evaluated by tissue biopsy or bronchoalveolar lavage. CMV disease was confirmed by chart review. We compared the cumulative incidence of CMV at any site, CMV throat shedding, and CMV disease between randomization groups by day 100 post-transplant, treating death as a competing risk. Overall survival was also compared using Kaplan–Meier method.

Results. 119 and 125 allograft recipients were randomized to PSA and no prophylaxis, respectively. Baseline characteristics in both groups were balanced. CMV infection at any site and CMV throat shedding were greater in the PSA group (Figures 1 and 2); CMV disease was numerically reduced in the no PSA group (Figure 3). Overall survival by day 100 was not different between the groups (Figure 4).

Conclusion. CMV infection risk appeared to be increased in recipients of PSA with a significant anaerobic spectrum. While current PSA regimens have narrower spectrum activity, these results provide the rationale to study if changes in gut microbiota play a role in CMV reactivation and adaptive immunity after HCT.

Figure 1. Cumulative Incidence Plot of Time to 1st Any CMV

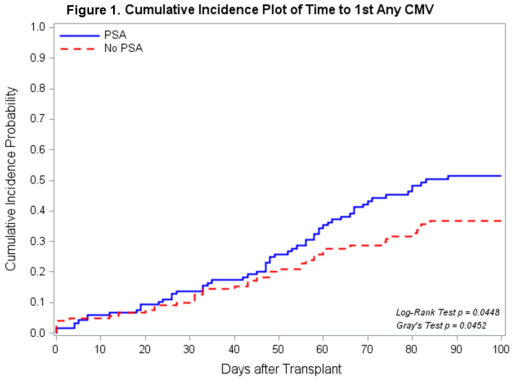


Figure 2.Cumulative Incidence Plot of Time to 1st CMV in Mouth, Throat, Upper Respiratory

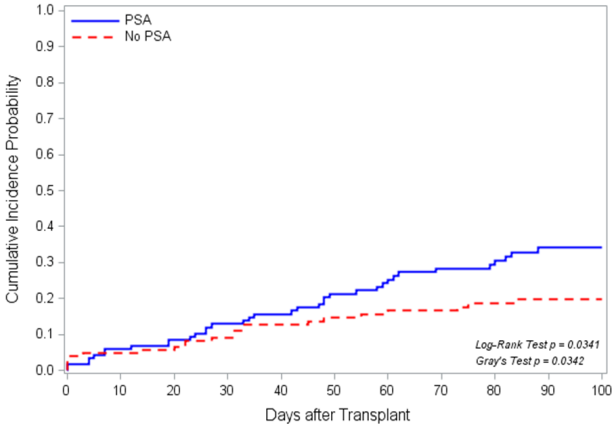


Figure 3. Cumulative Incidence Plot of Time to 1st Any Endorgan Disease

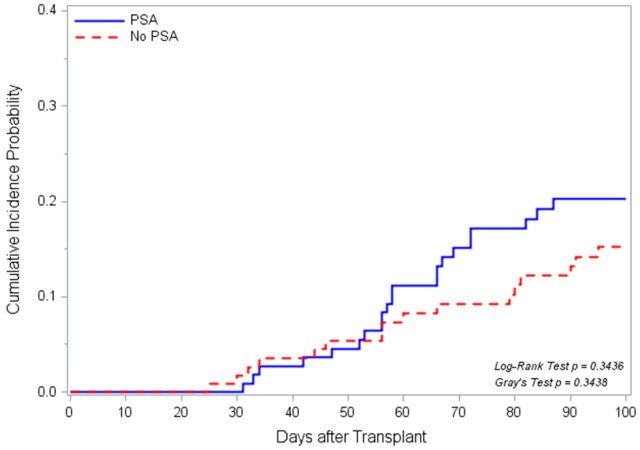
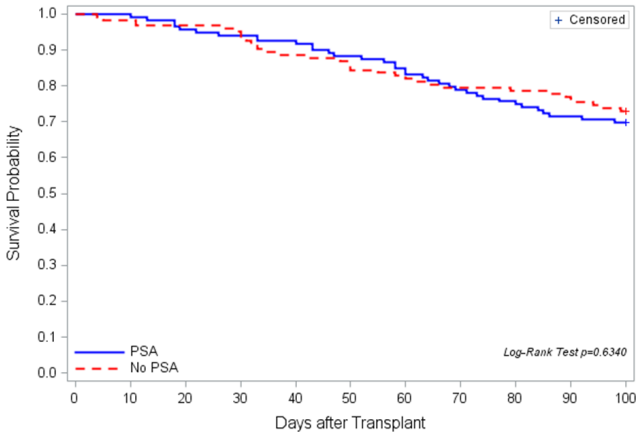


Figure 4. Kaplan Meier Plot of Time to Overall Mortality
Total Number of Events = 69



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

1752. Differential Degree and Duration of Cytomegalovirus (CMV) Viremia Between WHO International Standard-Calibrated Quantitative CMV Nucleic Acid Tests: Implications for Clinical Care

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Background. Quantitative nucleic acid amplification (QNAT) tests are cornerstone for the management of CMV disease after organ transplantation. We assessed the potential impact of viral load results obtained by two commercial WHO international