standard-calibrated NAT in solid-organ (SOT) and hematopoietic stem cell transplant (HSCT) recipients.

Methods. Sixty-four patients (36 SOT and 28 HSCT) had plasma CMV viral load assessed using the COBAS AmpliPrep/COBAS TaqMan CMV Test (CAP/CTM; lower limit of quantification [LLoQ] at 137 IU/mL) and cobas 6800 System (cobas CMV; LLoQ at 35 IU/mL). Viral load values were correlated with clinical course and outcomes.

Results. Forty-three of 64 patients (67.2%) had CMV infection or disease (asymptomatic, 67.4%; gastrointestinal disease, 16.3%; pneumonitis 4.7%) at median of 4.4 months (IQR 1.4 to 7.7) from transplantation. At CMV infection diagnosis, viral load results (mean ± SD) were almost two-fold higher when measured by cobas CMV (19,456 ± 51,618 IU/mL) compared with CAP/CTM (10,504 ± 27,744 IU/mL; $P = 0.04$). Time to onset of CMV viremia was significantly shorter (11.5 days; $P < 0.001$) while viral clearance was significantly longer (12.75 days; $P < 0.001$) by cobas CMV when compared with CAP/CTM. Persistent viremia was observed with cobas CMV in 44% of patients at the time of first negative results by CAP/CTM. Patients with negative results by cobas CMV at the end of antiviral treatment had a significantly lower need for re-treatment (OR 0.26, 95% CI 0.04 to 0.99, $P = 0.05$).

Conclusion. Our study highlights significant differences between CMV QNAT assays despite calibration to the WHO-international standard. The significant differences in the degree (almost two-fold), time to onset (12 days difference) and clearance (13 days difference) of CMV viremia between two automated commercial QNAT assays have direct implications in the care of transplant recipients. Persistence of low-level viremia was observed in samples that reached negative threshold by CAP/CTM, when tested using the more sensitive cobas CMV. Clearance of CMV viremia, when assessed by the more sensitive cobas CMV, was significantly associated with a lower need for re-treatment.

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

1753. Adherence and Immunogenicity of Early Vaccination in Pediatric Allogeneic Hematopoietic Cell Transplantation (allo-HCT) Recipients

Dana Danino, MD[1,2]; Joseph Stanek, CIPP[1,2]; Micah Skeens, CIPP[1,2]; Hemalatha Rangarajan, MD[1,2]; Monica I. Ardura, DO, MSCS[3]; [1]Nationwide Children's Hospital (NCH) Columbus, Ohio, [2]The Ohio State University, Bexley, Ohio; [3]Nationwide Children's Hospital and The Ohio State University, Columbus, Ohio

Session: 168. Transplant ID: Vaccines
Friday, October 4, 2019: 12:15 PM

Background. Allo-HCT recipients are at increased risk for vaccine-preventable infections. Early vaccination (EV) beginning at 3–6 months (mo) post-HCT has been shown to be safe, immunogenic, and is recommended. We assessed adherence and immunogenicity to EV in children post-allo-HCT.

Methods. Retrospective analysis of allo-HCT performed 1/1/10–6/30/18 at NCH. Children who died, relapsed, or received anti-CD20 biologics in the 6 mo preceding intended vaccination were excluded. Institutional guidelines recommend EV starting at 6 (+1) mo post-HCT with: 3 PCV13 + 1 PPSV23, IPV, HBV, DTaP and HIB. Vaccination rates were analyzed at 6(+1), 8(+1) and 10(+1) mo post-HCT and serologies were obtained pre- and ≥ 4 weeks post vaccination. Immunogenicity was defined as antibody (Ab) concentrations ≥ 1.3 µg/mL or a 4 fold rise ≥ 70% of 10 PCV13 serotypes, tetanus (T) and diphtheria (D) Ab ≥ 0.1 IU/mL, and HBs Ab ≥ 10 IU/mL. Non-parametric statistics were applied; correlations between T&B cell subsets and IgG pre-vaccination and specific Ab post-vaccination were performed.

Results. During the 8-year study period, 171 allo-HCT were performed: 131 children were eligible for EV (Table 1); however, EV occurred in only 49.6% (65/131) and was completed in 37.5% (45/120) of children at 10(+1) mo post-HCT. Vaccine immunogenicity of PCV13, HBV, T and D was achieved in 40/45, 34/36, 63/64, and 18/18 of evaluable children, respectively. Protective Ab response after EV for PCV13, HBV, T and D was found in 21/24 (87.5%), 14/16 (87.5%), 35/36 (97.2%), and 8/8 (100%) children, respectively. Specific IgG geometric mean concentration pre- and post-vaccination was similar in children whether they received early or delayed vaccination (median 9.8 mo post-HCT, IQR 8–14) (Figures 1 and 2). No correlations were found between absolute CD4, CD8, CD19 and IgG pre-vaccination and vaccines specific Abs post-vaccination (Figure 3).

Conclusion. Despite recommendations, adherence to EV was low among our cohort of allo-HCT recipients and identified opportunities for improvement. Overall, vaccines were immunogenic with no significant differences in Ab concentrations among patients receiving early vs. delayed vaccination. No robust correlations were found between number of T&B cells or total IgG and Ab titers.

Table 1: Demographic and clinical characteristics of pediatric allogeneic-HCT recipients eligible for vaccination at 6 (+1) months post-transplant, January 2010 through June 2018

	Total N=131	Early vaccination N=65	Delayed vaccination N=66	P value Early vs. Delayed
Days post-HCT, median (IQR)	196 (181-248)	185 (177-195)	294 (242-418)	**<0.01**
Age (years), median (IQR)	8.8 (3.6-14.2)	11.9 (6.6-15.3)	7.2 (2.3-12.7)	**0.04**
Males, N (%)	85 (65)	45 (69)	40 (61)	0.36
Underlying, N (%)				
Malignancy	75 (57)	37 (57)	38 (57)	>0.99
Aplastic anemia	13 (10)	7 (11)	6 (9)	0.77
Primary immune deficiency	10 (8)	1 (1)	9 (14)	**0.02**
Hemoglobinophathy	22 (17)	15 (23)	7 (11)	0.06
Other	11 (8)	5 (8)	6 (9)	>0.99
Type of transplant, N (%)				
Matched, related donor	44/129 (34)	24/65 (37)	20/64 (31)	0.57
Matched, unrelated donor	85/129 (66)	41/65 (63)	44/64 (69)	0.57
Source of cells, N (%)				
Peripheral blood mononuclear cells	15 (11)	5 (8)	10 (15)	0.27
Bone marrow	98 (75)	52 (80)	46 (70)	0.22
Cord blood	18 (14)	8 (12)	10 (15)	0.80
Myeloablative, N (%)	67/125 (54)	31/59 (53)	36/65 (55)	0.85
GVHD prophylaxis, N (%)				
Tacrolimus/methotrexate	65/126 (52)	35/61 (57)	30/65 (46)	0.21
Tacrolimus/mycophenolate mofetil	20/126 (16)	8/61 (13)	12/65 (19)	0.47
Other	41/126 (32)	18/61 (30)	23/65 (35)	0.56
GVHD by 6 mo post-HCT, N (%)	22 (17)	8 (12)	14 (21)	0.24
Systemic steroids at 6 mo post-HCT, N (%)	9 (7)	0 (0)	9 (13)	**<0.01**
IVIG at 6 mo post-HCT, N (%)	32 (24)	10 (15)	22 (32)	**0.02**

Figure 1: Comparison of ten PCV13 serotypes IgG geometric mean concentrations (GMC) in allo-HCT recipients vaccinated early and delayed

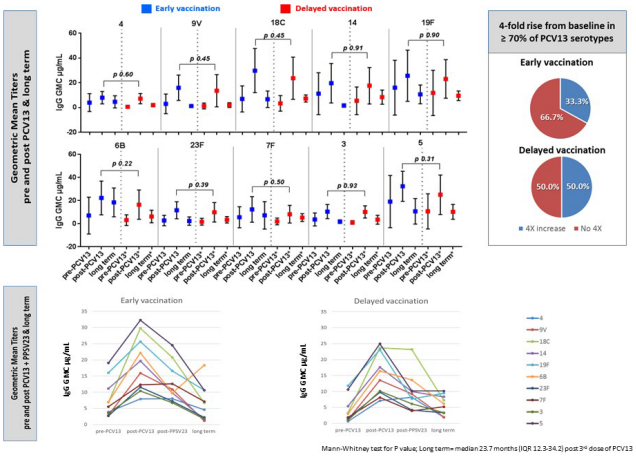


Figure 2: Comparison of HBV, tetanus and diphtheria IgG geometric mean concentrations (GMC) in allo-HCT recipients vaccinated early and delayed

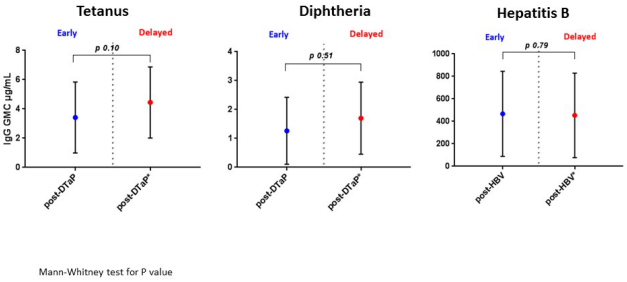
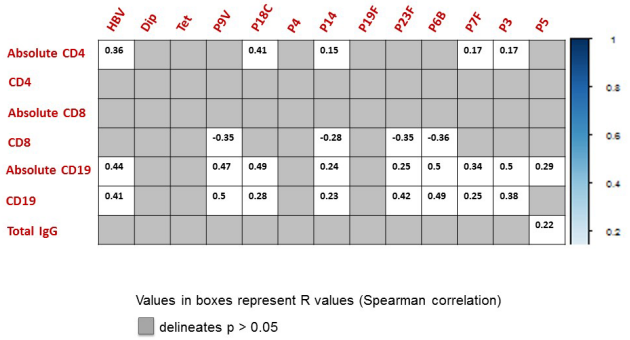


Figure 3: Correlations between T&B cells subsets & total IgG pre-vaccination & antibodies titers post vaccination



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

1754. Pre-Transplant Vaccination Rates in Solid-Organ Transplant Recipients

Daniel Friedman, MD; Sara Belga, MD; Catherine Burton, MD; Jutta Preiksaitis, MD; Dima Kabbani, MD; University of Alberta, Edmonton, AB, Canada

Session: 168. Transplant ID: Vaccines
Friday, October 4, 2019: 12:15 PM

Background. Recipients of solid-organ transplants (SOT) are at increased risk of vaccine-preventable illnesses. Because of the immunosuppression administered following SOT, live vaccines are generally contraindicated post-SOT, and response to inactivated vaccines may be suboptimal. National and international guidelines recommend optimizing immunizations prior to SOT. We analyzed rates of vaccination for SOT candidates in a cohort of adult kidney and liver transplant recipients.

Methods. A retrospective chart review of adult kidney, kidney/pancreas (KP) and liver transplant recipients was conducted between 2014 and 2016. We calculated the rates of vaccinations of the following vaccines: pneumococcus, meningococcus, Hepatitis A and B, *Haemophilus influenzae* type B, measles, mumps, rubella, polio, tetanus, diphtheria and pertussis.

Results. 300 patients were included (147 kidney, 14 KP, 139 liver). Liver recipients were older (mean age 53 vs. 50; $P = 0.028$) and less likely to have had a previous transplant (5.8% vs. 21.1%; $P < 0.001$) or a living donor (15.8% vs. 32.3%, $P = 0.01$).