1084. Epidemiology and Long-term Outcomes of Cytomegalovirus (CMV) in Pediatric Liver Transplant Recipients (PLTR) at Texas Children's Hospital (TCH)

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Session: P-49. Infections in Immunocompromised Individuals

Background. Despite widespread use of prevention strategies, CMV DNAemia remains common in PLTR. Contemporary data, however, is limited. We sought to determine the frequency of, risk factors for, and long term outcomes of CMV DNAemia in a large, single center cohort of PLTR.

Methods. A retrospective cohort study of PLTR < 22 yrs of age transplanted from 2011-2018 was completed. Per protocol, CMV prophylaxis with ganciclovir/valganciclovir was universally implemented; high risk (HR)(D+/R-) and intermediate risk (IR)(R+) patients received 6 months while low risk (LR)(D-/R-) patients received 3 months. Primary outcomes included any CMV DNAemia, CMV DNAemia >1000 IU/mL and long term outcomes including rejection, graft failure, hepatic steatosis (HS), and de novo autoimmune hepatitis (AIH). Associations with CMV DNAemia were measured using Fisher exact and multivariate regression. Survival analysis, time to CMV infection, and time to PLTR long term outcomes were assessed using Kaplan-Meier plots.

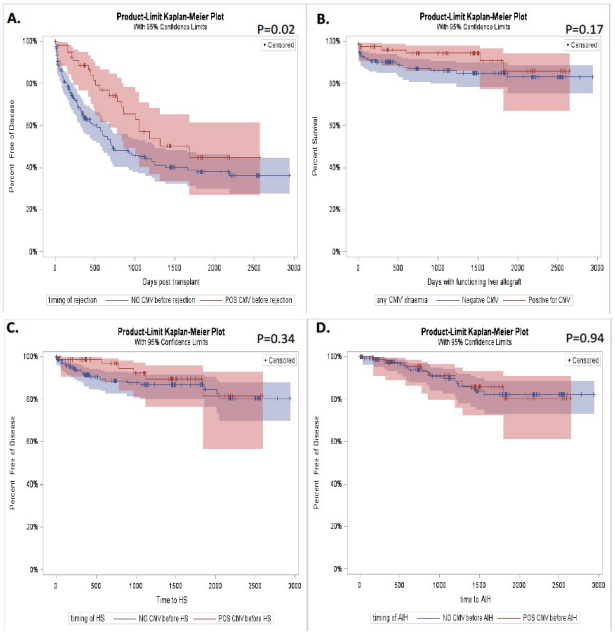
Results. Among 270 PLTR, 81 (30%) had quantifiable CMV DNAemia; 36 (13%) had CMV DNAemia >1000 IU/mL. Fifty (19%) developed CMV DNAemia while on prophylaxis. Median time (range) to CMV DNAemia was 162 days (5-2213). HR (OR 4.18; 95% CI 1.84-9.49, p< 0.01) status was associated with CMV DNAemia and time to CMV DNAemia. CMV DNAemia was not associated with age at transplantation or cold ischemic time.

Eight PLTR (3%) developed CMV syndrome (4 HR, 3 IR, 1 LR), the median peak (range) DNAemia was 2133 IU/mL (202-58000) for these patients. No PLTR developed CMV tissue invasive disease.

CMV DNAemia was not associated with rejection (15% vs. 33%, p=0.62), graft failure (7% vs. 13%, p=0.17), HS (8% vs. 12%, p=0.32), or AIH (10% vs. 8%, p= 0.68). CMV DNAemia was associated with a longer time to rejection (p=0.02). Time to development of graft failure, HS, and AIH were not associated with CMV DNAemia (Figure 1). Finally, there was no difference in survival during the study follow-up period (1 – 9 yrs) for PLTR with vs. without CMV DNAemia (p=0.58).

Figure 1

Figure 1: A. Kaplan- Meier curve of % free from rejection by developing any CMV DNAemia versus no CMV DNAemia B. Kaplan-Meier curve of % free from graft failure by developing any CMV DNAemia versus no CMV DNAemia C. Kaplan-Meier curve of % free from hepatic steatosis by developing any CMV DNAemia versus no CMV DNAemia D. Kaplan Meier curve of % free from alloimmune hepatitis by developing any CMV DNAemia versus no CMV DNAemia



Conclusion. This large cohort of PLTR demonstrates high rates of CMV DNAemia but low rates of CMV disease. HR status remains associated with CMV DNAemia. CMV DNAemia did not increase the risk of long term adverse outcomes such as rejection, graft failure, HS, and AIH.

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1085. Epidemiology and Outcomes of Histoplasmosis in Transplant Recipients

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Background. Histoplasmosis in transplant recipients is understudied. We reviewed a large cohort of histoplasmosis in patients with solid organ and stem cell transplants in an endemic area to describe the epidemiology, clinical findings and outcomes.

Methods. We performed a single-center retrospective cohort study of patients diagnosed with histoplasmosis between 2002 and 2017. Demographic data, clinical findings, diagnostic methods, treatment, and mortality were collected. We compared the characteristics of patients with history of transplant to non-transplant (NT) patients.

Results. We identified 261 patients with histoplasmosis. Of those, 28(11%) were transplant recipients; 8(29%) liver, 8(29%) lung, 6(21%) kidney, 3(11%) heart, and 3(11%) stem cell.

Median time from symptom onset to diagnosis was 6 vs 34 days in transplant vs NT groups (p=0.001). Lung was the most common organ involvement (89% in transplants vs 78% in NT, p=0.168). Spleen involvement was more commonly found in transplant patients (29 vs 14%, p=0.039). In patients with disseminated disease, urine antigen was 100% sensitive in transplant patients compared to 78% in the NT group (p=0.038). Duration of treatment was 13 vs 6 months in transplant vs NT patients (p= 0.003). Mortality was comparable between groups (14 vs 15% in transplant vs NT, p=0.918).

Median time from transplant to diagnosis was 4.21 years. However, five patients (18%) developed histoplasmosis within 6 months. For these early diagnosed patients, ICU admission rate was 80 vs 30% (p=0.04) and rate of mechanical ventilator use was 80 vs 22% (p=0.011) compared to patients diagnosed later.

Table 1: Patient characteristics

Variables	Transplant N=28 (%)	Non-transplant N=233 (%)	P value
Age, years (median, IQR)	54 (33,62)	50 (36, 62)	0.855
Male sex	17 (61)	139 (60)	0.914
Race			0.481
White	24 (86)	173 (74)	
African American	2 (11)	48 (21)	
Other	1 (4)	7 (3)	
Unknown	1 (4)	5 (2)	
Organ transplant			
Liver	8 (29)		
Lung	8 (29)		
Kidney	6 (21)		
Heart	3 (11)		
Stem cell	3 (11)		
Symptoms			
Cough	17 (61)	92 (39)	0.096
Fever	15 (54)	112 (48)	0.818
Dyspnea	14 (50)	86 (37)	0.373
Gastrointestinal symptoms	11 (39)	73 (31)	0.663
Night sweat	7 (25)	47 (20)	0.793
Weight loss	5 (18)	75 (32)	0.252
Chest pain	1 (4)	52 (22)	0.055
Skin nodules	1 (4)	2 (1)	0.397
Asymptomatic lung nodule(s)	1 (4)	24 (10)	0.069
Days from symptom onset to diagnosis, days, median (IQR)	16 (10,33)	34 (17, 101)	0.001