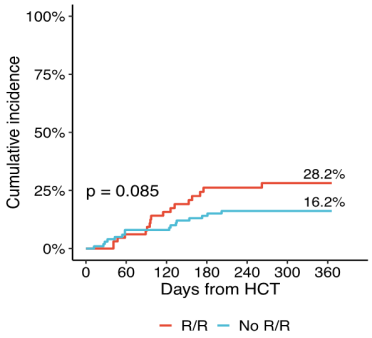
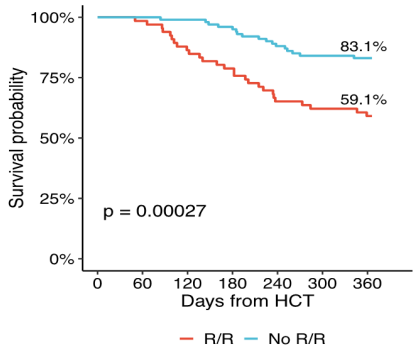
Figure 2. Cumulative incidence curves of CMV end-organ disease (EOD) at 1-year post HCT




| Time to EOD (days) | Median | IQR |
|---|---|---|
| R/R | 97 | (89-153) |
| No R/R | 91 | (40-140) |

Figure 3. Kaplan-Meier survival curves of overall survival (OS) at 1-year post HCT




| Time to Death (days) | Median | IQR |
|---|---|---|
| R/R | 169 | (104-227.5) |
| No R/R | 215 | (180-250) |

***Conclusion.*** 1) Refractory and/or resistant CMV occurred in 39,5% of PET recipients. 2) T-cell depletion and higher CMV VL at PET initiation were risk factors for R/R CMV in multivariable models. 3) R/R CMV was associated with more EOD and worse overall survival.

***Disclosures.*** **Sergio Giralt, MD**, **Amgen** (Advisor or Review Panel member, Research Grant or Support, Served an advisory board for Amgen, Actinuum, Celgene, Johnson & Johnson, JAZZ pharmaceutical, Takeda, Novartis, KITE, and Spectrum pharma and has received research support from Amgen, Actinuum, Celgene, Johnson & Johnson, and Miltenyi, Takeda.) **Miguel-Angel Perales, MD**, **Abbvie** (Other Financial or Material Support, Honoraria from Abbvie, Bellicum, Celgene, Bristol-Myers Squibb, Incyte, Merck, Novartis, Nektar Therapeutics, Omeros, and Takeda.)**ASTCT** (Other Financial or Material Support, Volunteer member of the Board of Directors of American Society for Transplantation and Cellular Therapy (ASTCT), Be The Match (National Marrow Donor Program, NMDP), and the CIBMTR Cellular Immunotherapy Data Resource (CIDR) Committee)**Cidara Therapeutics** (Advisor or Review Panel member, Other Financial or Material Support, Serve on DSMBs for Cidara Therapeutics, Servier and Medigene, and the scientific advisory boards of MolMed and NexImmune.)**Kite/Gilead** (Research Grant or Support, Other Financial or Material Support, Received research support for clinical trials from Incyte, Kite/Gilead and Miltenyi Biotec.) **Genovefa Papanicolaou, MD**, **Chimerix** (Research Grant or Support)**Merck&Co** (Research Grant or Support, Investigator and received funding and consulting fees from Merck, Chimerix, Shire and Astellas)

**1105. The Burden of Infections Prior to Chimeric Antigen Receptor (CAR) Modified T-cell Therapy Predicts Post-CAR T-cell Infectious Complications**

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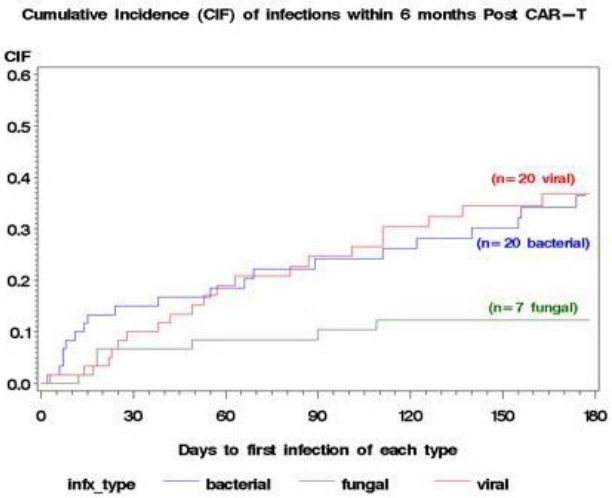
**Session:** P-49. Infections in Immunocompromised Individuals

***Background.*** CAR T -cell therapy (CTT) is a novel treatment for B-cell cancers. CTT patients (pt) are at risk of infection due to neutropenia, cytokine release syndrome (CRS), and CAR T-cell related encephalopathy syndrome (CRES), which are treated with steroids and tocilizumab (anti-IL-6). This is a single-center study evaluating the risk factors for infection after CTT.

***Methods.*** A retrospective review was conducted of 60 consecutive CTT recipients between 7/17/17 and 9/5/19. Data was collected from 6 months (mo) pre- and at least 6 mo post-CTT. Data was censored for death, additional chemotherapy, or loss to follow up. Cox proportional hazard and Poisson regression were used.

***Results.*** Median age was 66 (23-84) years; 48% (29) were female. The most common cancer was non-Hodgkin lymphoma (89%, 54). 25% (15) had a prior stem cell transplant (SCT). 73% (44) and 45% (27) of pts developed CRS and CRES, respectively. 43% (26) received steroids; 65% (39) received tocilizumab. In the 6 mo pre-CTT, 39 infections occurred in 45% (27) of pts. 103 infections occurred in 66% (40) after CTT; 33 (55%) had an infection within 6 mo. Infections were bacterial (52%; 54/103), viral (30%; 37/103), fungal (10%; 10/103), mycobacterial (1%; 1/103), protozoal (1%; 1/103). Cumulative incidence of infection in the first 6 mo are shown in **Fig 1**. All-cause and infection-related mortality were 32% (19) and 15% (9), respectively. Mortality among pts with fungal infections was 20% (2/10). Infection density was 1.28 and 0.58 infections per 100 pt-days between days 0-30 and 30-89, respectively. Factors associated with infection post CTT were number (no.) of infections in the 6 mo prior to infusion (HR 1.62, CI [1.1-2.38]; p=0.015), no. of lines of therapy in the 6 mo pre-CTT (HR 1.52, CI [1.01-2.27]; p=0.04), prior allogeneic SCT (HR 5.96, CI [1.34-26.47]; p=0.019), and no. of tocilizumab doses. Grade 1 CRS and grade 2 CRES were risk factors between days 0-30 and 0-180, respectively (HR 4.67, CI [1.02 -21.4], p = 0.047; HR 2.48, CI [1.17-5.23], p = 0.02).

Fig 1: Cumulative Incidence of Infection 6 Months Post CAR T-cell Therapy




***Conclusion.*** Infections after CTT are common. Infection before CTT was associated with risk of infection after CTT. Pt selection may ameliorate this risk. Mortality due to fungal infections was high. Randomized-controlled trials of antifungal prophylaxis in high-risk pts are needed.

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

**1106. The incidence and risk factors associated with varicella zoster virus infection in kidney transplant recipients after 1-month acyclovir prophylaxis in a CMV preemptive therapy era**

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**Session:** P-49. Infections in Immunocompromised Individuals

***Background.*** Varicella zoster virus (VZV) infection is a well-known opportunistic infection in solid organ transplant recipients. Since the various strategies of the use of anti-herpetic drugs including ganciclovir or acyclovir have evolved, the epidemiology of VZV infection is changing. However, there are limited data on the recent incidence and risk factors of post-transplant VZV infection in popular preemptive ganciclovir era for CMV infection. We evaluated the incidence, risk factors and clinical characteristic of patients with development of post-transplant VZV infection in kidney transplant (KT) recipients after 1-month acyclovir prophylaxis in the hospital that adopted preemptive ganciclovir therapy for CMV infection.

***Methods.*** All adult patients with seropositive CMV antibody admitted to a KT unit from January 2014 to December 2017 were retrospectively reviewed in a tertiary-care hospital in South Korea. Our hospital adopted preemptive ganciclovir therapy for CMV infection in all CMV seropositive KT recipients. We administered acyclovir prophylaxis for 1-month to CMV seropositive KT recipients. The primary endpoint was VZV infection development after KT.

***Results.*** A total of 1295 KT recipients was followed up for 4295.8 person-years. The median follow-up period was 46.6 months (interquartile range (IQR) 34.3-59.5). Of the 1295 recipients, 100 (7.7%, 2.33 per 100 person-years, 95% confidence interval (CI) 1.89-2.83) patients developed VZV infection after KT. The median time for VZV infection development was 9.5 months (IQR 4.7-22.1). All patients had VZV-associated

skin lesion, 9 postherpetic neuralgia, 2 visceral involvement and 3 disseminated infection. Of 100 patients, 16 patients need hospitalization due to VZV infection. In multivariate analysis, deceased donor KT (Hazard ratio (HR) 1.6; 95% CI 1.0-2.39, $p = 0.05$), mycophenolate maintenance immunosuppressive therapy (HR 0.3; 95% CI 0.14-0.75, $p = 0.01$) and rejection episode (HR 0.31; 95% CI 0.14-0.71, $p = 0.01$) were independently associated with VZV infection development after KT.

***Conclusion.*** About one tenth of CMV seropositive KT recipients developed zoster after 1-month ACV prophylaxis during CMV preemptive strategy, especially in those who received deceased donor KT, mycophenolate therapy, and rejection episodes.

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

**1107. Third Generation Cephalosporins Monotherapy Experience in Pediatric Patients with High-Risk Febrile Neutropenia**

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**Session:** P-49. Infections in Immunocompromised Individuals

***Background.*** Fever during neutropenia is common in children with cancer. The updated guidelines recommend empirical antibiotic monotherapy using an antipseudomonal ß-lactam, a fourth generation cephalosporin or a carbapenem for high-risk febrile neutropenia. However, local epidemiology and resistance patterns should be evaluated regularly. In our hospital there are not *Pseudomonas aeruginosa* isolates in oncology pediatric patients, therefore, we use ceftriaxone as monotherapy in high risk febrile neutropenia without other risk factors. The goal of our investigation is to describe the experience of using third generation cephalosporins in these patients.

***Methods.*** Descriptive study of high-risk febrile neutropenia episodes in patients admitted to the Pediatric Oncology Unit of Hospital Dr. Sótero del Río, Santiago, Chile. We included patients ≤15 years from June 2016 until December 2019.

***Results.*** We found 140 episodes in 53 patients, 42 (79%) were leukemia and 11 (21%) solid tumor patients. Of the 140 episodes, 97 (69%) had clinical signs at admission, mostly respiratory in 48 (49%) of the cases. Ninety one (65%) cases started ceftriaxone at admission, 27 (30%) maintained ceftriaxone for 7 days of treatment. Sixty four (70%) cases changed treatment: 38/64 (42%) started second line antibiotics for clinical worsening, 19/64 (20%) required second and third line antibiotics for persistent fever and clinical worsening, and 7/64 (8%) received third line antibiotics from the start for past microbiological history. Eighteen (13%) cases evolved with sepsis requiring intensive care unit management.We had 32 (23%) episodes with positive blood culture, 13 (41%) due to gram positive bacteria, 16 (50%) gram negative bacteria, and 3 (9%) cases of fungal infections. Of the gram negative bacteria, 7 (44%) were ESBL producers, without *Pseudomonas aeruginosa* isolates.One case died (0.7%) for refractory sepsis due to gram negative bacteria.

***Conclusion.*** Monotherapy with ceftriaxone is not a good option as initial therapy for high risk febrile neutropenia patients due to the spread of ESBL strains. The empiric therapy has to be evaluated regularly and should always be based in local epidemiology.

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

**1108. Transplantation and Immigration: Comparing Infectious Complications Between Foreign-born vs. U.S.-born Kidney Transplant Recipients in Minnesota**

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**Session:** P-49. Infections in Immunocompromised Individuals

***Background.*** Immigrant patients face barriers to kidney transplantation due to language, cultural, and economic issues. Unprepared health systems and providers further contribute to health disparities in transplantation. Foreign-born patients are also at risk for reactivation of latent infections which differ from U.S.-born population. Stratifying transplant recipients according to country of birth could guide clinicians in the prevention, anticipation, diagnostics, and treatment of post-transplant infections.

***Methods.*** A retrospective, observational, multicenter study of patients that underwent kidney transplantation from 1/2014-12/2018 at the University of Minnesota Medical Center and Hennepin Healthcare is being conducted. Sociodemographic, clinical, and laboratory data are collected, including infectious episodes during the first year post-transplant.

***Results.*** One-hundred patients are included in this preliminary analysis (recruitment goal is 800 patients). Sixty-five patients were males (65%), with median age 56 years (range 20 – 77). The majority were Caucasians (64%), followed by Asians (12%) and Africans (9%). Living donation was 59%. Seventy-eight patients developed infectious complications during the first year after transplantation, for a total of 175 infectious episodes: viral etiology (51%), followed by bacterial (42%) and fungal (7%). No tropical diseases were found. Comparing foreign-born (30%) vs. U.S.-born (70%), foreign-born recipients had a higher frequency of latent tuberculosis infection (LTBI) (37% vs 1%, $p< 0.001$), hepatitis B core antibody positive (20% vs 0, $p< 0.001$), and deceased donor transplant (67% vs 30%, $p= 0.001$). CMV mismatch (3% vs 36%, $p= 0.002$) was more frequent in U.S.-born recipients; CMV reactivation was similar in both groups. While not statistically significant, more foreign-born recipients had an infection in the first year post-transplant (90% vs 73%, $p= 0.1$), and higher median infectious episodes (2 vs 1, $p= 0.6$).

Comparison of foreign-born vs U.S.-born kidney transplant recipients (n=100, preliminary data)

| Characteristics | Foreign-born transplant recipients n=30 (%) | U.S.-born transplant recipients n=70 (%) | *p* value |
|---|---|---|---|
| Previous transplantation | 3 (10) | 18 (26) | 0.13 |
| Higher education | 11 (37) | 50 (71) | 0.02 |
| Travel abroad before transplantation | 11 (37) | 3 (5) | <0.001 |
| Donor | | | 0.001 |
| - Deceased | 20 (67) | 21 (30) | |
| - Living | 10 (33) | 49 (70) | |
| Latent tuberculosis | 11 (37) | 1 (1) | <0.001 |
| Hepatitis B core antibody positive | 6 (20) | 0 | <0.001 |
| CMV mismatch (D+/R-) | 1 (3) | 25 (36) | 0.002 |
| Patients with infectious complications | 27 (90) | 51 (73) | 0.1 |
| Median of infectious episodes | 2 | 1 | 0.6 |

***Conclusion.*** Per this preliminary data, foreign-born transplant recipients had a higher frequency of LTBI, hepatitis B core antibody and infectious complications, but lower frequency of CMV mismatch. No cases of tuberculosis, hepatitis B reactivation or tropical diseases were observed.

***Disclosures.*** **Patricia F. Walker, MD, DTM&H, FASTMH**, **UpToDate** (Other Financial or Material Support, Royalties from UpToDate for chapter on refugee screening)

**1109. Valgancyclovir Dosing for Cytomegalovirus Prophylaxis in Heart Transplant Recipients**

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**Session:** P-49. Infections in Immunocompromised Individuals

***Background.*** Cytomegalovirus (CMV) is one of the most common infections after transplantation and continues to cause significant morbidity and mortality. Current guidelines recommend 3-6 months of post-transplant prophylaxis with 900mg daily of valganciclovir in heart transplant recipients. At our institution, however, the protocol is to use 450mg daily of valganciclovir for 6-12 months for intermediate risk (R+) patients and 900 mg daily for high risk (D+/R-) patients. In this study we aimed to identify underlying patient characteristics associated with detectable viral load above the quantifiable threshold.

Table 1. Comparison of patients with a CMV viral above and below 137.

| Table 1. Comparison of patients with a CMV viral above and below 137. | | | |
|---|---|---|---|
| | CMV viral load > 137 (n = 38) | CMV viral load < 137 (n = 59) | p-value* |
| Transplant age - years | 60.5 (IQR 48.5-64) | 57 (IQR 46-63) | 0.41 |
| CMV donor/recipient mismatch | 22 (57.9%) | 8 (15.7%) | < 0.01 |
| 900 mg daily valgancyclovir | 9 (23.7%) | 2 (4.6%) | 0.02 |
| **CMV IgG recipient positive (n = 55)** | | | |
| | n = 16 | n = 49 | |
| Transplant Age - years | 61.5 (IQR 35-65) | 57 (IQR 46-63) | 0.57 |
| 900 mg daily valgancyclovir | 4 (25%) | 2 (4.1%) | 0.03 |
| **CMV donor/recipient mismatch (n = 30)** | | | |
| | n = 22 | n = 8 | |
| Transplant Age - years | 60 (IQR 49.8-62.3) | 52.2 (IQR 34.3-57.8) | 0.17 |
| 900mg daily valgancyclovir | 5 (22.7%) | 0 | 0.287 |

*Categorical data compared via Fischer's exact test Continuous data compared via Mann-Whitney U test