Session: P-79. Transplant: Studies of Pre-transplant Screening and Evaluation

Background. Hematopoietic stem cell transplantation (HCT), and other forms of cellular therapies such as chimeric antigen receptor T cell therapy (CAR-T), while of critical therapeutic value, confers significant, long-term risk of infectious complications. Recipients would benefit from evaluation by infectious disease (ID) specialists. However, amidst many existing guidelines from ID and oncology societies, pre-transplant ID evaluation and management practices vary across US institutions. To better understand these variations and identify targets for standardization, we conducted a survey of ID and oncology providers at transplant centers in the US.

Methods. A 38-question, anonymous, voluntary, online survey was distributed via Google Forms to a professional organization e-mail list of ID providers as well as to followers of relevant Twitter accounts. Responses were collected and analyzed.

Results. A total of 51 responses were received, the majority of which (68.6%) came from ID providers. 60.8% of respondents worked at healthcare facilities with over 500 beds. 43 respondents (84.3%) reported that their center performed autologous and allogeneic HCT as well as CAR-T. 56.8% of CAR-T centers used a standardized template, compared to 70.8% of those providing HCT. For allogeneic HCT centers, 8% reported that no ID evaluation is offered; 34% reported that it is offered “sometimes.” Practices varied for treatment of latent tuberculosis infection prior to HCT: 26.5% treat “All the time;” 10.2% treat “Very rarely.” In assessing risk factors, only 63% and 54% identified HIV infection and healthcare occupation, respectively, as epidemiologic risk factors for tuberculosis infection. 59.2% answered that < 10% of patients are screened for Strongyloides. Only 5 respondents reported universal Strongyloides screening prior to transplant. COVID-19 vaccination for family is recommended “Always” by 95.5% of respondents. 25% have offered influenza vaccination to family through the transplant clinic.

Table 1

| Evaluation offered to candidates | Pre-AllHCT | Pre-AutoHCT | Pre-CAR-T |
|----------------------------------|-----------|------------|-----------|
| All the time                     | 58%       | 34%        | 40.9%     |
| Sometimes                        | 34%       | 34%        | 31.4%     |
| Average percentage of candidates undergoing ID evaluation | 40.76% | 27.21% | 30.25% |
| Standard template available for ID evaluations | 62.5% | 45.5% |

Differences in ID evaluation practices by type of cellular therapy candidate.

Table 2

| Respondent / Patient populations represented (n=51) | Pediatrics | Adults | Both | Urban | Rural | Suburban |
|---------------------------------------------------|------------|--------|------|-------|-------|----------|
| Size of medical facility                          |            |        |      |       |       |          |
| >500 beds                                         | 60.8%      | 76.5%  | 6.8% |       |       |          |
| >100-500 beds                                     | 37.3%      |       |     |       |       |          |
| <300 beds                                         | 2%         |       |     |       |       |          |
| Region                                            |            |        |      |       |       |          |
| Northeast                                         | 37.3%      |       |     |       |       |          |
| Midwest                                           | 37.3%      |       |     |       |       |          |
| Southeast                                         | 5.9%       |       |     |       |       |          |
| Southwest                                         | 2%         |       |     |       |       |          |
| Gulf Coast                                        | 3.9%       |       |     |       |       |          |
| Pacific Northwest                                 | 7.8%       |       |     |       |       |          |
| West/Rocky Mountains                              | 5.9%       |       |     |       |       |          |

Characteristics of survey respondents.

Conclusion. Practices around pre-HCT infectious disease evaluation and management are heterogeneous among the centers surveyed. The adoption of standardized screening for and management of infectious diseases in this patient population would likely be beneficial.

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1385. Impact of Deceased Organ Donor Injection Drug Use on Donor Culture Positivity

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Session: P-79. Transplant: Studies of Pre-transplant Screening and Evaluation

Background. With the ongoing opioid epidemic in the US, there has been an increase in the proportion of deceased organ donors with a history of injection drug use (IDU), raising concern for additional infectious risks to transplantation. We sought to determine how recent IDU among deceased organ donors impacted donor culture results.

Methods. A retrospective cohort study was conducted at four transplant centers in Philadelphia between 1/1/2015 and 6/30/2016. All deceased organ donors who donated ≥1 organ to one of the centers were included. Exposed donors were those with a recent history of IDU (defined by use in the prior 12 months based on donor chart review). Unexposed donors were those with no recent history of IDU. The primary outcome was any positive donor culture (taken during the terminal hospitalization or at the time of organ procurement) for bacteria or Candida. Multivariable logistic regression was used to determine the association between recent IDU and donor culture positivity. Secondary, the association between donor IDU and isolation of (1) a multidrug-resistant organism (MDRO) on culture, (2) Staphylococcus aureus on culture, (3) Candida on non-respiratory culture, and (4) bacteria or Candida on blood culture were determined.

Results. Of 394 total donors, 66 (17%) had a history of recent IDU and 343 (87%) had at least one positive donor culture. On multivariable analysis, recent IDU was associated with significantly increased odds of having at least one positive donor culture (OR 3.6, 95% CI 1.1-11.9, P=0.04) and Candida on non-respiratory culture (OR 2.6, 95% CI 1.1-6.2, P=0.03). However, recent IDU was not significantly associated with increased odds of MDRO on culture (OR 0.90, 95% CI 0.41-1.93, P=0.79), S. aureus on culture (OR 1.35, 95% CI 0.79-2.28, P=0.27), or positive blood culture (OR 0.79, 95% CI 0.32-1.95, P=0.60).

Conclusion. Donors with a recent history of IDU are more likely to have bacteria or Candida identified on cultures taken during their terminal hospitalization or at organ procurement. This increase does not appear to be driven by MDROS, S. aureus, or bloodstream infections but rather by Candida isolated from non-respiratory sites, potentially alleviating some fears surrounding the acceptance of solid organs from donors with a history of recent IDU.

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1386. Seroprevalence of Strongyloides in Liver Transplant Candidates at a Tertiary-Level Hospital in Newark, NJ

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Session: P-79. Transplant: Studies of Pre-transplant Screening and Evaluation

Background. The liver transplant center at University Hospital (Newark, NJ) is one of the busiest in northern NJ. Current guidelines for Strongyloides stercoralis (Ss) screening in solid organ transplant recipients recommend targeted testing. We propose a high seroprevalence of this infection in our facility given its significant percentage of foreign-born patients from Ss endemic areas such as Latin America, the Caribbean, and Africa.

Methods. Descriptive study from secondary data. We obtained the total number of Strongyloides antibody tests performed at University Hospital in the last two years (08/2018-10/2020). Subsequently, medical charts were reviewed to obtain epidemiological and clinical data.

Results. A total of 388 patients underwent screening for Strongyloides antibody, of whom 71 (18%) were positive. The test was mainly performed in male (58%) and foreign-born (55%) patients. More than half (55%) of the US-born individuals had history of travel overseas. The main reasons for testing were transplant evaluation (65%), immunosuppression (14%) and eosinophilia (9%). There was no association between transplant evaluation and seropositivity (81% vs 81%, p = 0.994). Being foreign-born
was not associated with a positive test (19% vs 20%, p = 0.834), but for US-born patients, having a history of travel was associated with a positive test (33% vs 14%, p = 0.039). For the 8s positive patients, 34% had a HTLV-I/II test, 48% had at least one stool test, and 76% were given treatment.

**Conclusion.** There is a significant seroprevalence of 8s in our transplant candidate population, both non-foreign and foreign-born, prompting the indication for universal screening at our facility.

**Disclosures.** No reported disclosures

**1387. Impact of Cytomegalovirus Prophylaxis on Healthcare Resource Use and Costs among Kidney Transplant Recipients: A United States Renal Data System-Medicare Linked Database Study**

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**Session:** P-79. Transplant: Studies of Pre-transplant Screening and Evaluation

**Background.** Cytomegalovirus (CMV) management requires a balance between reducing the risk of CMV infection and avoiding anti-viral toxicities. Limited information is available on the impact of CMV prophylaxis on the healthcare resource use (HCRU) and costs among adult kidney transplant recipients (KTRs) in the United States. Therefore, we examined HCRU and cost associated with CMV prophylaxis stratified by the CMV risk categories among KTRs at 1 year post-KT.

**Methods.** We identified a cohort of 22,918 adults first-time KTRs during 2011–2017 using the US Renal Data System registry-linked Medicare data. Additional inclusion criteria were to have continuous coverage in Medicare Part A & B for ≥6-month pre- and ≥12-month post-KT and Medicare Part D for ≥12-month post-KT. CMV prophylaxis was confirmed as ≥1 prescription fill for valganciclovir (valganciclovir prophylaxis does within 28 days post-KT.

**Results.** CMV prophylaxis was utilized in 86%, 82%, and 32% of high, intermediate, and low-risk KTRs with an average cost of prophylaxis per KTRs of $16,241, $9,481, and $8,648, respectively. In no prophylaxis groups, valganciclovir was utilized in 52%, 34%, and 36% of KTRs (as either pre-emptive or deferred therapy) with an average cost of $6,719, $2,722, and $543 among high, intermediate, and low-risk KTRs, respectively. Among high-risk KTRs, CMV prophylaxis group had significantly higher prescription drug cost ($26,066 vs. $13,433) but a lower average direct healthcare medical cost ($84,914 vs. $101,268), mainly due to lower all-cause hospitalization cost ($56,758 vs. $69,852) (Table 1). CMV prophylaxis group had lower rates of all-cause rehospitalization, and CMV-and opportunistic infection (OI)-related hospitalization compared to no prophylaxis (Table 2). In high-risk KTRs, nearly 32% had myelosuppressive events-related hospitalization, and 15% inhaled granulocyte colony-stimulating factors with an average cost of $4,695 per treated KTR.

**Conclusion.** CMV prophylaxis had a higher cost of medications but had a lower overall cost with including all-cause and CMV-related hospitalizations. Myelosuppressive events were frequent and resource-intensive especially in high and intermediate-risk KTRs.

| Table 2. Baseline Susceptibility of NTM in patients with NTM infections |  |  |  |  |  |
|---|---|---|---|---|---|
| M. abscessus | M. avium complex | M. gordonae | M. xenopi | M. tuberculosis |
| Fully susceptible | 100 | 100 | 100 | 100 | 100 |
| Intermediate susceptible | 3 | 3 | 3 | 3 | 3 |
| Minor resistant | 10 | 10 | 10 | 10 | 10 |
| Major resistant | 0 | 0 | 0 | 0 | 0 |

**Disclosures.** Amit D. Raval, PhD; Mercè & Co., Inc. (Employee) Yue Xin Tang, PhD, MD, PhD; CS; Priya Saravanan, MS; Mercè & Co., Inc.; Rush University Medical Center, Chicago, Illinois

**1388. Epidemiology and Treatment Outcomes of Nontuberculous Mycobacterial Infections at a Community Teaching Hospital in the Southeastern United States**

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**Session:** P-80. Tuberculosis and other Mycobacterial Infections

**Background.** Gaps in evidence concerning the epidemiology of nontuberculous mycobacterial (NTM) organisms and their associated treatment outcomes are evident in the literature. The aim of this study was to describe NTM species distribution and susceptibility profile and associated treatment outcomes among adult patients at a tertiary referral hospital in the Southeastern United States.

**Methods.** A retrospective cohort study of adult patients with NTM infections from January 1, 2010 to June 30, 2020 was performed. Included patients had a positive culture for NTM species and clinical suspicion of infection. Patients were excluded if they had concurrent positive culture for M. tuberculosis (MTB) or monomicrobial culture for M. gordonae. Study endpoints included predictors for favorable treatment outcome, species distribution, and susceptibility at baseline. Favorable treatment outcome was defined as physician-guided cessation of therapy due to clinical improvement. Univariate followed by multivariate regression analysis was used to analyze favorable predictors ≥1 prescription fill.

**Results.** A total of 250 and 78 patients were included in microbiologic and outcomes cohorts, respectively. Among treated patients, 47 (60%) had a favorable treatment outcome. The outcomes cohort consisted primarily of non-Hispanic Caucasians (71%) with pulmonary infection (67%). The most common isolates observed were Mycobacterium avium complex (MAC) (67%) and M. abscessus (18%). Being self-pay, underweight, history of MTB treatment, and concurrent asthma were more common in those with unfavorable treatment outcomes. The significant favorable predictors included antibiotic change not due to escalation or de-escalation of therapy and private insurance. Among MAC isolates, clarithromycin and amikacin were highly susceptible; however, M. abscessus had reduced susceptibility to first-line agents such as amikacin, clarithromycin, and cefoxitin (Table 1).

**Conclusion.** Considering the long incubation time, knowledge of pre-existing risk factors with an average cost of $4,695 per treated KTR.

| Table 1. Baseline Susceptibility of NTM in patients with NTM infections |  |  |  |  |  |
|---|---|---|---|---|---|
| M. abscessus | M. avium complex | M. gordonae | M. xenopi | M. tuberculosis |
| Fully susceptible | 100 | 100 | 100 | 100 | 100 |
| Intermediate susceptible | 3 | 3 | 3 | 3 | 3 |
| Minor resistant | 10 | 10 | 10 | 10 | 10 |
| Major resistant | 0 | 0 | 0 | 0 | 0 |

**Disclosures.** Amit D. Raval, PhD; Mercè & Co., Inc. (Employee) Yue Xin Tang, PhD, MD, PhD; CS; Priya Saravanan, MS; Mercè & Co., Inc.; Rush University Medical Center, Chicago, Illinois

**1389. Nontuberculous Mycobacterial Infections of the Upper Extremity**

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**Session:** P-80. Tuberculosis and other Mycobacterial Infections

**Background.** Although uncommon, nontuberculous mycobacterial infections (NTMI) of the upper extremity cause significant morbidity based on their natural history, delay in diagnosis, prolonged duration of antimicrobial therapy often combined