Table 3. Univariate analysis of variables associated with vaccine uptake

| Variable                  | Odds ratio (95% CI) | P value |
|---------------------------|---------------------|---------|
| Age                       | 0.95 (0.97-1.02)    | 0.697   |
| Gender Female vs Male     | 0.72 (0.42-1.24)    | 0.238   |
| Race Black vs White       | 1.76 (0.92-3.36)    | 0.859   |
| Race Other vs White       | 3.81 (0.50-28.83)   | 0.308   |
| Distance to transplant center | 1 (0.99-1.00)   | 0.801   |
| Smoking history YES vs NO | 0.57 (0.29-1.15)    | 0.128   |
| Charlson Comorbidity Index| 0.97 (0.87-1.08)    | 0.578   |
| Insurance BCN vs Medicare | 0.58 (0.18-1.83)    | 0.907   |
| Insurance BCBS vs Medicare| 1.47 (0.66-2.89)    | 0.833   |
| Insurance HAP vs Medicare | 6.39 (0.85-47.77)   | 0.071   |
| Insurance Medicaid vs HAP | 1.07 (0.42-2.68)    | 0.567   |
| Insurance Other vs Medicare| 1.07 (0.39-2.91)   | 0.606   |
| Liver transplant vs Kidney| 0.49 (0.27-0.88)    | 0.048*  |
| Lung transplant vs Kidney | 2.33 (0.53-10.23)   | 0.146   |
| Multivisceral transplant vs Kidney | 0.95 (0.31-3.12) | 0.972   |
| Small bowel transplant vs Kidney | 0.65 (0.08-6.66) | 0.684   |
| HFHS PCP YES vs NO        | 2.71 (1.45-5.07)    | 0.002*  |
| PCP visits before transplant| 1.54 (1.16-2.30)  | 0.003*  |
| Transplant visits before transplant | 1.13 (1.02-1.27) | 0.023*  |
| ID visits before transplant| 5.49 (3.06-43.06)  | 0.096   |
| Hospital admissions before transplant | 1.17 (1.00-1.37) | 0.049*  |

Abbreviations: CI, confidence interval; BCN, Blue Care Network; BCBS, Blue Cross Blue Shield; HAP, Health Alliance Plan; HFHS, PCP, PCP from Henry Ford Health System. *Represents p-values <0.05.

Table 4. Multivariate analysis of factors associated with vaccine uptake

| Variable                  | Odds ratio (95% CI) | P value |
|---------------------------|---------------------|---------|
| Liver transplant vs Kidney| 0.43 (0.23-0.84)    | 0.056   |
| Lung transplant vs Kidney | 2.04 (0.44-9.51)    | 0.173   |
| Multivisceral transplant vs Kidney | 0.69 (0.21-3.20) | 0.727   |
| Small bowel transplant vs Kidney | 0.65 (0.06-6.74) | 0.794   |
| HFHS PCP YES vs NO        | 2.03 (1.06-3.88)    | 0.033*  |
| Smoking history YES vs NO | 0.54 (0.29-0.98)    | 0.043*  |
| PCP visits before transplant| 1.47 (1.11-1.96)  | 0.008*  |
| Transplant visits before transplant | 1.08 (0.94-2.13) | 0.296   |
| Hospital admissions before transplant | 1.17 (1.02-1.41)| 0.056   |

Abbreviations: CI, confidence interval; HFHS, PCP, PCP from Henry Ford Health System. *Represents p-values <0.05.

Disclosures. All authors: No reported disclosures.

1756. Role of Human bocavirus Respiratory Tract Infection in Hematopoietic Cell Transplant Recipients

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Session: 169. Transplant ID: Viral, Mycoplasma/Ureaplasma Infections

Friday, October 4, 2019: 12:15 PM

Background. Limited data exist regarding the impact of human bocavirus (BoV) in hematopoietic cell transplant recipients. We examined incidence and disease spectrum of BoV respiratory tract infection (RTI) in HCT recipients.

Methods. In a longitudinal surveillance study of viral RTIs among allogeneic HCT recipients, pre-HCT and weekly post-HCT nasal washes and symptom surveys were collected through day 100, then every 3 months, and whenever respiratory symptoms occurred through 1 year post-HCT. Samples were tested by multiplex semi-quantitative PCR for RSV, parainfluenza virus 1–4, influenza A/B, adenovirus, human metapneumovirus, rhinovirus, coronavirus, and BoV. Plasma samples from BoV+ subjects were analyzed by PCR. In addition, we conducted a retrospective review of HCT recipients with BoV detected in bronchoalveolar lavage or lung biopsy.

Results. Among 469 patients in the prospective cohort, 21 distinct BoV RTIs (3% of patients) were identified. Univariable models among patients with BoV RTI post-HCT showed higher peak viral load in nasal samples (P = 0.04) and presence of respiratory copathogens (P = 0.03) were associated with presence of respiratory symptoms; however, BoV detection in plasma was not (P = 0.8). Retrospective review identified 6 allogeneic HCT recipients (range 1–64 years old) with BoV detected in lower respiratory tract specimens (incidence rate of 0.4% (9/2,385) per sample tested). Although all 6 cases presented with hypoxemia, 4 had significant respiratory copathogens or concomitant conditions that contributed to respiratory compromise. No death was attributed mainly to BoV lower RTI.

Conclusion. BoV is infrequently detected in respiratory tract in HCT recipients. Our studies did not demonstrate convincing evidence that BoV is a significant pathogen in either upper or lower respiratory tracts. Watery eyes were associated with BoV detection.

1757. Hepatitis C-Infected Donors and Hepatitis C-Infected Recipients: Analysis of Renal Transplant Outcomes

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Background. Increased utilization of hepatitis C virus (HCV)-infected organs could reduce the supply-demand mismatch in organ transplantation. It is important to determine precise outcomes of HCV-positive organs transplanted into HCV-positive recipients (HCV D+R+) to quantify risk for patients and other stakeholders. Small studies have identified shorter wait times in HCV D+R+ compared with HCV-negative donor and HCV-positive recipients (HCV D−R+), but there is little information about survival and rejection in the era of effective direct-acting antivirals (DAA).

Methods. We performed a retrospective cohort study of all cases of renal transplantation involving HCV-positive recipients at an academic medical center from 2008 to 2019. We extracted data using the institutional electronic transplant database. Demographics, incidence of organ rejection, renal function and patient mortality data were compared between HCV D+R+ and HCV D−R+.

Results. Among 3,781 patients who received a kidney transplant between 2008–19, 139 were HCV D+R+ and 51 were HCV D−R+. Both groups had similar waiting time (1,196 ± 889 days vs. 1,301 ± 1240 days, P > 0.20), donor age (37 ± 11 y vs. 39 ± 13 years, P > 0.20) and sex (female: 37% vs. 42%, P > 0.20). Follow-up time was similar between both groups (5.2 ± 4 years vs. 5.3 ± 3 years, P > 0.20). The incidence of mortality (16% vs. 17%, P > 0.20) [Figure 1] and rejection (18% vs. 19%, P > 0.20) [Figure 2] was similar between two groups. Using a Cox Hazards model, we found
no association between HCV D+/R+ and increasing risk of rejection (HR 0.92, 95% CI 0.43–1.95, P > 0.20) or mortality (HR 0.93, 95% CI 0.42–2.1, P > 0.20). In a multivariate analysis, age was the only independent risk factor for HCV D+/R+ mortality (HR = 1.09, 95% CI 1.03–1.14, P < 0.001).

Conclusion. Patients who are HCV-positive did not have worse mortality or graft rejection if they received HCV-positive kidneys compared with HCV-negative kidneys. Providers can use these data to give specific risk information to HCV-positive patients about accepting an HCV-positive kidney for transplant, even perhaps encouraging it. Increasing the utilization of HCV-positive kidneys for transplantation in the era of effective DAA has the potential to offer life-saving treatment to substantially more patients.

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1758. Epidemiology of Invasive Mycoplasma and Ureaplasma Infections Early after Lung Transplantation

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Session: 169. Transplant ID: Viral, Mycoplasma/Ureaplasma Infections

Background. Mycoplasma and Ureaplasma species can cause invasive infections early after lung transplant that are difficult to diagnose and associated with substantial morbidity, including hyperammonemia syndrome. Data on the epidemiology and clinical outcomes of these infections are needed to inform clinical management and screening protocols for donors and recipients.

Methods. We retrospectively collected clinical data on all patients who underwent lung transplantation at our hospital from January 1, 2010 to April 15, 2019 and subsequently had positive cultures or PCR studies for M. hominis or Ureaplasma spp. Patients with positive studies from only the genitourinary tract were excluded. We analyzed donor and recipient clinical characteristics, treatment courses, and outcomes for up to 2 years after transplant.

Results. Of 1055 total lung transplant recipients, 20 (1.9%) patients developed invasive infection with M. hominis or Ureaplasma spp. M. hominis caused the first 10 infections (2010–2016), and Ureaplasma spp. caused 10 subsequent infections (2017–2019). Date of first positive culture or PCR study occurred a median of only 19 days after transplant (range, 4–90 days). Median donor age was 31 years (range, 18–45 years), and chest imaging for 16 (80%) donors revealed airspace disease compatible with aspiration. Infection outside of the respiratory tract was confirmed for 13 (65%) recipients, including 8 patients with M. hominis empyemas (Figure 1). Ten (50%) patients developed altered mental status that was temporally associated with infection; 8 (80%) of these patients had elevated serum ammonia levels, including 3 patients with M. hominis infection. Median duration of therapy was 6 weeks (IQR, 4–9 weeks), consisting of combination antimicrobial regimens for nearly all patients. Additional postoperative complications were common, and 11 (55%) patients died within 1 year after transplant (median, 117 days; IQR, 65–255 days) (Figure 2).

Conclusion. Ureaplasma and M. hominis infections occurred early after lung transplant and were associated with substantial morbidity and mortality. Transplant clinicians should have low thresholds for performing specific diagnostic testing for these organisms. Protocols for donor and recipient screening and management need to be developed.

Figure 1. Sites of infection among 20 lung transplant recipients who developed invasive infection from Mycoplasma or Ureaplasma.*

*Patients with more than 1 site of infection were included in multiple categories. BAL, bronchoalveolar lavage.

Figure 2. Clinical courses of 20 lung transplant recipients who developed invasive Mycoplasma or Ureaplasma infection from 2010–2019.

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1759. Incidence of Hospitalizations and Emergency Department Visits for Herpes Zoster in Immunocompromised and Immunocompetent Adults in Ontario, Canada, 2002–2016

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Session: 169. Transplant ID: Viral, Mycoplasma/Ureaplasma Infections

Background. Adults with immunocompromising conditions are at increased risk of herpes zoster (HZ) infection and related complications. We aimed to assess the incidence of HZ seen in hospital or emergency department in immunocompromised populations and compare it to that of immunocompetent populations.

Methods. Using healthcare administrative data, we calculated incidence rates (IR) of HZ complications by immunocompromised status. We also calculated IRs and IRRs of HZ complications by immunocompromised status.