Children's Hospital Medical Center, Richmond, Virginia; \(^{11}\)University of Chicago Medical Center, Richmond, Virginia; \(^{12}\)Stanford Health Care, Richmond, Virginia; \(^{13}\)UCSD, San Diego, California; \(^{14}\)UPMC Children's Hospital of Pittsburgh, Pittsburgh, Pennsylvania

**Session:** 33. Transplant ID
**Thursday, October 3, 2019: 10:45 AM**

**Background.** In the United States, all deceased donors (DD) are evaluated for behavioral risk factors for human immunodeficiency virus (HIV), hepatitis B (HBV), and hepatitis C (HCV) infection during the past 12 months. DD with behavioral risk factors or hemodilution are designated as PHS increased risk donors (IRD). Since 2013, the number of IRD has increased from 13.4% of DD to 27% in 2018. Despite a low residual risk of disease transmission after a negative nucleic acid test for HIV/HBV/HCV, the considerable underutilization of IRD has driven an interest in revising the PHS IRD 2013 guidelines. The objective of this study was to describe the epidemiology of IRD with the goal of guiding policy change and maximize organ use.

**Methods.** This is a retrospective cohort study of DD during 2018. Characteristics of IRD were compared with non-IRD. A random 10% sample of IRD was selected for manual review of text narratives and donor questionnaires submitted by organ procurement organizations to determine specific PHS IRD factors. Categorical variables were compared using the \(\chi^2\) test and continuous variables were compared using a 2-sample t-test for independent samples.

**Results.** Among 10,721 DD in 2018, 2,904 were designated IRD (27.1%) with regional variability noted (Figure). Compared with non-IRD, IRD were younger (median age 35 vs. 45 years, \(P < 0.001\)) and more often died from drug intoxication (33.2 vs. 5.6%, \(P < 0.001\)). Hemodilution was found in 6.8% of all IRD and was the only factor for IRD designation in 60% of pediatric donors <12 years old. The random sample of IRD (N = 288) was similar to IRD population for age, gender, ethnicity, cause of death, and region of recovery (table). Descriptive analysis of the random sample showed that intravenous drug use was the most common behavioral risk factor (N = 124, 43.1%), followed by incarceration (N = 108, 37.5%). Most DD met only 1 criterion (N = 179, 62%); 21% met 2 criteria; and 17% had >3 criteria.

**Conclusion.** This study represents the most detailed description of PHS IRD factors since the adoption of the new guidelines in 2013. Understanding the prevalence of factors that lead to IRD designation will help inform future policy development, optimize safe DD use, and increase the number of transplants.

Table: Deceased-Donor Demographics and PHS Risk Factors in 2018

| Characteristic                                      | All DD (n = 10,721) | Random Sample of 2018 IRD (n = 288) |
|----------------------------------------------------|---------------------|--------------------------------------|
| Number of Donors (%)                                |                      |                                      |
| Donor Age (median, IQR)                            | 36 (28–56)          | 33 (27–40)                           |
| Pedigree (1 vs. 2a,2b,2c)                           | 47 (8.7%)           | 47 (17.0%)                           |
| Hematocrit >40%                                    | 166 (12.2%)         | 213 (72.2%)                          |
| Hemoglobin <11 g/dL                                 | 31 (2.0%)           | 0 (0.0%)                             |
| Race/Ethnicity                                     |                      |                                      |
| White                                              | 7668 (66.5%)        | 1995 (69.7%)                         |
| Black or African-American                          | 1728 (16.5%)        | 498 (17.5%)                          |
| Hispanic                                           | 1508 (14.2%)        | 209 (12.1%)                          |
| Other/Multiracial                                   | 477 (4.4%)          | 101 (3.5%)                           |
| AIDS Risk Factors (fection, %)                     |                      |                                      |
| HIV                                                | ---                 | 128 (42.1%)                          |
| Hepatitis                                          | ---                 | 116 (38.9%)                          |
| Sev ≥ 2/indol/individual w/ KD/IV                  | ---                 | 35 (11.4%)                           |
| HCV                                               | ---                 | 21 (7.6%)                            |
| Sev ≥ 2/indol/individual w/ KD/IV/HK                | ---                 | 26 (8.5%)                            |
| HBV                                               | ---                 | 11 (3.5%)                            |
| Female who had Sex with Men                       | ---                 | 2 (0.7%)                             |
| Pedigree Donor Born to KD/IV or Inherited Risk for | ---                 | 1 (0.3%)                             |
| HD/IV/HKV                                          | ---                 | 0 (0.0%)                             |

**Disclosures.** All Authors: No reported Disclosures.
90. Fecal Microbiota Transplantation in Metastatic Melanoma Patients Resistant to Anti-PD-1 Treatment

Ilan Youngster, MD, MMSc2; Erez Baruch, MD2; Lior Katz, MD2; Adi Lahat, MD3; Tal Bashosh Nissimov, MD2; Jacob Schachter, MD2; Oriemy Koren, PhD1; Gal Markel, MD, PhD1 and Ben Bouris, MD, PhD1;1Shamir Medical Center, Nes Ziona, HaMerkaz, Israel; 2Sheba Medical Center, Ramat Gan, Tel Aviv, Israel; 3Hadassah Medical Center, Jerusalem, Yerushaylim, Israel; 4Assuta Medical Center, Ashdod, HaDaron, Israel; 5Bar-Ilan University, Zafed, HaZafon, Israel

Session: 33. Transplant ID
Thursday, October 3, 2019: 11:15 AM

Background. Most metastatic melanoma patients treated with programmed cell death (PD)-1 blockers fail to achieve a durable response. The gut microbiota profoundly affects host immunity, and fecal microbiota transplantation (FMT) have been shown to enhance anti-PD-1 effectiveness in murine models. We report initial safety and efficacy results from the first patients treated in a Phase 1 study of FMT and re-induction anti-PD-1 therapy in anti-PD-1 refractory metastatic melanoma.

Methods. FMT donors were two metastatic melanoma patients who achieved a durable complete response to treatment. FMT recipients were metastatic melanoma patients who failed at least one anti-PD-1 line of treatment. FMT was conducted by both colonoscopic and oral administration, followed by anti-PD-1 re-treatment. Each recipient underwent pre- and post-treatment stool sampling, tissue biopsy of both gut and tumor, and total body imaging.

Results. Five patients with treatment-resistant metastatic melanoma were recruited. No FMT-related or immunotherapy-related adverse events were observed. To assess engraftment of the new microbiota, recipients were paired with their respective donors and stool 16s rRNA gene sequence analysis was performed. Sequencing results demonstrated post-FMT compositional dissimilarity (Unweighted UniFrac, P = 0.04 FDR q = 0.22) between the two recipient-donor groups. Specific taxonomic dynamics included post-FMT increased abundance of Paraprevotellaceae, previously associated in descriptive studies with responsiveness to treatment, and significant reductions in abundance of β-proteobacteria, previously associated with reduced response to treatment. Immunohistochemical stains of biopsies demonstrated an increased post-FMT infiltration of antigen presenting cells (CD68+ e in the gut (paired T-test, P = 0.008) and in the tumor (P = 0.0076). Post-treatment intra-tumoral CD8+ T-cell infiltration was also increased. Three patients had a partial or complete response to post-treatment FMT.

Conclusion. FMT in metastatic melanoma patients seems to be safe and may alter recipient gut microbiota to resemble that of a responder donor. This alteration may result in intra-tumoral T-cell activity, and conferred clinical and radiological benefits in several recipients previously unresponsive to treatment.

Disclosures. All Authors: No reported Disclosures.

91. Differential Impact of Cytomegalovirus (CMV) Donor (D) Serostatus on Rates and Kinetics of CMV Viremia among CMV Seropositive Recipients (R+) of Ex Vivo T-cell Depleted (TCD) and Unmodified (CONV) Hematopoietic Cell Transplants (HCT)

Anat Stern, MD1; Yiqi Su, MS1; Jiaqi Fang, MD, MPH1; Miguel Perales, MD1; Molly Maloy, MS CCRP1; Sergio Giralt, MD1 and Genovefa Papanicolaou, MD1; Memorial Sloan Kettering Cancer Center, New York, New York; 2MSKCC, New York, New York

Session: 33. Transplant ID
Thursday, October 3, 2019: 11:30 AM

Background. In unmodified (CONV) HCT, CMV donor seropositivity (D+) conveyed partial protection against CMV disease mediated by the transfer of donor CMV T-cell immunity through the allograft. Ex vivo T-cell depletion by CD34 selection affords a stringent depletion of donor T cells, thus transfer of donor T-cell immunity to CMV would be negligible. We evaluate the impact of CMV D serostatus on rates and kinetics of CMV viremia by Day (D)100 post-HCT in a contemporary cohort of CONV and TCD recipients from a single center.

Active cohort study of R+ adult recipients of first peripheral blood or marrow HCT for hematologic malignancies (excluding multiple myeloma); from June 2010 to December 2017 at MSKCC. Routine CMV monitoring by a quantitative PCR assay occurred weekly from D14 through D100. Patients were treated preemptively. CMV viral burden was assessed as the time-averaged area under the viremia curve over 100 days from HCT (AAUC) calculated as the sum of the area of trapezoids of AUC viral loads divided by the number of weeks of follow-up viremia. The median AAUC for all patients with CMV reactivation (AAUC≤500) was used to classify patients as CMV controllers (AAUC ≥ AAUC50) or noncontrollers (AAUC >AAUC50).

Results. Of 509 R+, 290 (57%) patients received CONV and 219 (43%) TCD HCT; from 300 (59%) D+ and 209 (41%) D- donors. In CONV, CMV viremia occurred more frequently in D+ than in D- (65% vs. 66%, P = 0.6). In contrast, in TCD, CMV viremia occurred more frequently in D+ compared with D- (83% vs. 71%, P = 0.03). Among CONV, D+ was associated with lower CMV burden (median AAUC) compared with D- (0.79 vs. 1.13, respectively, P = 0.0004). In contrast, in TCD, AAUC was similar between D- and D+ (1.91 vs. 1.35, P = 0.86). Among CONV with CMV viremia, D+ was more likely to be noncontrollers compared with D- (56% vs. 31%, respectively, P = 0.001). In contrast, among TCD with CMV viremia the proportion of noncontrollers was similar between D- and D+ (61% vs. 60%, respectively; P = 1).

Conclusion. Donor CMV serostatus has a differential effect on rates and kinetics of CMV viremia in R+ TCD and CONV HCT recipients. D+ is associated with less CMV viremia and less CMV burden in CONV but not in TCD. Our findings, if confirmed, have implications for donor selection algorithms.

Disclosures. All Authors: No reported Disclosures.

92. Incidence of Respiratory Syncytial Virus Infection among Hospitalized Adults, 2017–2019

Angela Branch, MD1; Lisa Saiman, MD, MPH2; Edward E. Walsh, MD3; Ann R. Falsey, MD1; William Selig, MPH1; Matthew Oberhardt, PhD2; Philip Zachariah, MD, MS2; William G. Greendyke, MD1; Angela Barrett, BA1; Celidh Vargas, MD3; Luis Alba, BS1; Matthew R. Phillips, MPH1 and Lyn Finelli, DrPH, MS2; 1University of Rochester, Rochester, New York; 2Columbia University Irving Medical Center; NewYork-Presbyterian Hospital, New York, New York; 3University of Rochester, Rochester General Hospital, Rochester, New York; 4University of Rochester Medical Center, New York, New York; 5NewYork-Presbyterian Hospital, New York, New York; 6Columbia University Irving Medical Center, New York, New York; 7Merck & Co., Inc., North Wales, Pennsylvania

Session: 34. Viral Infections - Host, Pathogen, and Impact of Intervention
Thursday, October 3, 2019: 10:30 AM

Background. Respiratory syncytial virus (RSV) infection has been increasingly recognized as an important cause of acute respiratory illness (ARI) and a trigger for exacerbation of underlying cardiopulmonary disease in adults. Incidence of hospitalized RSV infection remains uncertain as adults have not been systematically screened.