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of non-Covid infection was similar for each group (Table 1-3). In IEC patients incidence of cytokine release syndrome (CRS) and neurotoxicity (ICANS) were similar (Table 3). Altogether, with appropriate safety precautions and screening procedures, our data indicate that HSCT and IEC can be safely administered through the ongoing Covid-19 pandemic.

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Clinical Presentation and Outcomes of COVID-19 Following Hematopoietic Cell Transplantation

Jose F. Camargo, MD¹, Maria A Mendoza, MD², Rick Y Lin³, Ilona Moroz, APRN⁴, Anthony D. Anderson, PharmD, BCPS, BCIDP⁵, Michele I Morris, MD¹, Yoichiro Natori, MD⁶, Mohammed Raja, MD¹, Lazaros J. Lekakis, MD⁷, Amer Beitinjaneh, MD⁷, Antonio M Jimenez, MD⁷, Mark Goodman, MD⁷, Trent P Wang, DO, MPH⁷, Krishna V. Komanduri, MD⁷, Denise Pereira, MD⁷. ¹Division of Infectious Diseases, University of Miami, Miller School of Medicine, Miami, FL; ²Internal Medicine, Jackson Memorial Hospital, Miami, FL; ³University of Miami, Miller School of Medicine, Miami, FL; ⁴Division of Infectious Diseases, University of Miami Miller School of Medicine, Miami, FL; ⁵Department of Pharmacy, University of Miami, Sylvester Comprehensive Cancer Center, Miami, FL; ⁶Transplant Infectious Diseases, Jackson Memorial Hospital/University of Miami, Miami, FL; ⁷Division of Transplantation & Cellular Therapy, University of Miami Hospital and Clinics, Sylvester Comprehensive Cancer Center, Miami, FL

Introduction: SARS-CoV2 infection can be fatal and currently there is no curative antiviral treatment.

Objectives: Describe clinical presentation and outcomes of COVID-19 after hematopoietic cell transplantation (HCT).

Methods: We performed a single center retrospective cohort study of HCT recipients with laboratory-confirmed SARS-CoV2 infection.

Results: A total of 26 HCT patients (12 autologous and 14 allogeneic) with COVID-19 were identified. The median age at the time of COVID-19 diagnosis was 57 years (IQR, 44-67). The median time from HCT to infection was 646 days (IQR, 308-1,387). Patients were followed for a median of 44 days (IQR, 25-77). All but one were diagnosed via RT-PCR in nasopharyngeal swab; one patient presented with diffuse alveolar hemorrhage and positive PCR in BAL. Nine (35%) symptomatic patients had more than one negative test prior to diagnosis (range, 1-6). Among assessable patients (n=18), 10 (56%) had documented virological clearance defined as one negative PCR (without subsequent tests) or two consecutive negative PCRs; median time to clearance was 34 days (range, 21-56). One patient had possible reinfection two months after initial diagnosis, but wide genome sequencing was not available. Median shedding time (among patients with at least two consecutive positive tests; n= 13) was 25 days (range, 7-64). Symptoms on presentation were fever (65%), cough (46%), fatigue (35%), dyspnea (31%), vomiting/diarrhea (26%), headache (15%), myalgia (14%), hyposmia/hypogeusia (12%), sore throat (4%), rhinorrhea (4%). Laboratory findings on presentation included lymphopenia (60% median $0.9 \times 10^9/L$); elevated C reactive protein (100% median 105 mg/L), LDH (85% median 270 U/L), ferritin (83% median 1,736 $\mu g/L$), and IL-6 (83% median 147 pg/mL). COVID-19 was mild (no pneumonia on imaging), moderate (pneumonia on imaging) and severe (ARDS, mechanical ventilation or shock) in 11 (42%), 7 (27%) and 8 (31%), respectively. Severe COVID-19 was not influenced by transplant type (36 vs 25% for allogeneic vs. autologous; $P=0.7$) but was exclusively seen in patients 50 and older (42 vs 0%; $P=0.06$). Outpatients

(n=10) were primarily managed with supportive care. Fourteen (38%) patients were hospitalized and received steroids (n=9; 64%), remdesivir (n=7; 50%), azithromycin (n=5; 36%), hydroxychloroquine (n=4; 29%), tocilizumab (n=4; 29%), convalescent plasma (n=3; 21%) and IVIG (n=1; 7%). 30-day mortality was 15%, and exclusively seen in hospitalized patients, older than 50 with severe COVID-19; not significantly higher in allogeneic HCT (21 vs 8%, $P=0.6$), and did not seem to be affected by any COVID-19 therapy. Superimposed infections occurred in 6 (23%) cases.

Conclusion: COVID-19 HCT patients at our center had higher mortality than age-matched general population but similar to other HCT cohorts. Severity and mortality varied by age rather than transplant type or COVID-19 therapy.

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Lower Incidence of Cytomegalovirus Infection in Post-Transplant Cyclophosphamide HLA Mismatched Unrelated Donor Transplantation

Jose F. Camargo, MD¹, Yosuke Ebisu², Antonio M Jimenez, MD³, Yoichiro Natori, MD⁴, Ilona Moroz, APRN⁵, Michele I Morris, MD¹, Lazaros J. Lekakis, MD³, Amer Beitinjaneh, MD⁶, Mark Goodman, MD³, Trent P Wang, DO, MPH³, Denise Pereira, MD³, Krishna V. Komanduri, MD³. ¹Division of Infectious Diseases, University of Miami, Miller School of Medicine, Miami, FL; ²Medicine, Jackson Memorial Hospital, Miami, FL; ³Division of Transplantation & Cellular Therapy, University of Miami Hospital and Clinics, Sylvester Comprehensive Cancer Center, Miami, FL; ⁴Transplant Infectious Diseases, Jackson Memorial Hospital/University of Miami, Miami, FL; ⁵Division of Infectious Diseases, University of Miami Miller School of Medicine, Miami, FL; ⁶University of Miami, Miami, FL

Introduction: The use of haploidentical or HLA mismatched unrelated donors (MMUD) allows allogeneic hematopoietic cell transplantation (HCT) in individuals with otherwise no available donors. Post-transplant cyclophosphamide (PTCy) is used routinely for prevention of graft-versus-host disease (GVHD) in recipients of haploidentical transplants and its use is being explored in MMUD transplantation. We hypothesized that the incidence of cytomegalovirus (CMV) following allogeneic HCT would vary according to the choice of mismatched donor and GVHD prophylaxis.

Objective: Compare the incidence of CMV and rate of immune reconstitution between PTCy MMUD and alternative transplant modalities.

Methods: Single-center retrospective study of 22 consecutive PTCy MMUD transplanted between April 2017 and January 2019. Patients undergoing anti-thymocyte (ATG) MMUD (n=37) and PTCy haploidentical transplantation (n=19) between January 2015 and July 2018 served as historical controls. We assessed the 200-day survival and 200-day incidence of CMV (any viremia) and clinically significant CMV reactivation (cs-CMV; defined as CMV disease or CMV viremia leading to preemptive treatment) in these 3 groups. Immune reconstitution was assessed by absolute lymphocyte count (ALC) at days +30, +90, +180 and +360 post-transplant.

Results: For PTCy MMUD, PTCy haploidentical and ATG MMUD groups, the 100-day and 200-day incidence of CMV (any viremia) were 41, 63 and 77% ($P=0.02$), and 64, 68, and 86% ($P=0.049$, respectively (Fig. 1A). cs-CMV was also lower in PTCy MMUD compared to PTCy haploidentical and ATG MMUD (Fig. 1B; 14 vs 53 and 54% at day 100, $P=0.01$; and 25 vs 53 and 58% at day 200, $P=0.03$). Remarkably, there was a trend towards lower 200-day incidence of cs-CMV in PTCy MMUD