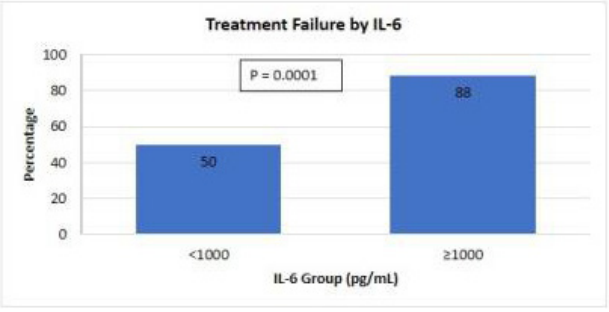
Subgroup Analysis

	Total Number	Treatment Failure	P-value
Age			
<65	55	52%	0.06
≥65	29	62%	
Gender			
Male	58	55%	0.54
Female	26	58%	
Ethnicity			
Hispanic	47	57%	0.55
Non-Hispanic	37	54%	
Past medical history			
Diabetes	29	66%	**0.003**
No diabetes	55	51%	
BMI (kg/m^2)			
<30	38	47%	**0.001**
≥30	46	63%	
Il-6 (pg/mL)			
<1000	70	50%	**0.0001**
≥1000	8	88%	
CRP (mg/dL)			
<20	25	48%	0.1
≥20	55	56%	

Outcome by Baseline IL-6 Levels



Conclusion: Overall mortality in our patients was 43%; however, our sample size was small and the study did not have a control group to fully assess treatment success or failure. Comorbidities such as diabetes and obesity, and elevated IL-6 levels were associated with significantly higher rates of treatment failure. Randomized control trials are needed to determine the true benefit of tocilizumab in COVID-19.

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

566. Tocilizumab: A Friend or a Foe in COVID-19 Management?

Jarelys M. Hernandez, MD[1]; Ripal Jariwala, PharmD[2]; Nicholas Piccicacco, PharmD[2]; Sadaf Aslam, MD[3]; Seetha Lakshmi, MD[4]; [1]University of South Florida, Tampa, Florida; [2]Tampa General Hospital, Tampa, FL; [3]University of South Florida, Tampa, Florida; [4]University of South Florida Morsani College of Medicine, Tampa, Florida

Session: P-21. COVID-19 Treatment

Background: The emergence of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) has led to many proposed treatments for COVID-19 induced cytokine release syndrome (CRS). We aimed to investigate the treatment response of Tocilizumab (TZB), an Interleukin-6 (IL-6) inhibitor in this single center study.

Methods: A retrospective chart review in COVID-19 patients was conducted from 03/18/20 - 05/20/20. Patients with PCR confirmed COVID-19 who received TZB were included. Variables included dose and timing of TZB, trend of acute phase reactants, time to improved oxygenation and defervescence, 30-day mortality, and hospital/intensive care unit (ICU) length of stay (LOS). Descriptive statistics were used.

Results: Twelve patients received TZB at least once during the study period. Median patient age was 51.5 years (interquartile range (IQR), 34–87), and mean body weight of 109 kg (SD = 33.8). At time of admission, mean day of illness was 6.6 days (SD = 3.3) into their illness. All patients received a standardized TZB dose of 400 mg, and 2 patients received a second dose. Nine out of 11 patients (75%) had elevated median IL-6 baseline levels of 38.3 (IQR < 5- 96.22). The average CRS score was elevated at 3.3 at the time of TZB administration.

All patients who received TZB were on supplemental oxygen, and 58% were mechanically ventilated. A decrease in oxygen requirement in 24 hours was seen in mechanically ventilated patients (71%) compared to those not on mechanical ventilation (20%). Median ICU days were 17.5 (IQR, 3–39), and median LOS days were 21.5 (IQR 8–46). All patients had sustained decreases in CRP post-TZB administration.

Almost half of patients (42%) were treated for bacterial pneumonia post TZB and 3 (25%) patients were treated for herpes simplex virus (HSV) reactivation. Majority (92%) of patients received additional COVID-19 therapies such as hydroxychloroquine, convalescent plasma, or remdesivir. During the study period only one patient expired.

Conclusion: Our findings suggest that TZB may have a role in mechanically ventilated patients in decreasing oxygen requirement. However larger randomized studies are needed to understand which patients would benefit the most. Our study also highlights secondary infections and HSV reactivation in TZB patients.

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

567. Use of corticosteroids and COVID-19 mortality in patients with pneumonia in a tertiary care center in México City

MARIA L. CABRERA-RUIZ, ID physician[1]; José Luis Castillo-Álvarez, n/a[2]; Armando Barragán-Reyes, n/a[2]; Daniela Bay-Sansores, n/a[2]; Jessica Isabel Pulido-Enríquez, n/a[2]; Paulo F. Castañeda-Mendez, MD PhD[2]; Luis Enrique Soto-Ramírez, MD PhD[2]; [1]HOSPITAL MEDICA SUR, MEXICO, Distrito Federal, Mexico; [2]Medica Sur, Mexico City, Distrito Federal, Mexico

Session: P-21. COVID-19 Treatment

Background: The use of corticosteroids, specifically dexamethasone has been associated to low mortality in COVID-19 patients. We present here the mortality related to the use of corticosteroids in the first two months of the SARS-CoV-2 outbreak in México City.

Methods: We conducted a case series of patients with the diagnosis of pneumonia due to SARS-CoV-2 virus admitted to a tertiary care center in Mexico City, between March 14th and May 14th, 2020. Data collected included demographic information, comorbidities, treatment and outcomes including mortality.

Results: We included 109 patients with diagnosis of COVID-19 associated pneumonia with computed tomography; 76(69.7%) were male and 33(30.3%) female with a median age of 52 yo (24–85) and 51 yo (25–81), respectively. Most common comorbidities were overweight (48.6%), obesity (35.8%), hypertension (23.8%), and diabetes (18.3%). Thirty-eight patients received corticosteroids (Methylprednisolone 30, Hydrocortisone 6 and dexamethasone and prednisone in on case). Mortality in those that used corticosteroids was 21% (8/38) and 5.6% for those that did not received (4/71), p=0.014.

Forty cases needed mechanical ventilation from the beginning, and 24 of those received corticosteroids with a mortality of 29% (7/24), while the mortality was 18.7% (3/16) in those with no steroid use, p=0.45.

Conclusion: Mortality in our small cohort with predominantly use of methylprednisolone is not lower in those using steroids. In fact, mortality was significantly higher in those that received corticosteroids, while this significance was not maintained in those that needed immediate mechanical ventilation. Use of corticosteroids for COVID-19 patients with pneumonia, should be further investigated.

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

568. Healthcare Cost and Length of Stay for Cytomegalovirus (CMV) Infection-Related Hospitalizations in Allogeneic Hematopoietic Cell Transplant (allo-HCT) recipients: A Multicenter Analysis

Fareed Khawaja, MBBS[1]; Kathleen Mullane, DO, Pharm D, FIDSA, FAST[2]; Lynn El Haddad, PhD[3]; Joseph Sassine, MD[1]; Ella Ariza Heredia, MD[4]; Yuexin Tang, PhD[5]; Amit D. Raval, PhD[6]; Roy F. Chemaly, MD, MPH, FACP, FIDSA[4]; [1]University of Texas MD Anderson Cancer Center, Houston, Texas; [2]University of Chicago, Chicago, Illinois; [3]University of Florida, Gainesville, Gainsville, Florida; [4]The University of Texas MD Anderson Cancer Center, Houston, TX; [5]Merck and Co., Inc, North wales, Pennsylvania; [6]Merck and Co., Inc., Rahway, New Jersey

Session: P-22. Care Strategies for Transplant Patients

Background: CMV reactivation is associated with significant morbidity and mortality in allo-HCT recipients and could be a resource intensive condition to manage. Limited data are available on the economic ramification of CMV reactivation in allo-HCT. Therefore, we aimed to examine healthcare cost and length of hospital stay (LOS) among allo-HCT recipients treated for CMV infection.

Methods: We performed a retrospective cohort study that included 56 consecutive allo-HCT recipients who were diagnosed with CMV infection within 100 days post-transplant and admitted to two medical centers, University of Texas MD Anderson Cancer Center and University of Chicago, Department of Infectious Disease between January 2016 and December 2017. CMV-related hospitalization was determined as an inpatient admission with or for CMV reactivation within 100 days post-transplant. Data were limited to only the first CMV-related hospitalization. Descriptive statistics were reported on patient characteristics, first CMV-related hospitalization and costs.

Results: Most patients were 40 years or older (64%), female (55%), Caucasian (66%), CMV seropositive recipients (87%), received a matched unrelated donor HCT (49%) and had a myeloablative or reduced intensity conditioning regimen (65%)

(Figure 1). The median duration of CMV episode was 40 days. Seventy-one percent of the patients were treated with foscarnet for CMV infection. Acute kidney injury was the most frequent CMV treatment-related complication (67%) followed by myelosuppression (55%) and end-stage renal disease (36%). Of 56 encounters, 16% required admission to intensive care unit with a median duration of 9 days. The median length of stay for hospitalization was 23 days and healthcare cost for CMV-related hospitalization was $71,840. The median hospitalization cost and LOS varied by reason for hospitalizations, type of anti-CMV therapy and treatment-related complications (Figure 2).

Figure 1. Baseline characteristics, CMV episodes, outcomes, and cost.

Characteristics	N (%)/Mean (range)
Overall	56 (100)
Age at transplant, median (range)	48 (19-70)
Age > 40 years	36 (64)
Gender	
Female	31 (55)
Race	
Caucasian	37 (66)
Hispanic	10 (18)
African American	2 (4)
Other	3 (5)
Not available	4 (7)
CMV serostatus pre transplant	
D-/R-	1 (2)
D-/R+	26 (46)
D+/R+	23 (41)
Not available	6 (11)
Admitting center	
Site 1	46 (82)
Site 2	10 (18)
Reason for admission	
Admitted for CMV reactivation (%)	13 (23)
Admitted with CMV reactivation (%)	43 (77)
Primary malignancy	
Acute myeloid leukemia (%)	41 (73)
Acute lymphocytic leukemia (%)	38 (68)
Myelodysplastic syndrome (%)	5 (9)
Lymphoma (%)	10 (18)
Other (%)	8 (14)
Conditioning regimen	
Myeloablative/Reduce intensity conditioning (%)	39 (65)
Non myeloablative (%)	4 (7)
Not available (%)	13 (23)
Type of transplant	
Matched unrelated donor (%)	25 (49)
Matched related donor (%)	15 (27)
Haploidentical donor (%)	11 (20)
Cord transplant (%)	4 (7)
Autologous (%)	1 (2)
Time to engraftment (in days), median (range)	14 (8-88)
Acute GVHD within 30 days before CMV episode (%)	20 (36)
Use of immunosuppressants 30 days prior to episode	
Tacrolimus (%)	51 (91)
Methotrexate (%)	6 (11)
Sirolimus (%)	2 (4)
Mycophenolate (%)	16 (29)
Rituximab (%)	3 (5)
Antithymocyte globulin (%)	4 (7)

D/R: Donor/recipient; CMV: cytomegalovirus; GVHD: graft versus host disease; LOS: length of stay

Figure 2. CMV Outcomes among allo-HCT recipients

CMV episodes	
Duration of CMV episode (in days), median (range)	40 (9-116)
Peak CMV viral load by PCR, median (range)	2303 (91-26564)
Days from diagnosis to peak CMV viral load by PCR, median (range)	10 (0-95)
CMV disease (%)	16 (28)
Lung (%)	6 (10)
Gastrointestinal (%)	5 (8)
Eye (%)	1 (2)
Central nervous system (%)	1 (2)
Disseminated (%)	0 (0)
Other (%)	3 (5)
Anti CMV Therapy	
Ganciclovir (%)	28 (48)
Valganciclovir (%)	22 (40)
Foscarnet (%)	40 (71)
Cidofovir (%)	3 (5)
Other (%)	6 (10)
Intravenous immunoglobulin (%)	20 (38)
Complications of Therapy	
Acute kidney injury (%)	37 (67)
End stage renal disease (%)	20 (36)
Myelosuppression (%)	30 (55)
CMV-related Outcomes	
Admission to intensive care unit (%)	8 (16)
Duration of intensive care unit (in days), median (range)	9 (1-37)
100-day mortality (%)	15 (27)
LOS (in days), median (range)	23 (1-174)
Total direct cost for the encounter ($), median (range)	$71,840 (1,473-587,873)

Conclusion: Our study showed even a single episode of CMV-related hospitalization led to significant resource use and hospitalization costs. This study highlights the need for interventions to prevent of CMV-related hospitalization, thereby reducing associated cost and resource use.

Disclosures: **Kathleen Mullane, DO, Pharm D, FIDSA, FAST**, **MERCK** (Advisor or Review Panel member, Research Grant or Support, Speaker's Bureau) **Ella Ariza Heredia, MD**, **Merck Sharp & Dohme** (Grant/Research Support)**Oxford Immunotec** (Grant/Research Support) **Yuexin Tang, PhD**, **Merck and Co., Inc.** (Employee) **Amit D. Raval, PhD**, **Merck and Co., Inc** (Employee) **Roy F. Chemaly, MD, MPH, FACP, FIDSA**, **Chimerix** (Consultant, Research Grant or Support)**Clinigen** (Consultant)**Merck** (Consultant, Research Grant or Support)**Novartis** (Research Grant or Support)**Oxford Immunotec** (Consultant, Research Grant or Support)**Shire/Takeda** (Research Grant or Support)**Viracor** (Research Grant or Support)

569. A Multidisciplinary Approach to the Pre-evaluation Process of Pediatric Solid Organ Transplant Patients

Jacquie Toia, DNP, RN, APN[1]; Kevin Le, PharmD, BCPS, BCPPS[1]; Natalia Panek, PharmD, BCPS[1]; Justin Boese, CPTC[1]; Ravi Jhaveri, MD[2]; William J. Muller, MD, PhD[3]; Leena B. Mithal, MD, MSCI[3]; [1]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, Illinois; [2]Northwestern University/Lurie Children's Hospital of Chicago, Chicago, Illinois; [3]Northwestern University, Chicago, Illinois

Session: P-22. Care Strategies for Transplant Patients

Background: Pediatric transplant recipients are at increased risk of infection-related morbidity and mortality, both from opportunistic infections and vaccine-preventable diseases. Since vaccine immunogenicity may wane with organ failure and immunosuppressive therapies, it is recommended that transplant candidates are immunized early in their disease course, prior to transplant. However, transplant candidates are often incompletely immunized due to factors including complexity of care and multiple providers. A multidisciplinary approach involving Infectious Diseases (ID) is crucial to ensure that vaccination status is optimized prior to transplant and to prevent and treat infectious complications.

Methods: During the solid organ transplant evaluation process, liver, intestinal, and heart transplant candidates and their families meet with Infectious Diseases, Transplant Pharmacy, and Organ Procurement clinicians. The multidisciplinary team effort ensures that transplant candidates receive appropriate vaccines prior to transplant, based on immunization history and serology results. The team helps to manage infections diagnosed during the evaluation process (active or latent), identify risk factors for infection, optimize antimicrobial dosing based on comorbid conditions and concomitant medications, and follows patients post-transplant. Transplant candidates and their families are educated on how organ donation and organ allocation function in the US.

Results: Since launch of our multidisciplinary solid organ transplant team, we have completed pre-transplant ID evaluations on 64 patients [Table 1]. Nearly all (97%) of pre-transplant evaluated patients received vaccine optimization (booster/new vaccine doses) [Table 2]. Forty-five patients (70%) underwent organ transplant. Many intestinal (67%), cardiac (46%), and liver (27%) transplant candidates with pre-transplant evaluations required subsequent ID consultation.

Table 1

Table 1: Infectious Diseases Pre-transplantation Evaluation

	Liver	Intestine	Heart	Total
ID pretransplant evaluations Jun 2019-May 2020	15	3	46	64
Vaccine optimization based on ID evaluation	14 (93%)	3 (100%)	45 (98%)	62 (97%)
Transplanted patients Jun 2019-May 2020	14 (93%)	1 (33%)	30 (65%)	45 (70%)
Subsequent ID consult on pretransplant eval patient	4 (27%)	2 (67%)	21 (46%)	27 (42%)

Table 2

Table 2: Vaccine Optimization of Pre-transplant Patients

Vaccine	Number of patients (n/64) that required vaccine dose for catch-up or accelerated schedule
MCV4	45 (70%)
PCV13	38 (59%)
PPSV23	36 (56%)
HBV	25 (39%)
HAV	24 (38%)
HPV	20 (31%)
Hib	18 (28%)
DTaP	11 (17%)
Tdap	10 (16%)
IPV	10 (16%)

Conclusion: Multidisciplinary ID pre-transplant evaluation leads to individualized vaccine optimization and infection management. Families benefit from education and counseling as well as familiarity with the Transplant ID consult service, involved in a large percentage of these patients in their peri- and post-transplant course.

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

570. "I don't know": The Typical Response When Taking Pneumococcal Immunization Histories in Kidney Transplant Candidates

Jahanavi M. Ramakrishna, MBBS[1]; Tambi Jarmi, MD[1]; Claudia R. Libertin, MD[2]; [1]Mayo Clinic Florida, Jacksonville, Florida; [2]Mayo Clinic, Jacksonville, Jacksonville, FL

Session: P-22. Care Strategies for Transplant Patients

Background: Vaccine-preventable diseases account for significant morbidity and mortality in the kidney transplant (KT) patient population. AST Guidelines support