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Session: P-20. COVID-19 Special Populations

Background: Transplant recipients are more vulnerable to infections including COVID-19, given their co-morbidities and chronic immunosuppression. Most preliminary care series report rapid clinical progression and higher mortality compared to the general population.

Methods: Retrospective study at Harper University Hospital - Detroit Medical Center. Twenty-five renal transplant recipients (RTR) presenting consecutively with COVID-19 symptoms and positive NP swab PCR for SARS-CoV2 between 03/01/2020 - 05/01/2020 were included. Data on demographics, clinical presentation, laboratory findings, management and outcomes were collected.

Results: All 25 patients were hospitalized. Patients had a median age of 56, all African American and deceased donor transplant recipients. Most had hypertension (96%), about half (52%) had diabetes, 64% had pulmonary disease including obstructive sleep apnea, COPD and pulmonary hypertension. Most common presenting symptom was dyspnea (64%), followed by fever and cough (56%) and diarrhea (56%). One-half of patients had multifocal opacities on initial chest x-ray (52%). Immunosuppression with tacrolimus and low dose prednisone was continued, while mycophenolate mofetil was held on admission. Following institution guidelines, hydroxychloroquine was given to 32%, while 48% received both hydroxychloroquine and steroids. Prophylactic anticoagulation was given to 80% of patients and therapeutic coagulation to 8%. Oxygen supplementation given to 60% of patients and one patient required intubation. Three patients (12%) required transfer to the intensive care unit, one expired. At follow-up, treatment with mycophenolate was reintroduced based on resolution of symptoms and laboratory parameters.

Conclusion: COVID-19 infected RTR in this small cohort had lower mortality of 4% (n=1) compared to State-wide mortality of 10%. Despite multiple co-morbidities and chronic immunosuppression, our patient cohort had excellent prognosis and lower mortality compared to other series. Exact reasons for this optimal outcome are explored.

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532. COVID-19 Pneumonia in Patients with Hematologic Malignancies – A Report from the US Epicenter

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Session: P-20. COVID-19 Special Populations

Background: Limited data are available for risk assessment and outcome of COVID-19 in patients with hematologic malignancies (HM). We present a single center study of COVID-19 pneumonia in a cohort of 31 patients with HM.

Methods: Data were abstracted from electronic medical records for patients admitted to NYPH between 3/5/20 and 4/17/20 and entered into a REDCap database.

Results: Twenty (64.5%) were male; median age was 71 years. There were 8 patients with Multiple Myeloma (MM), 8 with Chronic Lymphocytic Leukemia (CLL), 6 (19.4%) had AML, 5 (16.1%) NHL, 2 (3.2%) ALL; CML, MDS and Polycythemia Vera occurred in 1 patient each. Twenty-four (77.4%) had active HM; 6 (19.4%) were in remission; and 1 relapsed. Nineteen patients (61.3%) received recent chemotherapy and 11 (35.5%) immunosuppressive therapies. There were 7 (22.6%) hematopoietic stem cell transplant (HSCT) recipients (4 allogeneic and 3 autologous). Comorbidities were evenly distributed among all malignancies: 18 (58.1%) had hypertension, 9 (38.7%) obesity, 7 (22.6%) diabetes mellitus, and 11 (35.5%) were former smokers. The most common symptoms included cough (90.3%), fever (83.9%) and dyspnea (61.3%); 7 (22.6%) had nausea and vomiting; 7 (22.6%) had diarrhea. On presentation, hypoxia (O2 sat ≤94% on room air) occurred in 64.5%; median ALC was 330/ml; 23 (74.2%) had ALC< 1000/ml; median CRP was 15.9 mg/dl (2.5–40.4), ferritin 1162 ng/ml (264 - > 16500), and D-dimers 456 ng/ml (< 150–2418). Thirteen patients (41.9%) required ICU admission and were intubated; among those 9 (69.2%) had either MM or CLL. Co-infections were uncommon; two patients developed HSV1 pneumonitis and one of these also had CMV pneumonitis. Twenty-eight (90.3%) were treated with hydroxychloroquine, 5 (16.1%) remdesivir, 2 (6.5%) tocilizumab, 1 (3.2%) sarilumab, and 4 (12.9%) with methylprednisolone 0.5mg/kg Q12h. Seventeen patients (54.8%) recovered and were discharged, 12 (38.7%) died; 2 (6.5%) were still hospitalized but left the ICU.

Conclusion: In our cohort, there were predominantly more patients with MM and CLL and 56% of these were intubated; larger cohort studies will further define the risk and outcome for COVID-19 in patients with HM.

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533. Demographic and Prognostic Indicators in COVID-19 Patients with ESRD: A Single Center Retrospective Study

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Session: P-20. COVID-19 Special Populations

Background: The first reported case of COVID-19 in the United States was in January 2020 and has since become a pandemic spreading rapidly worldwide. There is limited data on the epidemiology and prognosis of COVID-19 in end stage renal disease (ESRD) patients on hemodialysis (HD). In this study we describe our experience with 39 such patients who contracted COVID-19 disease.

Methods: We conducted a retrospective hospital cohort study on patients ≥ 18 years old with ESRD on HD and confirmed COVID-19, who were admitted to our hospital between 03/15/2020 and 05/25/2020. Study individuals were recruited if they had a well-defined clinical outcome (discharged alive or expired). Demographic, clinical and laboratory data were reviewed and retrieved. Descriptive analysis, univariate and multivariate logistic regression methods were employed to describe the demographic and to identify prognostic markers associated with mortality.

Results: Out of the 427 confirmed COVID-19 hospitalized patients during the study period, 39 ESRD patients on HD were included in this study, 19 (49%) expired, and 20 (51%) were discharged alive. Demographic analysis was tabulated in Table 1.

The non-parametric analysis showed a significant difference in ethnicity, history of COPD, need of mechanical ventilation, ferritin, LDH, lymphocyte-ferritin ratio (LFR), lymphocyte-CRP ratio (LCR) and AST/ALT ratio between survival and non-survival groups (Table 1, 2). Mechanical ventilation is independently associated with mortality in ESRD patients with COVID-19 (odds ratio [OR] 21.11; 95% confidence interval [CI], 3.00–238.9). In addition, low AST/ALT ratio has an odd of survival in this group of patients (OR 0.45; 95% CI, 0.19–0.88).

Table 1: Demographic Analysis of all ESRD patients with COVID-19. (HTN – Hypertension, DM – Diabetes mellitus, CAD – Coronary artery disease, CHF – Congestive heart failure, COPD – Chronic obstructive pulmonary disease)

Table 1:

	All Patients (n=39)	Survival (n=20)	Expired (n=19)	p-value
Clinical Characteristic and Demographics				
Age	63.92 ±13.3	62.95 ± 13.8	64.95 ± 13.1	0.6459
Gender				
Male	25 (64%)	12 (60%)	13 (68%)	0.5953
Female	14 (36%)	8 (40%)	6 (32%)	
Ethnicity				
Hispanic	11 (28%)	3 (15%)	8 (42%)	
African American	22 (56%)	12 (60%)	10 (53%)	0.0221
Caucasian	5 (13%)	4 (20%)	1 (5%)	
Others	1 (3%)	1 (5%)	0 (0%)	
BMI				
<30 kg/m2	19 (49%)	9 (45%)	10 (53%)	0.1039
≥30 kg/m2	20 (51%)	11 (55%)	9 (47%)	
Comorbidities				
HTN	36 (92%)	19 (95%)	17 (89%)	0.5300
DM	25 (64%)	13 (65%)	12 (63%)	0.9077
CAD/CHF	21 (54%)	10 (50%)	11 (24%)	0.4423
COPD	4 (10%)	4 (20%)	0 (6%)	0.0005
Need of Mechanical Ventilation	11 (28%)	1 (5%)	10 (53%)	<0.0001