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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.

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

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.

Disclosures: **Michael J. Satlin, MD, MS**, **Achaogen** (Consultant)**Allergan** (Grant/Research Support)**Merck** (Grant/Research Support)**Shionogi Inc.** (Consultant)

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

Table 2: Non-parametric analysis of all prognostic markers. (WBC – White blood count, ANC - Absolute neutrophil count, ALC - Absolute lymphocyte count, MPV – mean platelet volume, CRP – C-reactive protein, LDH – Lactate dehydrogenase, LFR – Lymphocyte-ferritin ratio, LDR - Lymphocyte-D-dimer ratio, LCR – Lymphocyte-CRP ratio, LLR - Lymphocyte-LDH ratio, AST – Aspartate transferase, ALT – Alanine transferase, BNP – Brain natriuretic peptide, NLR – Neutrophil-lymphocyte ratio, PLR – Platelet-lymphocyte ratio)

Table 2:

	All Patients (n=39)	Survival (n=20)	Expired (n=19)	p-value
Laboratory Profile				
Complete Blood Profile				
WBC	7.16 ± 4.26	7.66 ± 4.75	6.63 ± 3.73	0.4585
ANC	5.50 ± 3.42	6.10 ± 4.23	4.87 ± 2.25	0.2686
ALC	0.63 ± 0.35	0.70 ± 0.36	0.57 ± 0.33	0.2630
Platelets	164.3 ± 80	177.4 ± 87.25	150.6 ± 71.3	0.3015
MPV	9.17 ± 1.05	9.01 ± 1.33	9.34 ± 0.65	0.3390
Inflammatory Markers				
Ferritin	4093 ± 8547	3599 ± 2177	15588 ± 14371	0.0011
D-dimer	4290 ± 6441	4407 ± 5380	4174 ± 7504	0.9130
CRP	8.67 ± 6.17	8.03 ± 8.22	9.36 ± 2.85	0.5074
LDH	790.1 ± 871.5	409.7 ± 209.3	1238 ± 1124	0.0026
Lymphocyte-Inflammatory Markers Ratio				
LFR	0.42 ± 0.39	0.54 ± 0.45	0.29 ± 0.25	0.0457
LDR	0.43 ± 0.52	0.50 ± 0.71	0.36 ± 0.21	0.4343
LCR	0.12 ± 0.15	0.18 ± 0.20	0.07 ± 0.05	0.0288
LLR (x1000)	2.30 ± 1.62	2.6 ± 1.64	1.99 ± 1.57	0.2417
Liver Profile				
AST	60.18 ± 95.25	38.80 ± 18.76	82.68 ± 133.2	0.1529
ALT	32.13 ± 28.45	28.15 ± 10.88	36.32 ± 39.34	0.3774
AST/ALT ratio	1.84 ± 1.14	1.44 ± 0.55	2.25 ± 1.43	0.0231
Total Protein	7.36 ± 0.80	7.40 ± 0.66	7.32 ± 0.93	0.7613
Albumin	2.85 ± 0.58	2.93 ± 0.65	2.76 ± 0.50	0.3641
Cardiac Profile				
Troponin	0.30 ± 0.62	0.18 ± 0.49	0.41 ± 0.72	0.2583
BNP	1984 ± 3061	1735 ± 1800	2296 ± 4223	0.6449
Miscellaneous				
NLR	13.06 ± 13.76	13.97 ± 16.87	12.09 ± 9.99	0.6478
PLR	215.6 ± 256	269.6 ± 335.3	158.8 ± 114.2	0.1799

Conclusion: Our observation of COVID-19 disease in patients with ESRD on HD confirms that this population is at the highest risk for mortality from SARS-CoV-2 infection, and that a low AST/ALT ratio is independently associated with decreased mortality, while mechanical ventilation had an increased mortality. Larger prospective studies in this population may help us understand better those prognostic markers and suggest how to intervene in order to decrease this catastrophic rate of mortality

Disclosures: **Jihad Slim, MD**, **Abbvie** (Speaker's Bureau)**Gilead** (Speaker's Bureau)**Jansen** (Speaker's Bureau)**Merck** (Speaker's Bureau)**ViiV** (Speaker's Bureau)

534. Halting a SARS-COV2 Outbreak in a Veterans Affairs Nursing Home.

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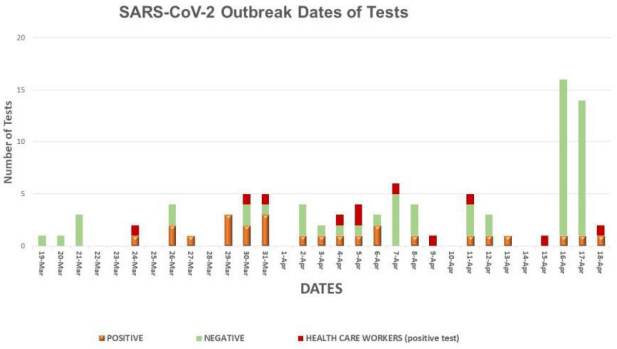
Session: P-20. COVID-19 Special Populations

Background: Health care systems have been significantly overwhelmed during the SARS-CoV-2 (SC2) pandemic. Cases in the USA have exceeded 1.9 million with over 40% of deaths occurring in nursing homes and assisting living facilities. We describe our experience in controlling an outbreak in our community living centers (CLC)

Methods: We retrospectively reviewed the charts of Veterans with positive nasopharyngeal (NP) RT-PCR for SC2 from March 24 to April 18, 2020 in 2 neighboring CLC units (80 bed capacity), at Northport Affairs Medical Center.

Results: Twenty five Veterans (24 men) tested positive for SC2. Of these, 5 remained asymptomatic, 9 got hospitalized, 6 died. No coinfection with influenza or other respiratory viruses identified. 11 health care workers (HCW) tested positive. Figure 1 shows test results by date. Table 1 summarizes the demographic characteristics, medical history, and laboratory findings. The median age was 74 years, with no difference in age between recovered and deceased, 73 vs. 77, P:0.105. Simplified acute physiology score (SAPS) II score was higher in the deceased group (P=0.001) and so were D-dimer (admission and peak levels), CRP, LDH, and peak ferritin/procalcitonin levels. There was no ICU admission. Figure 2 illustrates the CLC 1 and 2 outline of beds depicting positive cases in sequence of detection. Initial spread of the virus was fast, affecting residents and HCW. CLC visits were prohibited, floating of staff minimized, internal group activities halted, infection control measures and education on proper use of personal protective equipment provided. A SC2 (or "COVID") unit was created in CLC1 and all patients and staff got tested. Withdrawal of isolation precautions required resolution of symptoms, and two sequential negative NP PCR tests which were obtained after 14 days from diagnosis. If the PCR was positive, a repeat test was obtained in 72 hours. 13 patients had persistent positive PCR for average 32 days (19 to 52) since diagnosis. 7/13 got tested and all were positive for SC2 IgG antibody.

SARS-CoV -2 Outbreak in VA Nursing Home, Dates of Tests



Bed Outline of CLCs Depicting the Location And Numerical Sequence of Positive Tests