329. Severe Obesity: A Critical Risk Factor for In-Hospital Complications and Mortality in the Hispanic Population

Moulika Baireddy, DO[1]; Sivaram Neppala, MD[1]; Dinesh Kumar Sundarakumar, MD[1]; Hector Santos, Jr., MD[1]; [1]TIGMER/Laredo Medical Center, Laredo, Texas

Hispanics

Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. Obesity, Diabetes mellitus type 2, race and other characteristics has been associated with an increased risk of adverse outcomes in patients with COVID-19 disease. The prevalence of obesity in the United States in 2017-2018 was 42.4%. Webb County, Texas with a 95.6% Hispanic population shows an obesity prevalence of 35.8% in 2014. It is unclear whether obesity increases the risks of complications and mortality in Hispanic population from COVID-19 disease.

Methods. This is a retrospective cohort study of patients admitted to the hospital with the diagnosis of COVID-19 between March 2020 and August 2020. 950 patients were tested and admitted to the hospital with the diagnosis of COVID-19 pneumonia. Patients were categorized into classes of body habitus by BMI: underweight (< 18.5), normal (18.5-24.9), overweight (25.0-29.9), obesity class 1 (30.0-34.9), obesity class 2 (35.0-39.9), and obesity class 3 (>40.0).

Results. 950 Hispanic patients were included (Male-52.8%, Female- 47.2%) in the study. In total, 19.05% of our patients died during the hospitalization with an increased risk of mortality in patients having obesity class 2 (RR 4.14, 95% CI = 2.2–7.7 p=< 0.0001), and obesity class 3 (RR 6.0, 95% CI = 1.3–4.6 p=< 0.0001) compared with those with normal BMI. Mortality was higher in obese patients who required invasive mechanical ventilation at 93.75% compared to obese patients who were non-ventilated at 4.29%. Patients with obesity class 2 and 3 had higher risks of in-hospital complications including AKI requiring renal replacement therapy, ARDS, and arrythmias most commonly atrial fibrillation/flutter at 26.7%, 18.42% and 13.5%.

Characteristics of In-hospital complication complications due to COVID-19 disease

	Total number N= 950	Normal (BMI >25) N=155	Overweight (BMI 25-29.9) N=280	Obesity class 1 (BMI 30-34.9) N= 243	Obesity class 2 (BMI 35-39.9) N= 143	Obesity class 3 (BMI >40) N= 115	Underweight (BMI <18.5) N= 14
Mortality	181 (19.05%)	11 (7.1%)	26 (9.3%)	45 (18.5%)	42 (29.4%)	49 (42.6%)	8 (57.1%)
ICU	224 (23.6%)	15 (9.7%)	54 (19.3%)	48 (19.8%)	49 (34.3%)	51 (44.3%)	7 (50%)
Intubation	204 (21.5%)	15 (9.7%)	54 (19.3%)	45 (18.5%)	41 (28.7%)	42 (36.5%)	7 (50%)
ARDS	175 (18.42%)	13 (8.4%)	19 (6.8%)	31 (12.78%)	50 (35%)	57 (49.6%)	2 (35.7%)
MI/NSTEMI	20 (2.1%)	1 (0.6%)	2 (0.7%)	3 (1.2%)	5 (3.5%)	7 (6.1%)	2 (14.3%)
Atrial Fibrillation	128 (13.5%)	11 (7.1%)	16 (5.7%)	25 (10.3%)	30 (21%)	46 (40%)	0 (0%)
AKI	254 (26.7%)	40 (25.8%)	51 (18.2%)	39 (16.1%)	47 (32.9%)	69 (60%)	8 (57.1%)
RRT	126 (13.3%)	4 (2.6%)	21 (7.5%)	26 (10.7%)	34 (23.8%)	35 (30.4%)	5 (35.7%)
Mean length of stay (LOS) days	11.1	10.2	10.5	10.1	12.1	13.8	9.6

Conclusion. Patients admitted to the hospital with the diagnosis of COVID-19 disease with obesity classes 2 and 3 have a significantly increased risk of mortality as compared to normal and overweight patients. Severe obesity was also associated with increased hospital complications of AKI, ARDS, and Atrial Fibrillation. This further affirms that obesity is a pertinent risk factor to be considered in COVID-19 patients.

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

330. Evaluating the Relationship Between Comorbidity Treatment Status and In-hospital Mortality Among COVID-19 Patients

Cristy Davenport, n/a[1]; Sharmon P. Osae, Pharm.D., BCACP[2]; Geren Thomas, Pharm.D., BCPS[3]; Henry N. Young, Ph.D.[2]; Andrés F. Henao Martínez, MD[4]; Carlos Franco-Paredes[5]; Daniel B. Chastain, Pharm.D., BCIDP, AAHIVP[2]; [1]University of Georgia, Albany, Georgia; [2]University of Georgia College of Pharmacy, Albany, Georgia; [3]John D. Archbold Memorial Hospital, Thomasville, Georgia; [4]University of Colorado Anschutz Medical Campus, Aurora, Colorado; [5]University of Colorado Denver, School of Medicine, Aurora, CO

Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. Chronic comorbidities increase the risk of poor outcomes in patients with COVID-19. However, there are insufficient data to determine whether control of chronic comorbidities influences outcomes. The purpose of this study was to determine whether pharmacologic treatment for common comorbidities influences in-hospital mortality.

Methods. This multicenter, retrospective study included adult patients with diabetes, hypertension, and/or dyslipidemia who were hospitalized with COVID-19 in Southwest GA, U.S. Patients were divided into two groups based on treatment status, where treated was defined as documentation in the electronic medical record of outpatient pharmacologic therapy indicated for that specific comorbidity while untreated was defined as no record of pharmacologic therapy for one or more comorbidity. The primary outcome was to compare in-hospital mortality between treated and untreated COVID-19 patients. Secondary outcomes included comparing length of hospital stay, development of thrombotic events, requirement for vasopressors, mechanical ventilation, and transfer to the ICU between groups.

Results. A total of 360 patients were included with a median age of 66 years (IQR 56-75). The majority were African American (83%) and female (61%) with a median Charlson Comorbidity Index of 4 (IQR 2-6). Hypertension, diabetes, and dyslipidemia were present in 91%, 55%, and 45% of patients, respectively, of which 76% (n=274) were treated. Mortality was similar between treated and untreated patients (25% vs 20%, p=0.304). Average length of stay was 9.5 days (SD 8.7) in treated patients compared to 10.6 days (SD 9.1) in untreated patients (p=0.302). No differences were observed in the rates of thrombosis (3% vs 4%, p=0.765), receipt of vasopressors (23% vs 21%, p=0.741), mechanical ventilation (31% vs 27%, p=0.450), or transfer to the ICU (27% vs 14%, p=0.112).

Conclusion. Hospitalized COVID-19 patients being treated for hypertension, diabetes, and/or dyslipidemia have similar rates of complications and mortality compared to untreated patients. Further research is needed to determine whether degree of control of chronic comorbidities impacts COVID-19 outcomes.

Disclosures. All Authors: No reported disclosures

331. Hospitalized COVID-19 infections in Infants < 1 Year of Age

Christina Gagliardo, MD[1]; Eberechi I. Nwaobasi-Iwuh, MD[2]; Niva Shah, MD[2]; Aparna Prasad, MD[1]; Neeraja Kairam, MD[1]; Stephanie Chiu, MPH[2]; Elizabeth DeSantis, ANP[2]; Simona Nativ, MD[2]; Kathryn Laurie, MD[2]; M. Cecilia Di Pentima, MD/MPH[1]; [1]AHS/TJU, Morristown, New Jersey; [2]AHS, Springfield, New Jersey

Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. Nearly 4 million children have tested positive for coronavirus disease 2019 (COVID-19) in the United States. Some studies suggest infants might be at increased risk for severe illness and hospitalization from COVID-19. Our objective was to describe the clinical and laboratory features of young infants admitted to a hospital system with COVID-19.

Methods. An observational retrospective study was performed in infants ≤1 year of age admitted with COVID-19 from March 1, 2020 to May 30, 2021. Data was extracted into a REDCap database and analyzed using descriptive statistics.

Results. Sixteen infants < 1 year were hospitalized with COVID-19. Fever, poor feeding, and respiratory symptoms were the most common presenting symptoms (Table 1). Two required pediatric intensive care unit (ICU) care, three required oxygen support, and one was intubated. There were no deaths. Five infants with echocardiograms performed showed normal findings. Four infants received Remdesivir without side effects.

Characteristics	Patients (N=16)
Age, range	2 weeks to 10 months
Male, n (%)	10 (63)
Hispanic, n (%)	7 (44)
Race	
Black n (%)	1 (6)
White n (%)	10 (63)
Prematurity n (%)	3 (19)
Comorbid condition, n (%)	0
Contact with COVID-19 positive individual n (%)	13 (81)
Clinical presentation	
Fever n (%)	13 (81)
Cough n (%)	5 (31)
Rhinorrhea n (%)	5 (31)
Respiratory distress n (%)	2 (12)
Poor feeding n (%)	5 (31)
Emesis n (%)	3 (19)
Diarrhea n (%)	2 (13)
Hypoxia n (%)	3 (19)
Laboratory	
Absolute neutrophil count, median (min, max)	0.64 (0, 1.16)
Neutropenia (< 1.5) n (%)	7 (44)
Lymphopenia (< 4.5) n (%)	12 (75)
Thrombocytopenia n (%)	3 (19)
C-reactive protein highest value, mg/L, median (IQR)	14. 3 (2.33, 11.73)
Disposition & Therapies	
Length of hospital stay, days, median (range)	4.5 (1, 16)
ICU admission n (%)	2 (13)
Any oxygen support, n (%)	3 (19)
Mechanical ventilation, n (%)	1 (6)
Vasopressor support n (%)	0
Antibiotics, n (%)	13 (81)
Remdesivir n (%)	4 (25)
Steroids, n(%)	1 (6)

Conclusion. Infants with COVID-19 can present with severe disease requiring ICU care and oxygen support. In our experience, a large proportion of infants developed hematologic abnormalities, but none had cardiac involvement. Preventive measures including vaccination will become critical to decrease transmission and severe disease in this young patient population.

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