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Background. Obesity is linked to increased risk of complications and is reported to be the most common underlying condition for severely ill SARS-CoV-2 infected individuals. Therefore, we aim further to explore the clinical outcomes of obese children with COVID-19.

Methods. Data were from the Pediatric COVID-19 Case Registry, which includes any patient < 21 years of age diagnosed with COVID-19 at 170 instructions across the United States. A total of 778 COVID-19 positive non-immunocompromised hospitalized patients aged 24 months or older were included. Patients were assigned as obese or non-obese based on BMI as reported from medical records referenced to CDC BMI by gender and age classification (https://www.cdc.gov/growthcharts/clinical_charts.htm).

Results. Patients meeting inclusion criteria included 56% not obese and 44% obese. Compared to matched US population, obese children and adolescents appeared in this database at a rate of 2.3 times their frequency in the population. Obese patients were more likely to be Hispanic and older, symptomatic, have abnormal radiological findings, and require oxygen and ICU admission. Mortality, in this analysis, was similar across the groups.

Demographic and clinical characteristics. NS: Not significant *within seven days of COVID diagnosis ***mild: no need for supplemental oxygen; moderate: need for supplemental oxygen and severe: need for mechanical ventilation.

	Non-Obese	Obese	P-value
N (%)	442(56)	336 (43)	
Age, mean (years)	10.9	13.2	
Hispanic ethnicity (%)	34	45	0.002
Lower respiratory tract infection (%)	29	51	<0.001
COVID-19 symptoms* (%)	65	76	0.001
Abnormal chest x-ray* (%)	75	87	0.001
Oxygen requirement (%)	39	60	<0.001
Received COVID-directed treatment (%)	34	50	<0.001
ICU admission (%)	43	51	<0.001
Severity**:			
Mild (%)	61	40	<0.001
Moderate (%)	31	47	<0.001
Severe (%)	8	13	<0.001
Steroid (%)	40	47	0.054
Remdesivir (%)	12	28	<0.001
Death, n	5	4	NS

NS: Not significant *within seven days of COVID diagnosis ***mild: no need for supplemental oxygen; moderate: need for supplemental oxygen and severe: need for mechanical ventilation.

Conclusion. The incidence of obesity in hospitalized COVID children is higher than that of the general population (34% vs. 19%), highlighting obesity as an important risk factor for hospitalization associated with SARS-CoV-2 infected. Therefore, obese children and adolescents with COVID should be prioritized for COVID immunization and managed aggressively, given their significant COVID morbidity.

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

316. Use of (1-3)-β-D-Glucan Assay for Diagnosis of Candidemia in Patients Hospitalized with SARS-CoV-2 Infection

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Background. Candidemia is a rare but serious complication of SARS-CoV-2 hospitalization. Combining non-culture and culture-based diagnostics allows earlier identification of candidemia. Given higher reported incidence during COVID-19 surges, we investigated the use of (1-3)-β-D-glucan (BDG) assay at our institution in those who did and did not develop candidemia.

Methods. Retrospective study of adults admitted to The Mount Sinai Hospital between March 15-June 30 2020 for SARS-CoV-2 infection, with either ≥1 BDG assay or positive fungal blood culture. Data was collected with the electronic medical record and Vigilanz. A BDG value ≥ 80 was used as a positivity cutoff. Differences in mortality were assessed by univariate logistic regression using R (version 4.0.0). Statistical significance was measured by *P* value < .05.

Results. There were 75 patients with ≥1 BDG assay resulted and 28 patients with candidemia, with an overlap of 9 between the cohorts. Among the 75 who had BDG assay, 23 resulted positive and 52 negative. Nine of 75 patients developed candidemia. Of the 23 with a positive assay, 5 developed candidemia and 18 did not. Seventeen of the 18 had blood cultures drawn within 7 days +/- of BDG assay. Four patients with candidemia had persistently negative BDG; 2 had cultures collected within 7 days +/- of BDG assay. With a cut-off of >80, the negative predictive value (NPV) was 0.92. When the cut-off increased to >200, NPV was 0.97 and positive predictive value (PPV) was 0.42. Average antifungal days in patients with negative BDG was 2.6 vs. 4.2 in those with a positive. Mortality was 74% in those with ≥1 positive BDG vs. 50% in those with persistently negative BDGs. There was a trend towards higher odds of death in those with positive BDG (OR = 2.83, 95% CI: 1.00-8.90, p < 0.06).

Conclusion. There was substantial use of BDG to diagnose candidemia at the peak of the COVID-19 pandemic. Blood cultures were often drawn at time of suspected candidemia but not routinely. When cultures and BDG were drawn together, BDG had a high NPV but low PPV. High NPV of BDG likely contributed to discontinuation of empiric antifungals. The candidemic COVID-19 patients had high mortality, so further investigation of algorithms for the timely diagnosis of candidemia are needed to optimize use of antifungals while improving mortality rates.

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

317. Invasive Fungal Infections in Critically-ill Patients with COVID-19 in Mexico City

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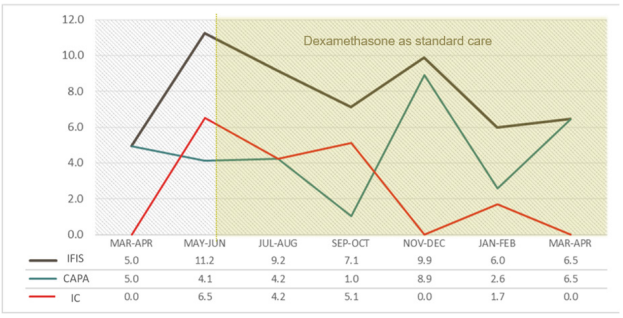
Background. Invasive fungal infections (IFI) are emergent complications in SARS-CoV-2 infection. We aimed to describe the epidemiology, characteristics and outcome of IFI during the pandemic.

Methods. Between March 2020 and April 2021, patients admitted to the Intensive Care Unit (ICU) in a COVID-19 center in Mexico City who developed IFI were included. COVID-19 associated pulmonary aspergillosis (CAPA) was defined according to the ECMM/ISHAM criteria. Demographic and clinical data were obtained from the electronic medical record. Descriptive analysis was made. The study was approved by the Institutional Review Board.

Results. Sixty-seven (67/743, 9%) patients with COVID-19 developed IFI during ICU stay, of which 37 (55%) had CAPA, 24 (36%) had Invasive Candidiasis (IC), 3 Cryptococcosis and 3 pulmonary Mucormycosis. The median age was 57.5 (IQR 48-68) and 46 (69%) were male. Thirty-six (54%) had obesity and 20 (30%) type 2 diabetes. Sixty-two received COVID-19 directed therapy: 48/67 (72%) steroids, 4/67 (6%) tocilizumab and 8/67 (12%) were included in clinical trials. Among 24 patients with IC, 13 (54%) were fluconazole-resistant *C. parapsilosis*, 11 (46%) *C. albicans* and 2 *C. glabrata*. Twenty-two received antifungal treatment, 20 with echinocandins and 2 fluconazole. Among 37 CAPA, 8 (22%) were probable and 29 (78%) possible. Serum galactomannan was positive in 8 (22%), 33 respiratory cultures grew *Aspergillus* (31 tracheal aspirates and 2 bronchoalveolar lavage). *Aspergillus fumigatus* was the most frequent isolate in 18/33 (55%). Chest CT showed ground glass opacities in 21 (57%). Most received voriconazole (26/37, 70%). The median time from ICU admission to IFI was 9.5 (IQR 3-14) days. The median ICU and hospital stay length were 30 days (IQR 16-41) and 40 days (IQR 23-49), respectively. In-hospital mortality was 48%. The incidence rate of IC was higher early in the pandemic, due to Infection Control breaches, while higher CAPA incidence may have occurred later due to ventilation system gaps (Figure 1).

Bi-monthly Invasive Fungal Infection incidence rate/100 ICU admissions.



Conclusion. We found 9% incidence of IFIs in critically-ill COVID-19 patients with high mortality. The majority received steroids, had obesity and had a prolonged hospital stay. Most had possible CAPA. An outbreak of fluconazole-resistant *C. parapsilosis* was found.

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318. Description of Patients Readmitted within 30 Days from COVID-19 Hospitalization

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Background. Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) has led to increased hospitalizations and utilization of critical care services. There are few studies describing co-morbidities and demographics associated with patients re-admitted within 30-days of discharge. The purpose of this study is to describe this patient population.

Methods. This was a single-center, retrospective study at The Ohio State University Wexner Medical Center to identify patients who were admitted secondary to SARS-CoV-2 and required readmission within 30 days due to complications that might be associated with COVID-19. Adults admitted between 3/15/2020 and 11/15/2020 were included in this study. Baseline demographics including age, gender and race in addition to select comorbidities were identified.

Results. 250 patients were identified who were readmitted for various reasons. Readmitted patients had a median age of 55 years, 44% were male, and 41.2% were Black/African American. 62.4% of the population was obese (BMI ≥30 kg/m^2) with 21.6% with a BMI ≥ 40 kg/m^2. The top three co-morbidities seen included Diabetes Mellitus (DM) (32.2%), Hyperlipidemia (48.3%) and Hypertension (51.7%).

Table: Descriptive characteristics of patients readmitted within 30 days of discharge.

Age	Median	55	
		Frequency	Percentage
Gender	Male	110	44%
	Female	140	46%
Race	White	120	48%
	African American	103	41.20%
	Asian	9	3.60%
	Hispanic	18	7.20%
	Others	9	3.60%
BMI	< 25	46	18.40%
	25- < 30	48	19.20%
	30 - < 40	102	40.80%
	> 40	54	21.60%
Comorbidities	Diabetes Mellitus	76	32.20%
	Hypertension	122	51.70%
	Hyperlipidemia	114	48.30%

Conclusion. Though this study lacked a comparator group, it is clear that patients readmitted with all cause etiologies were disproportionally Black/African-American and obese, with a high prevalence of DM, hyperlipidemia, and hypertension. We recommend close monitoring of patients in these groups to reduce COVID19 readmissions. This is the first step in identifying which patients may be more likely to develop complications and required readmission, the next step is to compare these patients to those that were not readmitted to develop a risk model for readmission.

Disclosures. **Carlos Malvestutto, M.D., Lilly** (Scientific Research Study Investigator)**Regeneron Inc.** (Scientific Research Study Investigator)**ViiV Healthcare** (Advisor or Review Panel member) **Mohammad Mahdee Sobhanie, M.D., Regeneron** (Scientific Research Study Investigator)**Regeneron** (Scientific Research Study Investigator, Was a sub-investigator for Regeneron 2066 and 2069)

319. Presepsin as a Prognostic Biomarker for Mortality in COVID-19 Patients vs Community-Adquired Pneumonia (CAP) Patients

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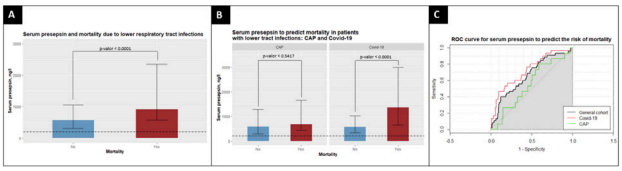
Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. Lower respiratory tract infections such as community-acquired pneumonia (CAP) and coronavirus disease 2019 (COVID-19) are the main current causes of mortality worldwide. Several scores and biomarkers have been proposed to identify patients at risk of dying, with unclear results. Presepsin is a glycoprotein expressed on the surface of the membrane of monocytes and macrophages and its utility has been proven in sepsis as a predictor of severity and treatment response. However, it is unknown the utility of this biomarker as a mortality predictor among COVID-19 and CAP patients. Thus, the aim of this study was to determine the utility of serum presepsin to identify patients at risk of dying due to COVID-19 and CAP.

Methods. A prospective observational study was conducted at Clinica Universidad de La Sabana, Colombia. We included 240 patients who required hospital admission due to CAP or COVID-19. Plasma samples were collected within 24 hours of admission. The presepsin concentration was quantified using the PATHFAST system. Afterwards, a two-tailed test was used to compare mortality rates among patients and their presepsin plasma concentration. Lastly, the ROC was calculated to determine presepsin's sensibility as a mortality predictor.

Results. A total of 88 patients with CAP and 152 patients with COVID-19 were included in the study. The median [with IQR] in Presepsin plasma concentration was higher in all patients who died *(920* [573 - 2340] *vs 573* [307,5 - 1052,5], *p-value< 0.0001)*. Furthermore, comparing to the study group, the median concentration of presepsin was higher in patients deceased by COVID-19 than those who survived. *(1358* [642,8 - 2976,8] *vs 570* [333,2 - 1007,5], *p-value< 0.0001)*. In addition, the area under the curve (AUC) ROC of presepsin to predict risk of mortality was 0.769. DeLong's test comparing ROC curves in COVID-19 and CAP patients had a *p-value=0.073*.

Serum presepsin results



Conclusion. Plasma concentrations of presepsin plasma were higher among COVID-19 patients who died. Moreover, serum concentration of presepsin were not useful to identify CAP patients at risk of dying. However, practical use of Presepsin as a prognostic biomarker of severity is yet to be assessed as further studies are needed.

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320. Differentiating Dengue from COVID-19: A Diagnostic Challenge in the Tropical Regions of the Americas

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

Background. The differentiation between dengue and coronavirus disease 2019 (COVID-19) diagnoses is a challenge in tropical regions due to the similarity of symptoms and limited access to specific diagnostic tests for each disease. The objective of this study was to describe the initial symptoms and laboratory test values of patients who presented to the emergency department with dengue or COVID-19. A cross-sectional study was performed in a single center in Cali, Colombia

Methods. The inclusion criteria were patients with a diagnosis of dengue or COVID-19 who were older than 14 years of age. All patients experienced fever or other symptoms for fewer than ten days. Linear regression was performed to evaluate the differences in the neutrophil-lymphocyte ratio (NLR) between patients diagnosed with COVID-19 and dengue and was adjusted for sex and age group (≤31 and >31 years). The sample size was calculated to test the hypothesis that the median NLR in COVID-19 patients is higher than that in dengue patients. A p-value < 0.05 was considered statistically significant for all analyses

Results. A total of 93 patients were included: 70 with dengue and 23 with COVID-19. Dengue patients were younger than COVID-19 patients. There were significant differences between dengue and COVID-19 patients regarding platelet count (p< 0.01), neutrophil count (p< 0.01), neutrophil-lymphocyte ratio (NLR) (p< 0.01), and abnormal alanine transaminase (ALT) (p=0.03). The NLR was significantly higher in COVID-19 patients than in dengue patients (p< 0.01).

Table 1. Demographics, clinical and laboratory characteristics in COVID-19 and dengue patients.

Characteristics	COVID-19, n=23 n(%)	Dengue, n=70 n(%)
Demographics		
Median age (IQR) - yr	45 (32 - 62)	25 (17 - 42)
Male sex	12 (52.17)	34 (48.57)
Clinical		
Mean length of symptoms (SD) - days	6.04 (0.601)	4.29 (0.214)
Median of oxygen saturation at admission (IQR) - %	95 (89-98)	98 (96-99)
Cough	23 (100)	3 (4.29)
Fever	18 (78.26)	69 (98.6)
Dyspnea	14 (60.87)	1 (1.43)
Myalgia	10 (43.5)	60 (85.7)
Diarrhea	5 (21.7)	19 (27.1)
Headache	6 (26.1)	49 (70)
Intense abdominal pain	0	25/66 (37.9)
Arthralgia	0	56 (80)
Nauseas	3 (13.04)	32 (45.7)
Rash	0	22 (31.4)
Drop in hemoglobin (<10g/dL)	2 (8.7)	2 (2.9)
Respiratory support	5 (21.74)	1 (1.43)
Laboratory		
Leukopenia (leukocytes <3500)	0	26 (37.1)
Platelets<150.000/uL	2 (8.7)	54 (77.1)
Platelets<50.000/uL	0 (0)	21 (30)
AST>2 times upper limit	4/8 (50)	41/62 (66.1)
AST>3 times upper limit	0	34/62 (54.8)
ALT>2 times upper limit	2/8 (25)	38/63 (60.3)
ALT>3 times upper limit	2/8 (25)	24/63 (38.1)
Serum creatinine elevation from baseline, n=49	0	7/49 (14.3)

ALT: Alanine transaminase; AST: Aspartate transaminase.

Conclusion. In conclusion, during the first week of symptoms, absolute neutrophil count, NLR, and platelet count could help guide the initial differential approach