

Conclusion: In VA, coinfection with COVID-19 and other respiratory pathogens was rare. Detection was limited since not all COVID-19 patients were tested for other respiratory pathogens and respiratory pathogens were declining when COVID-19 emerged. Coinfections were detected with different respiratory pathogens. Further comparisons of coinfecting vs. non-coinfecting patients to assess outcome or actionable results will be important as we enter the next influenza season.

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398. Risk Factors Associated with Requiring Invasive Mechanical Ventilation in Patients with SARS-CoV-2 Infection: Experience in a Tertiary Care Hospital in Mexico City

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Session: P-12. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background: The clinical presentation of SARS-CoV-2 disease ranges from asymptomatic respiratory infection to acute respiratory distress syndrome. Risk factors upon hospital admission associated with the need for invasive mechanical ventilation are not well documented.

Methods: 185 hospitalized patients with confirmed COVID-19 were enrolled in this study, and they were classified as patients who required invasive mechanical ventilation and patients who did not require it. Comorbidities such as diabetes, high blood pressure, obesity, chronic lung disease and immunodeficiency were recorded. Laboratory studies were requested upon admission such as C-reactive protein, leukocyte and lymphocyte levels, D-dimer, troponin, serum ferritin and procalcitonin.

Results: Of the patients who entered the study, 65 patients (35%) required invasive mechanical ventilation (IMV), while 120 (65%) did not require advanced airway management. Of the patients with invasive mechanical ventilation, age > 65 years, male sex, obesity (BMI > 30) and high blood pressure were the most frequent characteristics, presenting the latter two in 26% and 27% respectively. Regarding laboratory studies, the parameters most associated with the requirement for mechanical ventilation were a D-dimer (> 1000) and troponin (> 1), with 26% and 18%, respectively.

Conclusion: This study showed the high proportion of obesity, hypertension and advanced age among patients who required invasive mechanical ventilation associated with SARS-CoV2 infection. The presence of elevated D-dimer and troponin on admission are associated with more severe presentations and a requirement for invasive mechanical ventilation.

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399. Risk Factors for Mortality in COVID-19 Patients in a Community Teaching Hospital

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Session: P-12. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background: As of May 2020, there were over 190,000 confirmed COVID-19 cases in New York City (NYC) with approximately 13,000 deaths. Previously published literature identified risk factors (advanced age, higher severity of illness and elevated d-dimer) for mortality in a cohort of patients from Wuhan, China and mechanical ventilation in a case series from NYC. Another case series from NYC evaluated clinical outcomes only. There are limited published studies assessing clinical characteristics, outcomes and risk factors for mortality in COVID-19 patients in NYC. The objective of this study was to assess the risk factors for mortality in patients with confirmed COVID-19 infections.

Methods: This study was a single center retrospective case-control at The Brooklyn Hospital Center, a 464-bed community teaching hospital. Adult patients with confirmed COVID-19 infection, who received at least 24 hours of COVID-19 therapy were included. Endpoints assessed were risk factors for mortality in COVID-19 patients, increase in QTc, renal failure or renal replacement therapy, ventricular fibrillation or ventricular tachycardia. Baseline characteristics between survivor and non-survivors were analyzed utilizing Mann-Whitney U test/two-tailed t-tests for continuous data and Chi-square/Fisher's exact test for categorical data. Univariable and multivariable logistic regression analyses were conducted to identify the risk factors for in-hospital mortality.

Results: Two-hundred and eighty six patients were included in this analysis, of whom 97 (33.9%) were non-survivors and 189 (66.1%) patients were survivors. Diabetes and coronary artery disease were more common in non-survivors compared to survivors (p = 0.003 and p < 0.001, respectively). Multivariable logistic regression showed higher in-hospital mortality in patients with advanced age (odds ratio 5.779, 95 % confidence interval 1.369-24.407), vasopressor initiation (OR 28.301, 95 % CI 3.307-242.176), and development of renal failure (OR 30.927, 95 % CI 1.871-511.201).

Conclusion: Risk factors associated with mortality for COVID-19 patients in a community teaching hospital include advanced age, vasopressor therapy, and development of renal failure.

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400. Secondary Infections in COVID-19 Patients Receiving Tocilizumab in a Community Hospital

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Background: Secondary bacterial/fungal infection in patients with pandemic strains of Influenza has been well documented in the literature. Little is known about the development of secondary bacterial or fungal infections in patients with COVID-19. Additionally, COVID patients receiving tocilizumab as treatment may be at higher risk for developing a secondary infection due to theoretical risk of immunosuppression.

Table 1

	Received Tocilizumab	No Tocilizumab	Total
Positive Culture	6	63	69
No Cultures/Culture Neg	36	340	376
Total	42	403	445

Table 2

	Positive Culture	Positive Culture and Received Tocilizumab	Total
ICU level of Care	27	5	32
Non-ICU	42	1	43
Total	69	6	75

Methods: A retrospective analysis of all COVID positive patients admitted to a 128 bed community hospital in Westchester County, NY from March 1 – May 31, 2020. The data was analyzed to determine incidence of secondary infections based on positive cultures in patients and further stratified based on receipt of tocilizumab.

Results: Out of 445 COVID positive patients reviewed, 69 (15.5%) had positive bacterial/fungal cultures. Average age of the patient population reviewed was 64 (range 1 – 106) and 60% of the patients were male. As of May 31, 2020, 114 of the patients had expired, 281 were discharged, 23 were transferred, and 27 were still admitted to the hospital.

Of the 445 total patients, 42 received at least 1 dose of tocilizumab. Out of those patients, 6 patients (14.3%) had subsequent positive cultures. (Table 1) This was not statistically significant (p = 0.8185).

Most common positive specimens were in urine (n=38), blood (n=33), and respiratory specimens (n=20). Most commonly found co-pathogens were Escherichia coli (n=22), Coagulase-negative staphylococci (n=11), and Pseudomonas aeruginosa (n=9).

Of the 69 patients with positive cultures, 27 received ICU level of care. (Table 2)

Conclusion: A small retrospective study found that the incidence of bacterial or fungal co-infection for COVID positive patients was high but did not find receipt of tocilizumab was associated with secondary infections. This suggests areas for future study and further investigation as hospitals consider use of immunomodulatory therapies in the treatment of COVID-19.

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401. Short Term Outcomes in Multisystem Inflammatory Syndrome in Children (MIS-C) Related to COVID-19

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Background: MIS-C is a multi-system inflammatory syndrome which has been described in pediatric patients after COVID-19 since late April. Our objective is to describe the short-term outcomes of the first 15 cases with MIS-C, who presented for care to a tertiary pediatric referral center.

Methods: This is a retrospective chart review of patients who met MIS-C criteria based on the New York State Department of Health case definition and who were admitted to the Mount Sinai Hospital in New York City, between April 24 and May 14, 2020. We collected clinical and laboratory data during their hospital admission and subsequent outpatient follow up.

Results: The range of the length of hospital stay was 6–13 days (mean=7 days). One patient expired on day 9 of hospitalization. At the time of discharge, all patients had normalization of inflammatory markers. All patients were discharged on anticoagulation therapy for 14 days. One patient was readmitted with a subdural hematoma at day 13 post discharge and 3 patients had bruising at their follow up visit 7–12 days after hospital discharge. All patients had normalization of cardiac enzymes prior to hospital discharge. Abnormalities in coronary arteries and cardiac function which were observed during hospitalizations in 4 (27%) and 8 (53%) patients respectively, had resolved by day 6–35 post discharge (mean=20 days).

Conclusion: Although patients with MIS-C can present with severe multi-organ involvement and shock, the majority of the patients in our experience had resolution of symptoms and normalization of laboratory parameters within a few weeks of initial symptoms. Our findings underscore the need to carefully weigh the risk and benefits of anticoagulation therapy and to monitor this treatment closely. Further research is needed to determine long-term outcomes of these patients.

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