Title: Variation in clinical characteristics, outcomes, and mortality of hospitalized patients with COVID-19 during the second wave of the pandemic: a single-center experience

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Background: As of February 2, 2021, the U.S. has 26,431,799 reported COVID-19 cases with 446,744 deaths. A high mortality rate (15%–40%) was reported among hospitalized patients with COVID-19 during the first wave of the pandemic. However, data regarding variation in COVID-19-related mortality and severity of illness among hospitalized patients with COVID-19 are heterogeneous.

Method: In this retrospective single-center study, we aimed to investigate the demographic characteristics, clinical presentations, disease severity, clinical outcomes, and in-hospital mortality of hospitalized patients with COVID-19 during the second wave of the pandemic. Adults with reverse transcription-PCR-confirmed SARS-CoV-2 infection were included. In-hospital mortality due to COVID-19 was the primary outcome, and intensive care unit admission, acute kidney injury, acute respiratory distress syndrome, respiratory failure requiring intubation, and septic shock were the secondary outcomes.

Results: A total of 101 adult patients were hospitalized with COVID-19 during the second wave study period. Of 101 patients, 8 were intubated and 6 died. The median duration of hospital stay was 6 days. Patients in the second wave were more likely to receive dexamethasone and remdesivir and less likely to require invasive mechanical ventilation. In-hospital mortality during the second wave was lower (5.9%) compared with the first wave (15.5%). At the last follow-up date, 86.1% were discharged alive from the hospital, 5.9% died and 7.9% were still in the hospital. Multivariate logistic regression showed higher odds of mortality were associated with higher age and elevated lactate dehydrogenase peak.

Conclusion: To our knowledge, this is the first study in the USA, and only study in the state of New Jersey that compares hospitalized patients with COVID-19 between the first and second waves of the pandemic. Inpatient mortality in hospitalized patients with COVID-19 was higher during the first wave at 15.5% vs 5.9% during the second wave. Odds of in-hospital mortality were higher with increased age and elevated LDH peak level per unit (IU/L).

Disclosure: None