A comparison of remdesivir versus remdesivir plus tocilizumab for patients with severe COVID-19 in the Dominican Republic

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Background

- The COVID-19 pandemic has strained healthcare systems worldwide and is now a leading cause of death.
- Remdesivir is the first antiviral shown to decrease time to recovery in a randomized placebo-controlled trial.
- Other studies have conflicting results and the World Health Organization does not recommend the routine use of Remdesivir in hospitalized patients.
- The herogeneity of these studies and their populations makes interpretation of the available data difficult, with standard of care in different countries as the main confounding factor.
- Thus, it is imperative for low and middle income countries to study the role of remdesivir within their healthcare systems.
- We seek to further understand the impact of COVID-19 in a cohort in the Dominican Republic.

Methods

- This is a retrospective review of patients admitted for COVID-19 to an ICU in a tertiary center in the DR between August 2020 to March 2021.
- Patients with clinical findings consistent with COVID-19 pneumonia and a positive molecular test for SARS-CoV-2 were included in the study.

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Figure 1. Comorbidities

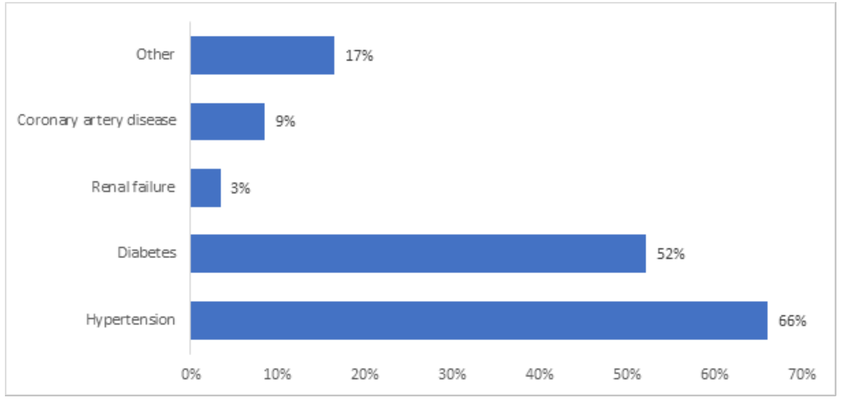
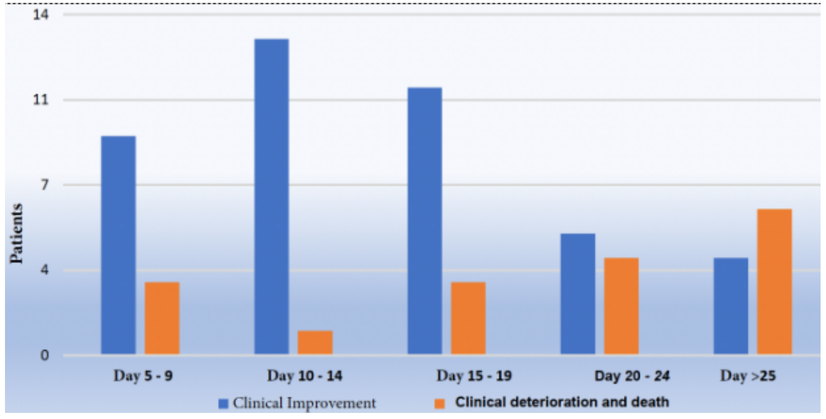


Figure 2. Mortality by length of stay



Results

- A total of 59 cases were reviewed, of which 40 were treated with remdesivir and 19 with remdesivir plus tocilizumab.
- Patients were more commonly male (69.5%) and ages ranged from 71-80 years (34.5%), 61-70 (20.7%), 51-60 (20.7%), 41-50 (10%), >81 (8.6%) and 18-30 (1.7%).
- Hypertension was the most common comorbidity (Figure 1).
- The total average length of stay was 16.5 days, and 2.1 days in ICU
- Mechanical ventilation was needed in 33.9%. Tocilizumab was administered in 32%. Mortality for the cohort was 29% (Figure 2). Mortality in patients treated with remdesivir alone was 22%, compared to 6.8% in those receiving tocilizumab and remdesivir.

Conclusions

- In our cohort, the use of remdesivir was associated with higher mortality than remdesivir in combination with tocilizumab.
- The mortality in our cohort was high (29%) compared to the 11.9% reported in in the placebo group of the ACTT-1 study.
- Furthermore, studies have consistently shown benefit earlier in the disease course and with lower oxygen needs. Our cohort had high rates of mechanical ventilation. Thus, the modest benefit seen in developed countries may be harder to show in resource limited settings and the number needed to treat is likely much higher.
- Remdesivir did not appear to have an impact in our cohort.

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