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Tocilizumab and baricitinib in severe pneumonia due to COVID-19 in Veracruz, Mexico

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Introduction Until now, there is no specific treatment to treat COVID-19 pneumonia, causing concern in patients with hypoxemic pneumonia and cytokine storm given the high mortality, for which compassionate medications have been implemented.

Methods. The individual experience with each drug used in severe hypoxemic pneumonia and cytokine storm is presented.

Results. Tocilizumab. 20 patients in ICU, 15 men and 5 women, with median age of 50.5 years. Diabetes mellitus and systemic arterial hypertension were the most frequent comorbidities. In paraclinical patients, lymphopenia with a median of 860 cells/mm3 stood out. The median neutrophil-lymphocyte index was 7.4, the D-dimer was 1,086ng/mL, the ferritin was 1,625.6ng/mL, and the PaO2/FiO2 index had a median of 162. The median number of days of evolution prior to admission was 9. 95.0% of the patients had pulmonary failure, hematological failure in 20.0%, kidney failure in 20.0% and neurological failure in 10.0%. Furthermore, 80% of the patients had moderate ARDS and 20% had severe ARDS; All patients remained in the prone position, 60.0% received invasive mechanical ventilation and 40% with non-invasive ventilation. As for the administration of tocilizumab, 17 (85.0%) patients received one dose, (15.0%) patients received two doses. The median days of hospital stay was 16 days; additionally, there were 2 (10%) patients who died. No infectious adverse events were reported after drug administration.

Baricitinib. 30 patients with home care, 8 women and 22 men, with a median age of 58.5 (46.5 - 68.0) years. 23 patients (77%) had comorbidities, the most frequent being arterial hypertension (43%), followed by obesity (30%), type 2 diabetes mellitus (27%), among others. In the laboratory, the medians of D-Dimer 982ng / mL, Ferritin 1,375ng / mL and C-Reactive Protein 10.0mg / dL. Regarding the use of previous medications, we found that 29 (97%) patients had treatment with some medication, the most frequent: azithromycin (77%), ivermectin (53%) and dexamethasone (47%). The median number of medications received was 3. The initial pulse oximetry (SaO2) measurement with room air had a median of 80.5% and the median SaO2/FiO2 (SAFI) was 134; Regarding the type of ARDS, 90% had moderate and 10% had severe. The median day of

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evolution on which baricitinib was started was 10 days, all received 4 mg/day, and the median days of treatment with baricitinib was 14.0 days. At follow-up, SaO2 at 7 days had a median of 93.0% and the median SAFI at 7 days was 310.0; the median SaO2 at 14 days was 95.0% and the median SAFI at 14 days was 452.0. In comparative analysis, baseline SaO2/SAFI was significantly lower compared to 7 and 14 days (p = 0.001 for both comparisons). The outcomes, 27 (90%) patients improved and there were 3 (10%) who died.

Conclusion. Tocilizumab and baricitinib are safe drugs in patients with severe hypoxemic pneumonia and cytokine storm, and can be used in hospitals (tocilizumab) or at home (baricitinib) given their presentations, fighting hyperinflammation as well as avoiding intubation, and in intubated patients, favoring Successful extubation coupled with standard care, mortality is low in this series of cases.

Keywords: Pneumonia; COVID-19; Tocilizumab; Baricitinib

Biography:

Luis Del Carpio-Orantes, Medical specialist in Internal Medicine and Associate Researcher A, Mexican Institute of Social Security. Leader of the Guillain Barré Syndrome Study Group in arbovirus season in Veracruz, Mexico and of the Study Group for the diagnosis and treatment of COVID-19 in Veracruz, Mexico. Columnist for the Ibero-American Society for Scientific Information. Member of the Mexican Network of Virology. Member of the Mexican Society of Virology.

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