

INTRODUCTION:

- Cytokine Release Syndrome (CRS) may contribute to the pathophysiology of severe COVID-19. Tocilizumab (TCZ), a monoclonal antibody targeting the receptor for the pro-inflammatory cytokine, IL-6, is approved for the treatment of CRS in the setting of chimeric antigen receptor therapy. We analyzed and quantified the clinical and anti-inflammatory effects of TCZ in the first 19 COVID-19 patients receiving this agent at our facility, a cohort with moderately severe to critical disease.

METHODS:

- Data for all patients with confirmed SARS-CoV-2 infection who received TCZ at a community hospital in Northeastern USA were extracted from the EHR, including demographics, body temperature, C-Reactive Protein (CRP), IL-6 levels, clinical severity on the Ordinal Scale for Clinical Improvement (OSCI), and clinical outcome (either recovery and discharge home, partial recovery and discharge to rehabilitation facility, or death). Results were tabulated and statistical significance of changes in indices pre- and post- TCZ were assessed by Wilcoxon Signed-Rank Test.

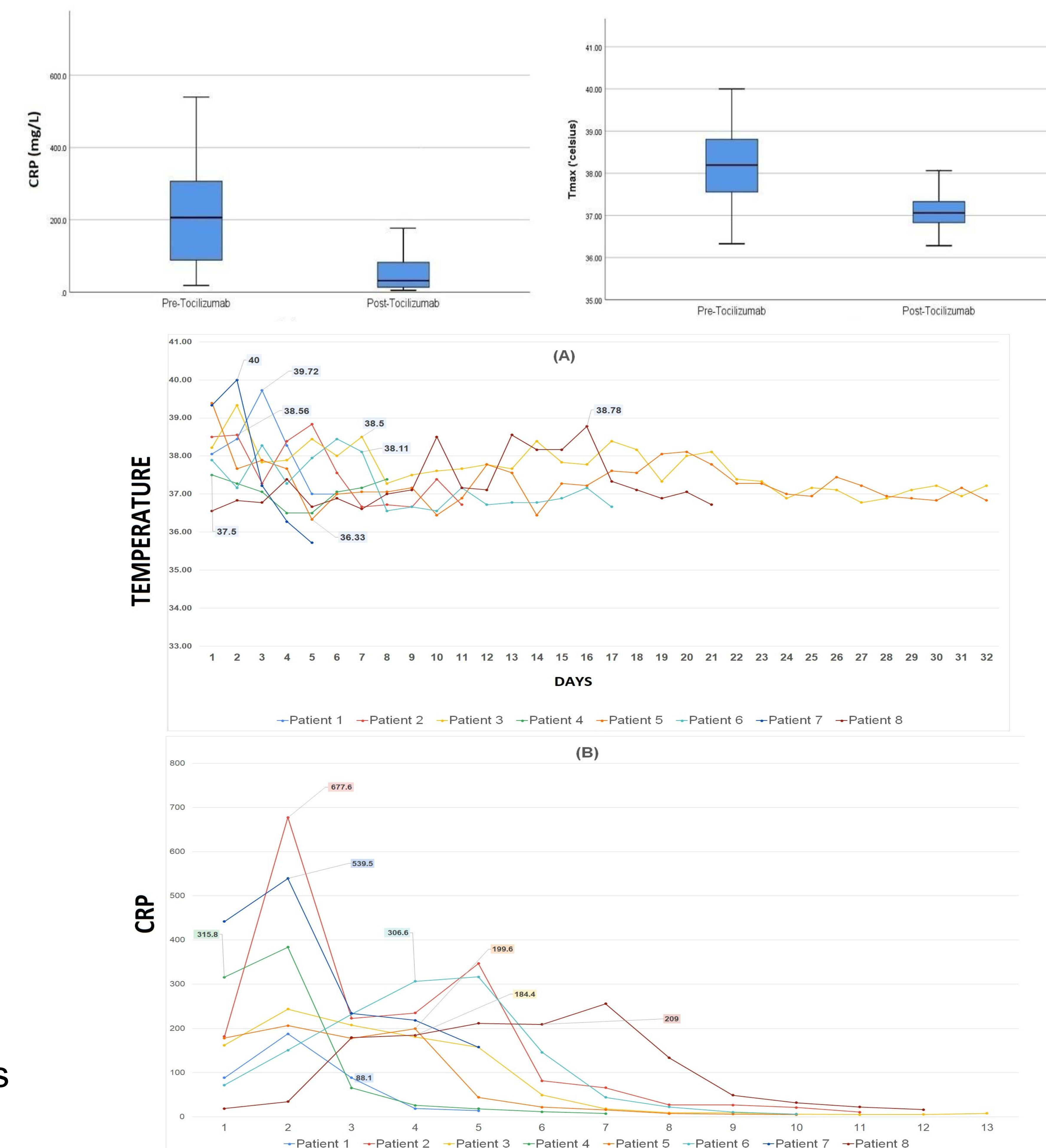
DISCUSSION:

- Our patients showed improvement by the OSCI score. 11 of 19 patients (57.9%) showed improvement by at least one point at 7 days after administration, and 13 of 19 patients (68.4%) showed improvement by at least one point at 14 days.
- We observed rapid and dramatic reductions in fever and inflammatory markers after administration of TCZ, as well as overall improvement of clinical status (OSCI).
- Larger, prospective controlled trials will be required to confirm overall clinical benefit in this subset of COVID-19 patients.

summary

In this cohort of patients with moderately-severe to critical COVID-19 and evidence of CRS, TCZ was associated with rapid resolution of fever and marked decline in CRP. Most patients showed improvement in clinical severity scores and no immediate adverse reactions were noted. TCZ may be useful in modulating of the pathological immune response in COVID-19. TCZ efficacy should be validated in large randomized, clinical trials.

RESULTS:



REFERENCES:

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