

TOCILIZUMAB IN THE TREATMENT OF PATIENTS WITH MODERATE TO SEVERE COVID-19 PNEUMONIA: A SINGLE-CENTRE EXPERIENCE

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Abstract

Background and objectives: Patients with COVID-19 infection may develop respiratory failure following cytokine release storm associated hyper-inflammatory state. Tocilizumab (TCZ) can reduce this response by blocking IL-6 receptors and may improve survival. Here we aimed to study the efficacy of TCZ in patients with moderate to severe COVID-19 pneumonia.

Methods: In this retrospective observational study, all COVID-19 RT PCR confirmed patients who received TCZ from May 1st through May 31st, 2020 at a tertiary care teaching hospital in Gujarat, were analysed. The primary outcome was mortality on day 7 and day 28 after TCZ. Secondary outcomes were changes in laboratory and respiratory parameters after TCZ.

Results: Out of sixty-one treated patients (M: 45, F: 16, Median age 60 years), 75.4% had associated co-morbidity. The overall mortality was 31.05%(n=18) while 68.96% (n=40) patients were discharged by day 28. Old age, high ferritin, high baseline SOFA score, and low P/F ratio were important risk factors for mortality. Polymorphonuclear leucocytosis and persistent higher CRP level after TCZ were associated with reduced survival and may probe towards secondary bacterial infection. We observed significant improvement in lymphocyte count, ferritin and CRP (<0.05) along with rising WBC count after TCZ. **Conclusion:** In conclusion, TCZ can be used in patients with moderate to severe COVID 19 pneumonia with cytokine storm as an anti-inflammatory agent. We saw improvement in laboratory markers of inflammation, lymphocyte count, and P/F ratio. As this is a single-arm retrospective observational study, future prospective randomised controlled trials are needed to confirm the efficacy of this drug.

Keywords: COVID-19, Mortality, P/F ratio, Tocilizumab

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