Tocilizumab Magic in Octogenarian Patient of COVID-19 ARDS

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More than 85% of SARS-CoV-2-infected patients who develop coronavirus disease 2019 (COVID-19) apparently have mild symptoms, about 14% of patients develop severe symptoms, and 5% contract critical disease defined by respiratory failure, shock, and/or multiorgan failure. Tocilizumab is an IL-6 antagonist, the use of which has been extrapolated from other cytokine release syndromes. Its use in COVID-19 has been beneficial in certain observational studies. In India, as per the Ministry of Health and Family Welfare, DGHSS Government of India guidelines version 5, its off-label use has been recommended in moderate to severe COVID-19 patients not improving on steroids. We report a case of an 85-year-old man with no prior comorbidities presented with complaints of fever associated with shortness of breath for the last 5 days. On examination, he was conscious, oriented, with a respiratory rate of 26 per minute and use of accessory muscles of respiration. His oxygen saturation was 90% on room air and improved to 96% on a non-rebreather mask with O₂ flow at 10 L/minute. He was tested positive for COVID-19 RT-PCR before admission and was being treated with steroids without any improvement. Other investigations revealed a hemoglobin level of 11.5 g/dL, TLC of 12,100 with differential counts suggestive of 90% neutrophils, 5% lymphocytes, 2% eosinophils with NLR of 18, and liver and renal functions were normal. Arterial blood gas analysis was suggestive of pH 7.4, pO₂ of 70.4, pCO₂–34.6, HCO₃–21.6, and SpO₂ of 90%. His serum procalcitonin levels were 0.1 ng/mL. Inflammatory markers was suggestive of cytokine release syndrome (CRS; CRP –363 (N < 1 mg/dL), ferritin-207 ng/mL (N30-400), IL-6-56.06 (N < 7 pg/mL), ESR-82 mm/hour, D-dimer 555 (<500), and fibrinogen-11.67 (350 mg/dL). CT scan thorax was suggestive of COVID pneumonia with a CT severity index of 16/25 which comes under the severe category. The patient has been treated with Inj. dexamethasone 6 mg, Inj. low mol wt heparin, Inj. azithromycin. As this patient has IL-6 levels >5 times elevated and was refractory to steroid therapy and IL-6 levels are elevated 5 times of normal limit after ruling out bacterial infections.

To conclude, tocilizumab can be used as an off-label drug in moderate to severe COVID ARDS patients who are refractory to steroid therapy and IL-6 levels are elevated >5 times of normal limit after ruling out bacterial infections.

References