ICU
MANAGEMENT & PRACTICE

RECOVERY Trial: Tocilizumab in Hospitalised COVID-19 Patients

A large majority of COVID-19 infections are mild or asymptomatic. However, there is a significant portion of individuals who develop severe respiratory illness that requires hospital care, and that could progress to critical illness with hypoxic respiratory failure requiring prolonged ventilatory support.

This hypoxic respiratory failure is associated with systemic inflammation. Beneficial effects of dexamethasone and other corticosteroids in COVID-19 patients with hypoxic lung damage have been observed. This suggests that other immunomodulatory agents could also provide improvements in clinical outcomes in these patients.

Tocilizumab is an anti-IL-6 receptor monoclonal antibody that blocks IL-6 signalling and reduces inflammation. The drug is commonly used to treat rheumatoid arthritis. A study was conducted to evaluate the safety and efficacy of tocilizumab in adult patients hospitalised with COVID-19 with both hypoxia and systemic inflammation.

The Randomised Evaluation of COVID-19 Therapy (RECOVERY) trial assessed several possible treatments in hospitalised COVID-19 patients in the UK. Study participants were randomised to receive standard of care alone versus standard of care plus 400mg to 800 mg intravenous tocilizumab. A second dose of the drug was given 12 to 24 hours later if the patient's condition did not improve.

The primary outcome of the study was 28-day mortality. Secondary outcomes included time to discharge alive from hospital and receipt of invasive mechanical ventilation among patients who did not receive invasive mechanical ventilation at randomisation. Prespecified subsidiary clinical outcomes included the use of non-invasive respiratory support, time to successful cessation of invasive mechanical ventilation and use of renal dialysis or haemofiltration. Safety outcomes included cause-specific mortality and major cardiac arrhythmia.

4116 patients were included in the assessment. 14% of the patients received mechanical ventilation, 41% received non-invasive respiratory support, and 45% received no respiratory support other than oxygen.

29% of the 2022 patients who received tocilizumab and 33% of the 2094 patients allocated to usual care died with 28 days. A clear mortality benefit was observed in patients receiving systemic corticosteroids. In addition, patients who were in the tocilizumab group were more likely to be discharged from the hospital alive within 28 days. Patients who did not receive invasive mechanical ventilation at baseline and were treated with tocilizumab were less likely to reach the composite endpoint of invasive mechanical ventilation or death.

Findings from the RECOVERY trial show that in hospitalised COVID-19 adult patients with hypoxia and systemic inflammation, tocilizumab improved survival and other clinical outcomes

Overall, findings from the RECOVERY trial show that in hospitalised COVID-19 adult patients with hypoxia and systemic inflammation, tocilizumab improved survival and other clinical outcomes. The benefits were observed regardless of the level of respiratory support.

Source: Medrxiv

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