Itolizumab Drug for COVID-19

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The Drug Controller General of India (DGCI) has given "**restricted emergency use**" approval to Itolizumab, a drug used to cure skin ailment psoriasis, for treating Covid-19 patients with moderate-to-severe acute respiratory distress.

Itolizumab Drug

Itolizumab is a '**humanised monoclonal antibody**' developed by the Bangalore-based biopharmaceutical company, Biocon, in collaboration with the Centre for Molecular Immunology (CIM) in Cuba. Monoclonal antibodies are **antibodies produced by immune cells that are cloned from one parent immune cell.** These antibodies are designed to bind to a specific type of proteins. Itolizumab is the **first novel biologic therapy** to be approved anywhere in the world for treating patients with moderate to severe COVID-19 complications.

In the case of Itolizumab, it **selectively targets CD6**, a protein found in the outer membrane of T-cell. T-cell is a type of white blood cell that plays a central role in the body's immune response. Protein CD6 is important for the continued activity of T-Cells when the body encounters a foreign pathogen.

However, in case of the Covid-19 infection, sometimes the immune system goes into an overdrive – a process known as **cytokines storm** – causing inflammation and organ damage. Itolizumab, by binding to CD6, down **regulates T-cell activation**, and causes reduction in synthesis of pro-inflammatory cytokines. The drug has previously been shown to be effective for treating psoriasis, an autoimmune disease in which skin cells build up and form scales and itchy, dry patches.

The approval was given after its clinical trials on Covid-19

patients in India was found satisfactory by the expert committee comprising pulmonologists, pharmacologists and medicine experts from AIIMS, among others, for treatment of cytokine release syndrome. The health ministry has recommended that Biocon must continue to conduct further clinical trials of the drug and also submit a risk management plan to address the safety issues in the post marketing scenario.