

AstraZeneca's cancer drug gives positive results in COVID-19 patients

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Improved laboratory markers of inflammation and decreased oxygen requirements observed in most patients



Results published in *Science Immunology* showed that Calquence (acalabrutinib), a Bruton's tyrosine kinase (BTK) inhibitor, reduced markers of inflammation and improved clinical outcomes of patients with severe COVID-19 disease.

The peer-reviewed case series of 19 hospitalised patients with COVID-19 disease and severe hypoxia and/or inflammation is a collaboration from investigators across the US, including AstraZeneca scientists, and led by Wyndham Wilson, M.D., Ph.D. and Louis Staudt, M.D., Ph.D. at the National Cancer Institute of the National Institutes of Health in the US.

The publication describes the effects of *Calquence* administration in patients with severe respiratory illness caused by the SARS-CoV-2 virus.

A virus-induced hyperimmune response or "cytokine storm" is hypothesised to be a major pathogenic mechanism of respiratory illness in these patients, and evidence suggests that dysregulated BTK-dependent lung macrophage signalling mediates this cytokine storm and plays a role in COVID-19 pneumonia.

Calquence is a next-generation, selective BTK inhibitor currently approved in the US for the treatment of certain haematological malignancies. Calquence is not currently approved in any country to treat patients with illnesses related to SARS-CoV-2.