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# Cytokine storms in COVID-19 cases?

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EDITORIAL COMMENTARY

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**Severe coronavirus disease is associated with hyperinflammation.**



Photo: Einar Nilsen

The Lancet recently published an article by Puja Mehta and colleagues, which discusses whether secondary haemophagocytic lymphohistiocytosis (HLH) may be associated with severe coronavirus disease (COVID-19) [\(1\)](#).

Haemophagocytic lymphohistiocytosis, which is frequently described as a 'cytokine storm', is characterised by fulminant, fatal hypercytokinemia with multiple organ failure [\(2\)](#). This clinical picture may be triggered by viral infections in adults [\(3\)](#). The condition may also occur in patients with sepsis [\(4\)](#).

Puja Mehta and colleagues point out that a cytokine profile similar to that seen in haemophagocytic lymphohistiocytosis can be observed in the most critically ill COVID-19 patients [\(1, 5\)](#).

The Journal of the Norwegian Medical Association is now publishing a case study on this essentially rare cytokine storm syndrome in a patient without COVID-19 [\(6\)](#). The article's first author, senior consultant Hallgeir Tveiten in the Department of Respiratory Medicine, Oslo University Hospital, says:

'The importance of treating haemophagocytic lymphohistiocytosis with immunomodulating drugs has previously been observed. In a study of patients with this condition, the causal trigger for which was Epstein-Barr virus infection, it was found that mortality was 14 times higher in the group that did not receive this drug treatment.'

Tveiten underscores that similar results have not been found with other viral infections, and that no randomised controlled trials have been undertaken. He believes that specific treatment should be considered if haemophagocytic lymphohistiocytosis is suspected in COVID-19 patients.

'Blockade of interleukin-6 with tocilizumab in cases of acute respiratory distress syndrome associated with COVID-19 is about to be tested, and interleukin-1 blockade with anakinra is also being discussed'.

You can read more about this in the invited commentary article from Tveiten and colleagues [\(7\)](#), and in their case study [\(6\)](#).

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## LITERATURE

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