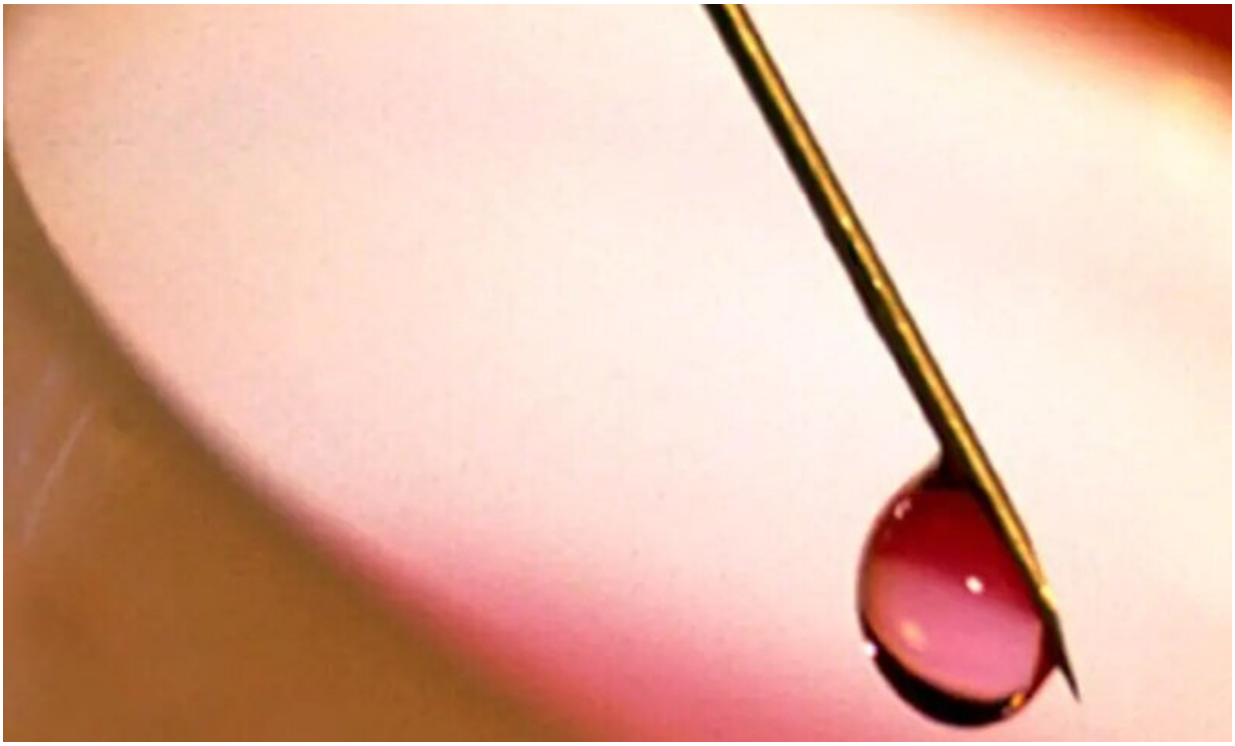
MedicalXpress

Cytokines not at 'storm' levels in those with severe COVID-19

October 22 2020



(HealthDay)—COVID-19 may not cause a cytokine storm, according to a review published online Oct. 16 in *The Lancet Respiratory Medicine*.

Daniel E. Leisman, M.D., from Massachusetts General Hospital in Boston, and colleagues conducted a systematic review and meta-analysis

of COVID-19 studies published or posted as preprints between Nov. 1, 2019, and April 14, 2020, in which interleukin-6 concentrations in patients with severe or critical disease were recorded.

The researchers identified 25 COVID-19 studies (1,245 patients). Four trials included comparator groups, including patients with sepsis (5,320 patients), cytokine release syndrome (72 patients), and acute respiratory distress syndrome unrelated to COVID-19 (2,767 patients). The pooled mean serum interleukin-6 concentration was 36.7 pg/mL in patients with severe or critical COVID-19, but in patients with cytokine release syndrome, mean interleukin-6 concentrations were nearly 100 times higher. These concentrations were 27 times higher in patients with sepsis and 12 times higher in patients with acute respiratory distress syndrome unrelated to COVID-19.

"Our findings question the role of a cytokine storm in COVID-19-induced organ dysfunction," the authors write. "Many questions remain about the immune features of COVID-19 and the potential role of anticytokine and immune-modulating treatments in patients with the disease."

Several authors disclosed financial ties to the pharmaceutical and biotechnology industries.

More information: Abstract/Full Text