

Cytokine storms: How your own body fights against you during a coronavirus infection

When the body first encounters a virus or a bacterium, the immune system ramps up and begins to fight the invader. The foot soldiers in this fight are molecules called cytokines that set off a cascade of signals to cells to marshal a response.

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But in some cases — as much as 15 percent of people battling any serious infection, according to Dr. [Randy] Cron's team — the immune system keeps raging long after the virus is no longer a threat. It continues to release cytokines that keep the body on an exhausting full alert. In their misguided bid to keep the body safe, these cytokines attack multiple organs including the lungs and liver, and may eventually lead to death.

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[In a] 42-year-old patient, the suspected cytokine storm led his doctors to eventually try tocilizumab, a drug they have sometimes used to soothe an immune system in distress.

After just two doses of the drug, spaced eight hours apart, the patient's fever rapidly disappeared, his oxygen levels rose and a chest scan showed his lungs clearing. The case report, described in an upcoming paper in *Annals of Oncology*, joins dozens of accounts from Italy and China, all indicating that tocilizumab might be an effective antidote to the [coronavirus](#) in some people.

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