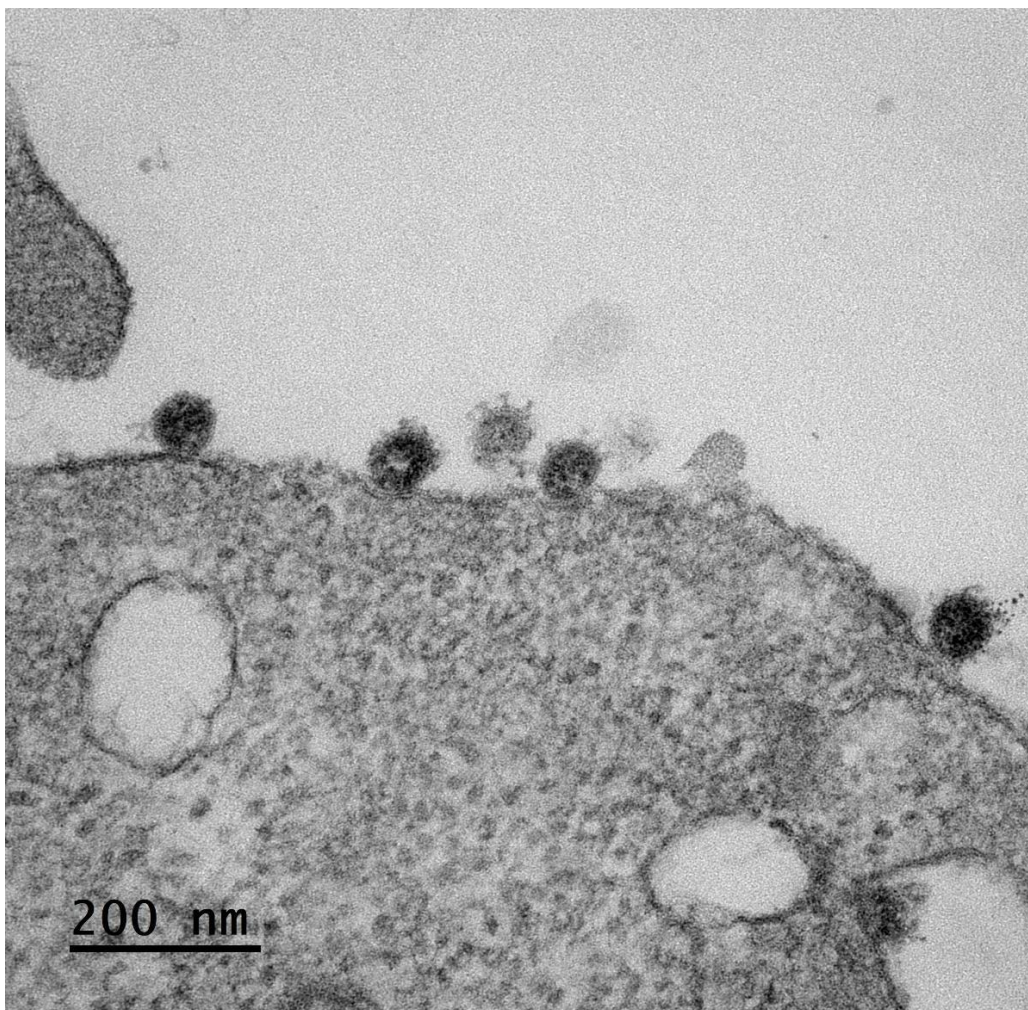


Press information

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Focusing on Viral Load to Understand Progression to Severe COVID-19



SARS-CoV-2 infected cell. © Sébastien Eymieux and Philippe Roingeard, Inserm - Université de Tours

What are the factors predicting progression to severe forms of COVID-19? One year into the pandemic, this question remains a key research subject, and one that scientists from Inserm and Université de Paris decided to explore further by studying the link between viral kinetics and disease progression. This research is based on data from the Inserm-sponsored *French COVID* cohort, and has been published in [PNAS](#).

While some patients infected with SARS-CoV-2 only have mild symptoms of COVID-19, a minority will go on to develop severe forms of the disease. A better understanding of the factors that determine this progression is essential if we are to improve their treatment and reduce mortality.

A team led by Inserm researcher Jérémie Guedj at the IAME laboratory (Inserm/Université de Paris) analyzed the biological data of 655 patients hospitalized for SARS-CoV-2 infection, and who were participants in the *French COVID* cohort. The aim was to help elucidate the link between viral kinetics – the amount of virus present in the nasopharyngeal compartment over time – and the progression of the disease.

Their study has highlighted two essential points. The first is that the older the patient, the longer he or she takes to eliminate the viral load from the nasopharyngeal compartment. The second is that this viral dynamic is associated with mortality.

While viral load is certainly not the only factor in progression to severe disease and death, it does play an important role. Although COVID-19 is often described as an inflammatory disease, these virological aspects must also be taken into account in the treatment and support of hospitalized patients.

As a consequence, this research also highlights the need for continued research into the development of antiviral treatments. In particular, the scientists used modeling to show that shortening the time to viral clearance by administering treatment upon hospitalization could significantly improve prognosis, especially in the most elderly.

Sources

Modeling SARS-1 CoV-2 viral kinetics and association with mortality in hospitalized patients: results from the French Covid-19 cohort

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