The prognostic puzzle of COVID-19: Fecal SARS-CoV-2 RNA's limited role

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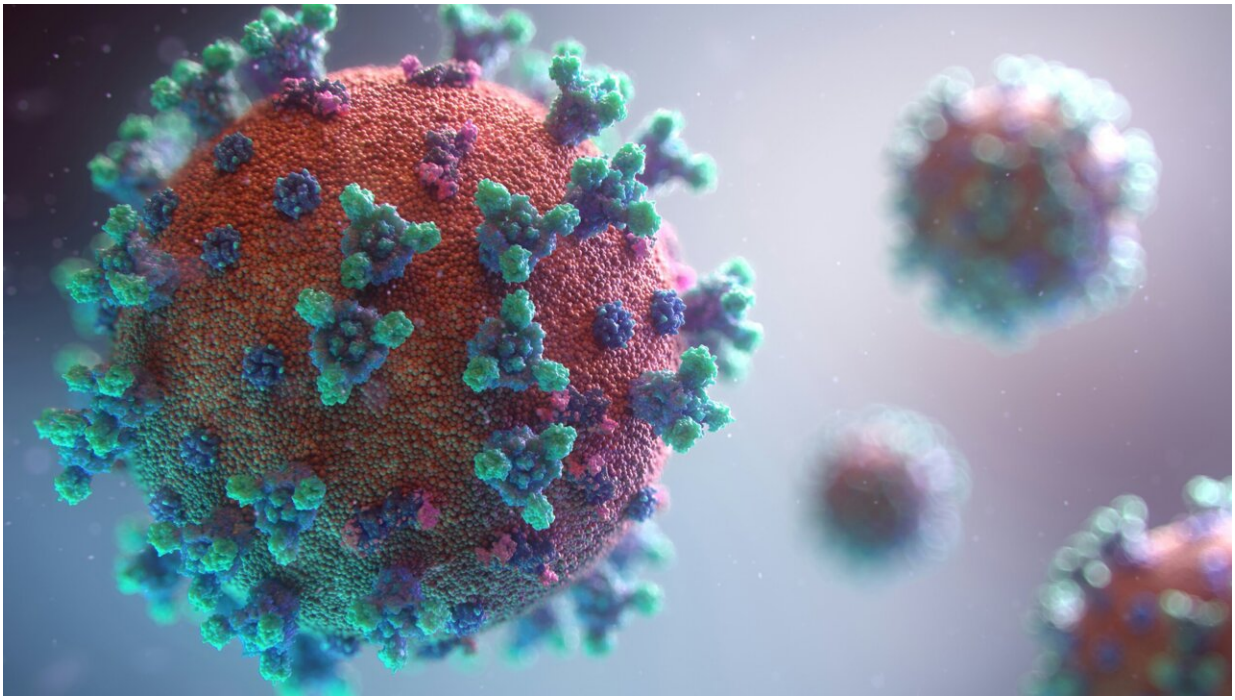

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A recent study investigated the correlation between the specific anti-spike SARS-CoV-2 IgG immune response resulting from vaccination or previous infection, viral load, and fecal virus excretion, as well as their impact on the clinical characteristics and outcomes of COVID-19 among hospitalized patients during the predominance of the omicron variant.

The research, titled "Excretion of SARS-CoV-2 RNA in feces has no prognostic benefit in the outcome of COVID-19: A clinical and immunological study," is published in the journal *Biomolecules and Biomedicine*.

The research included 251 patients with COVID-19 requiring hospital treatment and was conducted by a team of scientists from the University of Rijeka, Croatia, and the University of Mostar, Bosnia and Herzegovina.

The median age of admitted patients was 72 years, predominantly with pre-existing comorbidities such as arterial hypertension, cardiovascular disease, and diabetes mellitus, with 61.4% being male.

Vaccinated patients developed pneumonia to a lesser extent and presented with milder clinical manifestations compared to non-vaccinated patients. Those unvaccinated and without previous infection exhibited a higher incidence of acute respiratory distress syndrome, admission to the intensive care unit, and a higher incidence of severe or critical forms of COVID-19. Specific anti-spike SARS-CoV-2 IgGs were frequently present in immunocompetent patients with lower viral loads.

Mortality occurred in 21.1% of patients, mainly among those who were immunocompromised (35.8%) and presented with severe or critical disease, which can be attributed to a weakened immune response to infection. Consistent with previous studies, the study's findings showed no correlation between the detection of SARS-CoV-2 RNA in feces and the clinical manifestations, disease severity, or outcomes of COVID-19.

Furthermore, neither the viral loads in nasopharyngeal swabs nor the presence of specific anti-spike SARS-CoV-2 IgGs, irrespective of vaccination or previous infection, influenced the level of SARS-CoV-2

RNA excretion in feces or the outcome of COVID-19. Interestingly, in one-third of the patients with SARS-CoV-2-positive nasopharyngeal swabs, SARS-CoV-2 RNA was not detected in the feces.

In conclusion, the study's results underscore the importance of vaccination against SARS-CoV-2 in protecting patients from developing pneumonia and acute respiratory infections. However, fecal excretion of SARS-CoV-2 RNA has no impact on the clinical outcome of COVID-19, highlighting the need for caution when utilizing feces as a diagnostic sample for detecting SARS-CoV-2 infection.

More information: Božo Šušak et al, SARS-CoV-2 viral load in feces does not have a prognostic benefit in outcome of COVID-19: Clinical and immunological study, *Biomolecules and Biomedicine* (2024). DOI: 10.17305/bb.2024.10176

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