



London

Cite this as: *BMJ* 2021;374:n2189
<http://dx.doi.org/10.1136/bmj.n2189>
 Published: 06 September 2021

Covid-19: Infection increases the risk of kidney disease even in mild cases, finds study

Ingrid Torjesen

People who have recovered from covid-19 have a greater risk of kidney disease, even if they only experienced mild to moderate covid-19 symptoms and were not admitted to hospital, shows a study published in the *Journal of the American Society of Nephrology*.¹

Damage to organ systems such as the kidneys is a recognised complication of the post-acute phase for patients who were severely ill during the acute phase of covid-19, but the risks for patients who experienced milder covid-19 is less clear.

Researchers used data collected by the Veterans Health Administration in the US to compare the risks of kidney related conditions in 89 216 people who had recovered from covid-19 for at least 30 days against the risks in 1 637 467 who had not had covid-19.

Their analysis showed that people who had had covid-19 had a higher risk of acute kidney injury (adjusted hazard ratio (aHR)=1.94; 95% confidence interval 1.86 to 2.04) and major adverse kidney events (aHR 1.66; 95% CI 1.58 to 1.74). Major adverse kidney events were considered to be a decline in the estimated glomerular filtration rate (eGFR) of at least 50% since their first positive covid test, end stage kidney disease, or all cause mortality.

The risk of end stage kidney disease alone—that is, having a kidney transplant or receiving outpatient dialysis—was almost threefold higher for those who recovered from covid-19 (aHR 2.96; 95% CI 2.49-3.51). There were 4.65 cases of end stage kidney disease per 1000 person years among people who had had covid-19 compared with 1.43 cases per 1000 person years among the general population.

Declines in eGFR in those who recovered from covid-19 mirrored the severity of disease they had experienced. Compared with people who had not had covid-19, declines in eGFR ranged from -3.26 mL/min/1.73m²/year for those who had had the disease but not been admitted to hospital, to -5.20 mL/min/1.73m²/year for those who had spent time in hospital, and -7.69 mL/min/1.73m²/year for those who were admitted to intensive care.

Ziyad Al-Aly, director of the clinical epidemiology centre at the Veterans Affairs St Louis Health Care System in Missouri, who led the research said, “These results suggest that beyond the acute phase of covid-19 infection, people experience higher risk adverse kidney outcomes. Post-acute care of people with covid-19 should involve attention and care for acute and chronic kidney disease.”

While the findings suggest that acute kidney injury during the acute phase contribute to the increased risk of post-acute kidney outcomes, he added, “It is also evident that the risk was increased in those who did not have an acute kidney injury during the acute phase.”

¹ Bowe B, Xie Y, Xu E, Al-Aly Z. Kidney outcomes in long covid. *Journal of the American Society of Nephrology*. 2021. <https://jasn.asnjournals.org/content/early/2021/08/25/ASN.2021060734>.

This article is made freely available for use in accordance with BMJ's website terms and conditions for the duration of the covid-19 pandemic or until otherwise determined by BMJ. You may use, download and print the article for any lawful, non-commercial purpose (including text and data mining) provided that all copyright notices and trade marks are retained.