Aspirin does not improve survival for patients hospitalized with COVID-19

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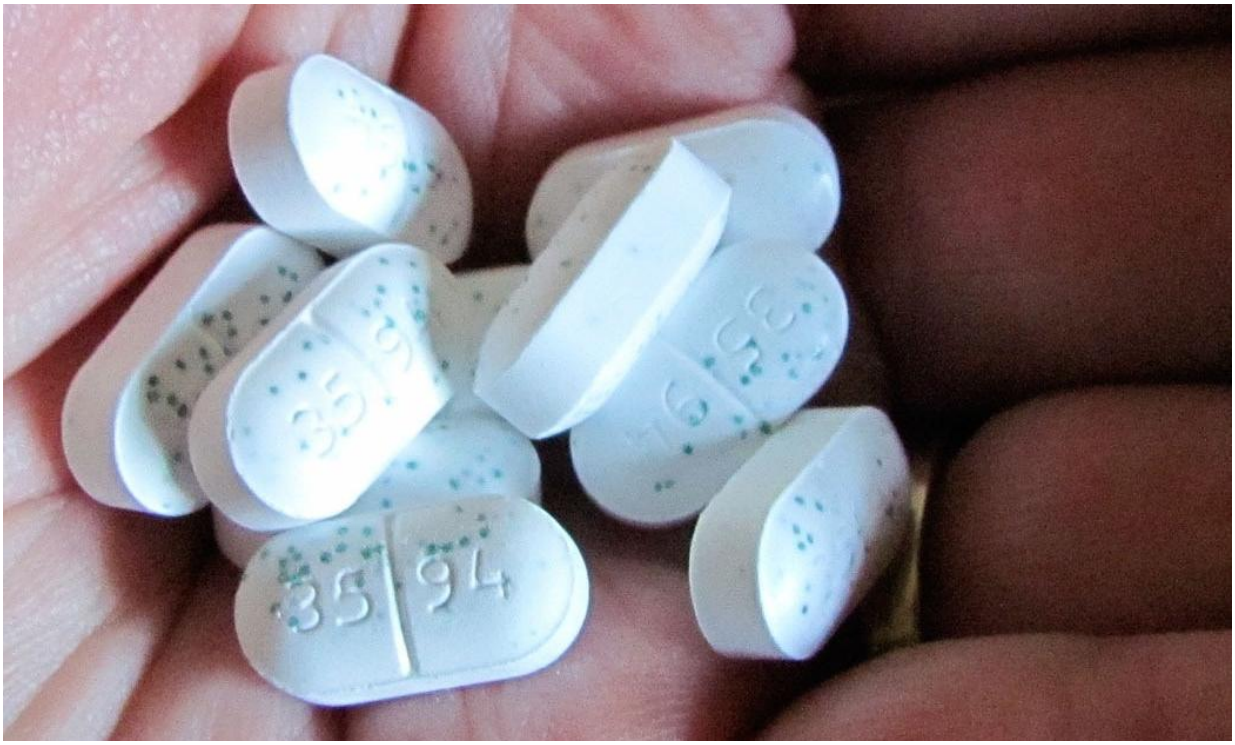

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The RECOVERY trial was established as a randomized clinical trial to test a range of potential treatments for patients hospitalized with COVID-19.

Patients with COVID-19 are at increased risk of blood clots forming in

their blood vessels, particularly in the lungs. Between November 2020 and March 2021, the RECOVERY trial included nearly 15,000 patients hospitalized with COVID-19 in an assessment of the effects of aspirin, which is widely used to reduce blood clotting in other diseases.

A total of 7351 patients were randomized to aspirin 150 mg once daily and compared with 7541 patients randomized to usual care alone. There was no evidence that aspirin treatment reduced mortality. There was no significant difference in the primary endpoint of 28-day mortality (17% aspirin vs. 17% usual care; rate ratio 0.96 [95% confidence interval 0.89-1.04]; p=0.35). The results were consistent in all pre-specified subgroups of patients.

Patients allocated to aspirin had a slightly shorter duration of hospitalization (median 8 days vs. 9 days) and a higher proportion were discharged from hospital alive within 28 days (75% vs. 74%; rate ratio 1·06; 95% CI 1·02-1·10; p=0·0062). Among those not on invasive mechanical ventilation at baseline, there was no significant difference in the proportion who progressed to invasive mechanical ventilation or death (21% vs. 22%; risk ratio 0·96; 95% CI 0·90-1·03; p=0·23). For every 1000 patients treated with aspirin, approximately 6 more patients experienced a major bleeding event and approximately six fewer experienced a thromboembolic (clotting) event.

Peter Horby, professor of emerging infectious diseases in the Nuffield Department of Medicine, University of Oxford, and Joint Chief Investigator for the RECOVERY trial, said, "The data show that in patients hospitalized with COVID-19, aspirin was not associated with reductions in 28-day mortality or in the risk of progressing to invasive mechanical ventilation or death. Although aspirin was associated with a small increase in the likelihood of being discharged alive this does not seem to be sufficient to justify its widespread use for patients hospitalized with COVID-19."

Martin Landray, professor of medicine and epidemiology at the Nuffield Department of Population Health, University of Oxford, and Joint Chief Investigator, said, "There has been a strong suggestion that blood clotting may be responsible for deteriorating lung function and death in patients with severe COVID-19. Aspirin is inexpensive and widely used in other diseases to reduce the risk of blood clots so it is disappointing that it did not have a major impact for these patients. This is why large randomized trials are so important—to establish which treatments work and which do not.

"As ever, we are enormously grateful to the thousands of medical staff and patients who have contributed to the RECOVERY trial, helping to find better treatments for patients all around the world."

The results of this evaluation of aspirin will be published shortly on *medRxiv* and have been submitted to a leading peer-reviewed medical journal.

Provided by University of Oxford

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