

# RAS inhibitors not linked to increased risk of death from COVID-19

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Concerns have been raised that the use of a common group of medications called RAS inhibitors could facilitate SARS-CoV-2 infection, impact COVID-19 disease severity and worsen prognosis.

However, in a new nationwide registry-based study from Karolinska Institutet in Sweden, including almost 1.4 million patients, use of RAS inhibitors was not associated with increased risk of hospitalization or death from COVID-19. The study has been published in the *European Journal of Heart Failure*.

The new coronavirus SARS-CoV-2 enters [human cells](#) by binding its outer spike protein to the angiotensin-converting enzyme 2 (ACE2) receptor on the target cells. Because renin-angiotensin-aldosterone-system (RAS) inhibitors increase ACE2 levels, concerns regarding the use of these treatments during the COVID-19 pandemic have been raised.

The generic names of RAS inhibitors end in 'pril' or 'sartan' (some examples are enalapril, kaptopril, losartan, valsartan and candesartan). They are commonly used for the treatment of hypertension, heart failure, diabetes, kidney disease and ischemic heart disease. In this study, all patients with these conditions registered in the Swedish National Patient Registry on February 1, 2020, were included and followed until May 31.

Of 1,387,746 patients, the majority received RAS inhibitors. In total, 0.51 percent of the patients were hospitalized or died from COVID-19. After adjustment for 45 variables, RAS inhibitor use was associated with a slightly reduced risk of hospitalization or death from COVID-19.

"Our results show that RAS inhibitors are unlikely to have any [negative effects](#) on the outcome for COVID-19 patients," says lead author Gianluigi Savarese, associate professor of cardiology at the Department of Medicine, Solna, Karolinska Institutet and consultant in heart failure at Karolinska University Hospital in Sweden.

**More information:** Gianluigi Savarese et al. Association between

Renin-Angiotensin-Aldosterone system inhibitor use and COVID-19 Hospitalization and death: A 1,4 million patient Nation-Wide registry analysis, *European Journal of Heart Failure* (2020). [DOI: 10.1002/ejhf.2060](https://doi.org/10.1002/ejhf.2060)

Provided by Karolinska Institutet

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