

# Medicine against prostate cancer in new COVID-19 study

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Andreas Josefsson, University of Umea, and Karin Welen, University of Gothenburg. Credit: Mattias Petterson and Ida Welén

In a new trial, Swedish researchers will investigate if a medicine

normally used to treat prostate cancer can also be used to treat COVID-19 in patients. The desired effect is that the medicine will shorten the course of the disease and the need for intensive care. The drug itself is known to not least affect an enzyme important in prostate cancer cases and in corona infections.

"Our objective is that this drug will reduce the amount of coronavirus that can reach lung cells by preventing the underlying process behind an enzyme," says Assistant Professor Andreas Josefsson, who leads the trial. He is group leader at the Wallenberg Centre for Molecular Medicine at Umeå University and is consultant physician in urology at Region Västerbotten and in Sahlgrenska University hospital in Gothenburg.

The risk of falling seriously ill with COVID-19 has so far been remarkably higher for men than for women. This suggests that the system this medicine affects can be of importance in the treatment of corona infections too. The drug Enzalutamide blocks signals of male sex hormone, testosterone, which in turn affects the enzyme TMPRSS2, among others. This happens to be the same enzyme that the virus SARS-CoV-2 needs to get into cells and harm lungs.

Data from Italy shows that among men treated with similar drugs against their [prostate cancer](#), a considerably lower number has fallen ill with COVID-19 than in comparable control groups. It may also be possible that testosterone itself weakens the immune system's ability to cope with SARS-CoV-2 infections, and that the medicine in that way could have positive effects also on this.

The trial will be conducted at voluntary basis on hospitalized patients treated for COVID-19, but who are not critically ill enough to require intensive care. The patients in this trial will be administered the drug in the form of pills over the course of five days during which they will be

closely monitored. The result of this treatment will then be compared with a control group.

"This is a drug that we are very familiar with, but it will now be used for a new purpose. Hence, safety is a very important part of this trial," says Andreas Josefsson.

Normally, the [drug](#) is administered in long-term treatment, and with this short treatment period, the risks of potential side effects reduce. Follow ups will take place continuously for six weeks and again after six months.

This national Swedish trial is based on a collaboration between Umeå University, Sahlgrenska Academy at the University of Gothenburg, and the infection and urology clinics at Norrlands University Hospital in Umeå and Sahlgrenska University Hospital in Gothenburg. A further six Swedish medical regions have expressed their interest in participating so far, and the hospitals in Malmö, Sundsvall and Jönköping are preparing to start. The study has a capacity of recruiting up to 600 patients.

"We also have close collaborations internationally with the US where similar trials are commencing, and we are sharing experiences with each other. The spirit is high in collaborations both within research fields globally as well as cross-disciplinarily to find drugs against COVID-19," says Karin Welén, docent at the Sahlgrenska Academy in Gothenburg, who leads the study together with Andreas Josefsson.

The trial Covidenza has passed ethical review and has been approved by the Swedish Medical Products Agency. Region Västerbotten is the accountable authority of the trial supported by medical regions involved, the Wallenberg Centre for Molecular Medicine in Umeå and the pharmaceutical company Astellas Pharma. The pharmaceutical company, however, is not involved in planning the trial or processing the

results.

Provided by University of Gothenburg

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