

A way to prevent loss of smell and taste from COVID-19

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Loss of smell and taste—a hallmark symptom of COVID-19—was not on the minds of a group of Yale School of Medicine researchers when they embarked on a study in the spring of 2020.

The scientists, led by Joseph Vinetz, MD, an infectious diseases specialist, were interested to find out if an [oral medication](#) used to treat pancreatitis could reduce the [viral load](#) (the amount of virus in your body) of SARS-CoV-2 and improve symptoms in people newly diagnosed with COVID-19.

The study, which is available on a preprint site and has not yet been published in a peer-reviewed journal, ran from June 2020 to April 2021. It showed that the medication, called camostat mesylate, did little to lessen viral load. But, to the researchers' surprise, it brought a different type of benefit. "The patients who received the drug didn't lose any sense of smell or taste. That was a 'wow' factor," says Dr. Vinetz.

This matters because [loss of smell](#), known as anosmia, and loss of taste are common COVID-19 symptoms. For many, the senses return as the infection fades. But for others, the effect lingers in varying degrees. (With the [omicron variant](#), those symptoms can still occur, but not as often as it has with other variants.)

How the 'surprise' finding on loss of taste and smell was discovered

Dr. Vinetz says he was originally motivated to look into camostat mesylate after he saw an April 2020 [study published in Cell](#) that showed how this medicine could prevent SARS-CoV-2 from entering cells.

Dr. Vinetz recruited several colleagues to collaborate, including Anne Spichler Moffarah, MD, Ph.D., an infectious diseases specialist, and Gary Desir, MD, chair of the Department of Internal Medicine. Geoffrey Chupp, MD, director of the Yale Center for Asthma and Airways Disease, ran the clinical trial.

The Phase II randomized trial enrolled 70 participants who tested positive for COVID-19 within three days of starting the study. Participants took the medicine four times a day for seven days.

Although the trial was stopped once it was clear that the main objective of reducing viral load was not occurring, the researchers think the surprise findings about loss of smell and taste warrant additional study.

"My daughter had COVID a year ago and she still has trouble smelling and tasting things," says Dr. Desir. "This drug seems to be able to modulate that loss of smell and taste. It has very few side effects and has been studied extensively. This could be the type of treatment that is given to someone with COVID at the onset of the infection."

If the drug were to be approved for this purpose, the doctors believe it could be a game-changer. "It wouldn't be an expensive medication. Our idea was that everyone would take it if they were diagnosed because it's hard to predict who will lose their sense of smell or taste, and it's better to prevent it than to wait for it to happen," Dr. Desir says.

Additional benefits found for those with COVID-19

There were also other benefits to this medication, as the study showed that those who received it reported notable improvements related to fatigue, compared to those who received a placebo.

"People who got camostat mesylate in the trial started feeling less tired and better overall after day four, which was statistically different from the [placebo group](#)," Dr. Vinetz says. "And there were essentially no adverse effects in the camostat mesylate group."

Whether camostat mesylate could help restore sense of taste or smell in someone who has lost it is unknown, he adds. "More studies would help

us with that," Dr. Chupp says.

In order for camostat mesylate to become available for use in preventing the COVID-19-related loss of taste or smell, there would need to be a Phase III clinical trial and an application filed to the Food and Drug Administration (FDA) for emergency use authorization. All of this would take some time, Dr. Chupp explains.

Still, the doctors are hopeful their surprise discovery can make a positive impact on the fight against COVID-19. "A drug such as camostat mesylate presents an opportunity," says Dr. Chupp.

More information: Geoffrey Chupp et al, A Phase 2 Randomized, Double-Blind, Placebo-controlled Trial of Oral Camostat Mesylate for Early Treatment of COVID-19 Outpatients Showed Shorter Illness Course and Attenuation of Loss of Smell and Taste (2022). [DOI: 10.1101/2022.01.28.22270035](https://doi.org/10.1101/2022.01.28.22270035)

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