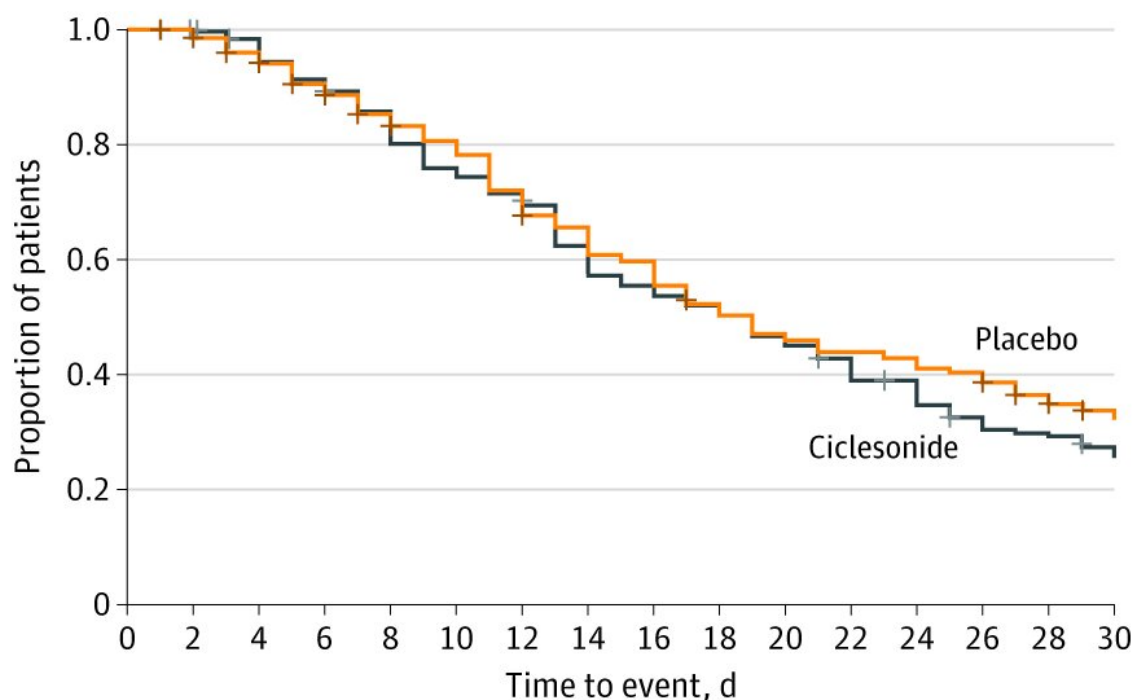


Inhaled steroid keeps COVID-19 patients with mild to moderate disease out of the hospital

November 23 2021, by Ellen Goldbaum



No. at risk

Ciclesonide	197	192	179	169	153	141	131	108	101	95	85	73	64	55	53	0
Placebo	203	197	185	172	160	150	129	116	105	95	87	83	78	72	62	0

Kaplan-Meier Curve of Time to Alleviation of COVID-19–Related Symptoms.
Credit: DOI: 10.1001/jamainternmed.2021.6759

A national study led by emergency medicine physicians at the University

at Buffalo has found that patients with mild to moderate COVID-19 who are treated with an inhaled steroid are significantly less likely to require emergency department care or hospitalization due to COVID-19 than those treated with placebo.

The results of the double-blinded, randomized, controlled study were published Nov. 22 in *JAMA Internal Medicine*. Participants were enrolled from June through November 2020.

A total of 400 [patients](#) participated from 10 centers throughout the U.S., with about half receiving treatment and half receiving placebo. Forty-seven patients were from the Buffalo area.

Participants treated with ciclesonide did not see faster mitigation of their symptoms —the primary endpoint of the study—than those who received placebo, with both groups seeing resolution of all symptoms on average within 19 days. For this study, COVID-19 symptoms were defined as cough, dyspnea (shortness of breath), chills, feeling feverish, repeated shaking with chills, muscle pain, headache, sore throat, and new loss of taste or smell.

Fewer emergency department visits

However, patients treated with ciclesonide were less likely to require emergency department care or hospitalization for reasons attributable to COVID-19. In this study, only 1 percent of patients who received ciclesonide required emergency department care or hospitalization due to COVID-19 compared to 5.4 percent of the patients who received placebo.

This effect on emergency department care and hospitalizations was an important secondary endpoint of the study.

"Our study did not show that ciclesonide relieved symptoms faster," said Brian M. Clemency, DO, first author on the paper and professor of emergency medicine in the Jacobs School of Medicine and Biomedical Sciences at UB, "but the treated group was less likely than those treated with placebo to go to the emergency department or be hospitalized, and that's significant."

"Any COVID-19 treatment that can reduce emergency room visits or hospital admissions provides a benefit not just to the patient but also to the health care system and the community at large," he said.

Clemency is a physician with UBMD Emergency Medicine, based at Erie County Medical Center.

Treatment for mild to moderate disease is needed

While much COVID-19 research has appropriately focused on patients with severe disease, Clemency and his colleagues were interested in studying mild to moderate cases. He explained that mild to moderate cases of COVID-19 constitute the majority of cases and may be responsible for a significant amount of community spread.

Since the study was conducted prior to the emergence of new SARS-CoV2 variants, it doesn't address how the treatment might affect those infected by new variants, such as delta, but Clemency noted that it would be reasonable to assume ciclesonide would benefit them as well.

"The study didn't address the delta variant, but there's no reason to think that infections caused by delta would fundamentally differ in this respect," he said.

While the study didn't address which patients, in particular, would benefit from ciclesonide, Clemency noted that the findings suggest that

for some patients with mild to moderate COVID-19, this drug may provide a benefit.

"For patients who are at high risk for developing severe COVID-19, ciclesonide may be a low-cost, low-risk treatment that can be taken at home," he said.

Inhaled corticosteroids have been seen as potentially beneficial in treating COVID-19 because they reduce inflammation and target key proteins involved in virus replication.

Ciclesonide is approved for the long-term treatment of asthma as maintenance therapy in patients 12 years of age and older in the U.S. and over six years of age in Canada. In vitro studies have shown ciclesonide to block COVID-19 viral replication and to have antiviral properties against COVID-19.

More information: Brian M. Clemency et al, Efficacy of Inhaled Ciclesonide for Outpatient Treatment of Adolescents and Adults With Symptomatic COVID-19, *JAMA Internal Medicine* (2021). [DOI: 10.1001/jamainternmed.2021.6759](https://doi.org/10.1001/jamainternmed.2021.6759)

Provided by University at Buffalo

Citation: Inhaled steroid keeps COVID-19 patients with mild to moderate disease out of the hospital (2021, November 23) retrieved 5 May 2024 from <https://medicalxpress.com/news/2021-11-inhaled-steroid-covid-patients-mild.html>

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