

Heartburn Drug Shows Promise Against COVID-19

By Reuters Staff

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NEW YORK (Reuters Health) - In adults with mild to moderate COVID-19, treatment with a high-dose of famotidine led to early resolution of symptoms and inflammation in a randomized placebo-controlled trial.

"We found that famotidine is safe at the higher doses used and see molecular and clinical evidence that it improves the recovery of symptomatic patients of diverse ancestries diagnosed with COVID-19," lead investigator Dr. Tobias Janowitz, with Feinstein Institutes for Medical Research at Northwell Health and Cold Spring Harbor Laboratory, New York, said in a news release.

"We closely monitored patients in this fully remote clinical trial while protecting their safety and that of health care providers in pandemic conditions. We hope that the data we are sharing with this study guide future trials that are necessary to confirm famotidine as a treatment for patients with COVID-19," said Dr. Janowitz.

Cytokine release drives inflammation and poor outcome in patients with COVID-19. In laboratory studies, famotidine reduced type-I interferon release from SARS-CoV-2 infected epithelial cells.

Famotidine also improved the COVID-19 outcomes in some retrospective studies and a case series, but evidence from a controlled clinical trial was lacking, until now.

In the journal *Gut*, Dr. Janowitz and colleagues report results of a phase 2 study of 55 unvaccinated, non-hospitalized adults (64% women, 33% Black, 26% Hispanic) with mild to moderate COVID-19 symptoms; 28 took famotidine 80 mg three times daily and 27 took matching placebo for 14 consecutive days.

Patients were given a dedicated electronic device to report scores for 17 symptoms over 28 days. They also obtained and submitted daily oxygen saturation, peak flow spirometry, body weight and body temperature readings. Blood samples and nasopharyngeal swabs were collected by a mobile phlebotomy service at the patient's home on days one, seven, 14 and 28.

In line with earlier mechanistic work, famotidine led to earlier resolution of type-I interferon elevation, without reduced anti-viral immunity, the study team reports.

Famotidine improved resolution of 14 of 16 assessed symptoms, including loss of smell and taste, difficulty breathing and abdominal pain, and led to a statistically significant increased rate of symptom recovery.

An estimated 50% reduction from baseline in overall symptoms was achieved in 8.2 days in the famotidine group versus 11.4 days in the placebo group; 90% symptom resolution was achieved in 27.1 days with famotidine versus 37.7 days with placebo.

"Famotidine is a safe, low- cost and widely available medication with excellent tolerability and minimal known drug-drug interactions that has been taken by millions of patients worldwide," the investigators note in their article.

"Famotidine is likely to remain a drug used for COVID- 19, either prescribed by physicians or self-administered by patients. Our finding may support this use of famotidine, given that we show that famotidine is well tolerated and that it accelerates the resolution of symptoms and inflammation without compromising immunity. We acknowledge that additional research studies and clinical trials remain a priority," they add.

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