

FAMOTIDINE AS COVID-19 APPROACH FOR DRUG DELIVERY AND REDUCES MORTALITY

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ABSTRACT

Despite multiple trials that are currently underway to investigate the safety and efficacy of a large number of possible therapeutic agents, no drug available to reduced COVID-19 mortality. The famotidine is commonly used for gastric acid suppression but has recently affected and achieved via its antagonism of histamine -2 receptor, inferring that the SARS-CoV-2 infection that results in COVID-19 occurs, can be partially medicated by pathological histamine release. As histamine-2 receptor antagonist, famotidine is a therapeutic option in COVID-19 positive patient therapy.

KEYWORD: Famotidine, Corona virus disease 2019, Histamine, Antagonist, Hydroxychloroquine.

INTRODUCTION

COVID-19 is a new disease with atypical cure yet. In the specific treatment, doctors have been repurposing various drugs such as the antimalarial drugs (hydroxychloroquine), antiparasitic drug (Ivermectin), a rheumatoid arthritis drug (tocilizumab) and many others to treat COVID-19 patients. Most of them are under clinical trials and are being used on an emergency basis. Meanwhile, a new drug, famotidine, available OTC-over-the counter drug for relieving heartburn, has promising results in treating the symptoms of COVID-19.

The drug is currently under trial and is not recommended for use unless prescribed by a medical professional.

It was based on the effect of famotidine, heartburn drug, were affected with COVID-19 infection but not admitted to the hospital. These patients may take 80mg of famotidine, thrice daily for period of 5 to 21 days.

Objectives

- This study aims of find out whether famotidine use ins associated with reduced risk of the severity, death for COVID-19.
- To know the trend-matched comparison of COVID-19 patient treated with and without famotidine.
- Famotidine use is significantly associated with a reduction in mortality.
- Famotidine users exhibiting low levels of serum markers for critical disease in hospitalized COVID-19.

Structure of Covid-19

These viruses are a large family of viruses, some of which infect humans and contains spike like projection

of glycoproteins on their surface, which appear like a crown under the electron microscope, hence they are referred to as coronaviruses. The corona virus genome encodes several structural and nonstructural proteins.

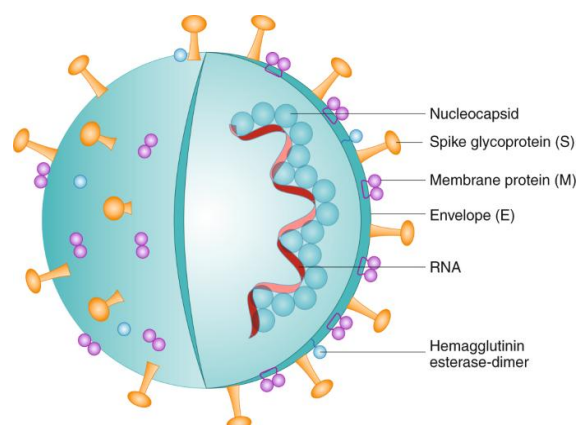


Figure 1: Structure of COVID-19.

Symptoms

The COVID-19 virus affects different people in different ways:

Most people infected have mild to moderate symptoms and recover without hospitalization. common features of fever, dry cough, fatigue and less common symptoms of itching and pain, sore throat, diarrhea, conjunctivitis head ache loss of taste and smell, skin rash.

Severe symptoms: Shortness of breath or shortness of breath with chest pain, unable to speak or move.

METHODS

Identification and Cure: Firstly, COVID-19 and influenza viruses have a similar disease presentation. Both of causes respiratory disease. secondly, both viruses

are transmitted by contact, droplets and fomites. as a result, the same public health measures, such as hand hygiene and good respiratory etiquette (coughing in to our elbow or deadly tissues) are important actions all can take to prevent infection.

Use of Famotidine: Patients using famotidine are classified as receiving famotidine if they were treated with either oral or intravenous drug, at any dose, within seven days of COVID-19 screening and hospital admission. Famotidine use taken directly from the clinical record.

Sensitivity Analysis

To determine if there was any relationship between the level of patient acuity and the impact of famotidine on mortality, we performed an additional sensitivity analysis on two subsets of patients comparing result in patients with a mean news score ≤ 3 and a mean news score < 3 .

Components

Treatment for COVID-19

Scientists around the world is working to find and develop treatments for COVID-19. Optimal supportive care includes oxygen for severely ill patients and those who are at risk for severe disease and more advanced respiratory support such as ventilation for patients who are at risk for severe disease and more advanced respiratory support such as ventilation for patients who are critically ill. Dexamethasone is a corticosteroid that can help reduced the length of time on a ventilator and save lives of patients with severe and critical illness.

WHO does not recommend self – medication with any medication with any drug, including antibiotics, as a prevention or treatment for COVID-19, but famotidine is use and reduced mortality rate at home isolation phases.

Evaluation Parameters

The results of famotidine did not report of any adverse effects of the medicine. Some adverse effects are showed like mild dizziness, gastric symptoms and temporary forgetfulness.

Treatment with hydroxychloroquine, remdesivir and corticosteroids.

Table 1: Corticosteroid medications betamethasone, dexamethasone, hydrocortisone, methylprednisolone, prednisone.

Agents	Group Famotidine n = 482	P Value
Azithromycin	37	0.135
Remdesivir	3	0.126
Hydroxychloroquine	24	0.103

For the matched study group of 482 patient with COVID-19, a total of 221 received azithromycin, 64 received 197 remdesivir and received hydroxychloroquine.

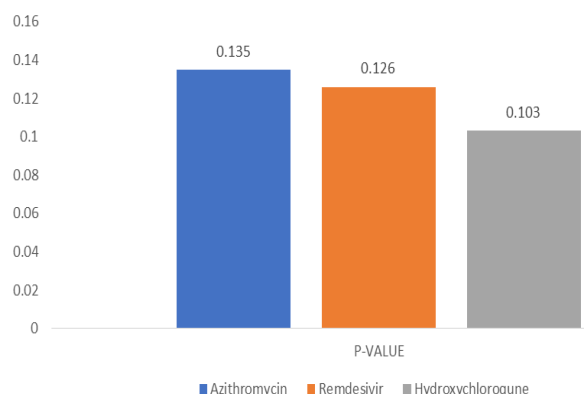


Figure 1: p values for concern data.

CONCLUSION

This study is aimed to investigate the effect of Famotidine in the clinical recovery of COVID-19 patients. COVID-19 is a worldwide pandemic. hence SARS-CoV-2 is a novel virus, there is no specific medication against it. Like other countries of the world, besides antiviral drugs, immunosuppressive agents and symptomatic therapy like H receptor blocker Famotidine came the limelight due to its role in reducing the symptoms of COVID-19 patients. The study will include COVID-19 participants to confirm by RT PCR or HRCT. The hospitalized patients admitted to the ICU units and require critically ventilator support. The Famotidine treatment will be evaluated and control death rate.

Abbreviations

COVID-19: Corona virus disease 2019

OTC Drug: Over-the counter drug

SARS-CoV-2: severe acute respiratory syndrome coronavirus 2

REFERENCES

- (Sadanand, George, & Sumuel, 2014) (Sethia, Prasad, Mahapatra, & Nischal, 2020) (Pyke's, April 2021) (Fookes), 2020.
- Fookes, C. (Nov 6). *Clinical Trials' Landscape of Famotidine for COVID-19 Treatment*. (C. Fookes, Performer), 2020.
- Gunwan, D., Budholiya, P., & Sharma, K. H. Development and Evaluation of Fast Desolving Tablets of Metformine HCL using different crosslinked cellulose. *International Journal of Pharmaceutics & Drug Research*, 2019; 312-320.
- Janowitz, T., Gablenz, E., Pattinson, D., C Wang, T., Conigliaro, J., Tracey, K., & Tuveson, D. Famotidine use and quantitative symptom tracking for COVID-19 in non-hospitalised patients: a case series. *open access*, 2020; 1592-1597.
- Pyke's, D. (April). *Clinical Trials' Landscape of Famotidine for COVID-19 Treatment*. BioPharma Media, 2021.
- Rao, G. C., Kumari, P., & Amar, P. Preparation And Evaluation Of Famotidine Mucoadhesive

- Microspheres. *Journal of Globe Trends in Pharmaceutical Science*, 2016.
7. Rao, G., kumari, P., & R.Sowjanya. (18 May). Prepration and evaluation of Famotidine mucoadhesive microspheres. *Journal of Global Trands in Pharmaceutical Science*, 2016; 3084-3090.
 8. Richard, L., & Mc Kye, R. (May 13). *Impact of Famotidine Use on Clinical Outcomes of Hospitalised COVID-19 Patients*. Hartford, USA: division of research administration and international Cardiology,Hartford Hospital, 2020.
 9. Sadanand, A., George, B. j., & Sumuel, J. A REVIEW ON PRONIOSOMES AN INNOVATIVE APPROACH TO VESICULAR DRUG DELIVERY. *Asian Journal of Pharmaceutical science Review and Research*, 2014; 62-68.
 10. Sethia, R., Prasad, M., Mahapatra, S. J., & Nischal, N. *Efficacy of Famotidine for COVID-19: A Systematic Review and Meta-analysis*. MedRxiv, 2020.
 11. Sun, C., Yue Chen, javascript:, & Ahmed, M. Disease, Death, and Intubation for COVID-19 Patients? A Systemic Review and Meta-Analysis. *SPRINGER LINK*, 2021.