

ANTIHISTAMINES

Pauline Florence R. Santos Estrella, MD

Introduction

Antihistamines have been widely used as treatment of different allergic conditions such as allergic rhinitis, allergic conjunctivitis and urticaria.¹ Recently, it was speculated that it can be used in the treatment of COVID-19 infection because of its action on mast cells.² Mast cells have been hypothesized as the primary source of cytokine release that leads to lung damage in SARS-CoV-2.²

Mechanism of Action

H1-antihistamines downregulate allergic inflammation directly through the H1-receptor. They interfere with histamine action at H1-receptors on sensory neurons and small blood vessels. Through the inhibition of the ubiquitous transcription factor nuclear factor-kB, they also decrease antigen presentation, expression of proinflammatory cytokines and cell adhesion molecules, and chemotaxis. In a concentration-dependent manner they inhibit mast cell activation and histamine release.¹

Clinical Studies

There are no published clinical trials examining the use of antihistamines in COVID-19. However, antihistamines combined with low-dose systemic steroids can play a role in the control of COVID-19 related urticarial rashes.^{3,4}

Conclusion

There have been no studies examining the use of antihistamines in COVID-19. Clinical trials would be required to establish whether these drugs may be used for treatment of this disease.

REFERENCES:

1. Simons FE, Simons K. Histamine and H1-antihistamines: Celebrating a century of progress. *J Allergy Clin Immunol* 2011; 128: 1139-50.
2. Raymond M, Ching-A-Sue G, Van Hecke O. Mast cell stabilizers, leukotriene antagonists and antihistamines: a rapid review of the evidence for their use in COVID- 19. Center for Evidence-Based Medicine; 2020.
3. Mohammed Shanshal (2020) Low-dose systemic steroids, an emerging therapeutic option for COVID-19 related urticaria, *Journal of Dermatological Treatment*, DOI: [10.1080/09546634.2020.1795062](https://doi.org/10.1080/09546634.2020.1795062)
4. Tang K, Wang Y, Zhang H, Zheng Q, Fang R, Sun Q. Cutaneous manifestations of the Coronavirus Disease 2019 (COVID-19): A brief review [published online ahead of print, 2020 May 7]. *Dermatol Ther*. 2020;e13528. doi:10.1111/dth.13528