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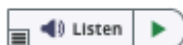
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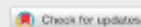
Review

Efficacy and safety of lopinavir/ritonavir in the treatment of COVID-19: A systematic review

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Abstract

Objectives: To systematically review the clinical literature reporting the use of Lopinavir/ritonavir (LPV/r) for the treatment of patients with COVID-19 to assess the efficacy of LPV/r for the treatment of Coronavirus disease 19 (COVID-19).

Methods: The authors systematically searched PubMed and MedRxiv databases for studies describing treatment of COVID-19 patients using LPV/r compared to other therapies. Articles were excluded if they were case reports, opinion editorials, preclinical studies, single-armed studies, not written in English, not relevant to the topic, or published before May 2020. The included outcomes were viral clearance as measured by reverse-transcription polymerase chain reaction (RT-PCR) negativity and/or improvement on chest computed tomography (CT), mortality, and adverse events (AEs).

Results: Among 858 total studies, 16 studies met the inclusion criteria and were included in the qualitative review. These studies consisted of 3 randomized control trials, 3 open-label trials, and 10 observational studies. Most of these studies did not report positive clinical outcomes with LPV/r treatment.

Conclusion: The systematic review revealed insufficient evidence of effectiveness and clinical benefit of LPV/r in the treatment of patients with COVID-19. Specifically, LPV/r does not appear to improve clinical outcome, mortality, time to RT-PCR negativity, or chest CT clearance in patients with COVID-19.

Keywords: coronavirus, SARS virus, severe acute respiratory syndrome, pneumonia, antiviral agents, lopinavir/ritonavir

In this article

Abstract

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2.0 Methods

3.0 Results

4.0 Discussion

5.0 Conclusion

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References