

# Effect of lopinavir/ritonavir treatment on COVID-2019 transmissibility: A possible option to reduce isolation time

Dong-Min Kim<sup>1</sup>, Jae Keun Chung<sup>2</sup>, Choon-Mee Kim<sup>3</sup>, Mi-Seon Bang<sup>1</sup>, Misbah Tariq<sup>3</sup>, You Mi Lee<sup>1</sup>, Jun-Won Seo<sup>1</sup>, Da Young Kim<sup>1</sup>, Na Ra Yun<sup>4</sup>, Jinjong Seo<sup>5</sup>, Yuri Kim<sup>6</sup>, Min Ji Kim<sup>7</sup>, and Nam-Hyuk Cho<sup>8</sup>

<sup>1</sup>Chosun University College of Medicine

<sup>2</sup>Health and Environmental Research Institute of Gwangju Metropolitan City

<sup>3</sup>Chosun University

<sup>4</sup>Department of Internal Medicine, College of Medicine, Chosun University

<sup>5</sup>Health and Environment Research Institute of Gwangju

<sup>6</sup>Seoul National University

<sup>7</sup>Health and Environment Research Institute of Gwangju metropolitan city, Gwangju, Korea

<sup>8</sup>Department of Biomedical Sciences, Seoul National University College of Medicine

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## Abstract

Background: Owing to the coronavirus disease 2019 (COVID-19) pandemic, there is a shortage of hospital wards to accommodate the increasing number of patients, especially in intensive care units. Healthcare systems are collapsing in many countries. Therefore, it is necessary to reduce isolation time. Methods: We examined the effect of lopinavir/ritonavir administration in patients with SARS-CoV-2. To assess the viral load, duration and clearance of viable virus; cell culture and RT-PCR were performed in parallel. Results: No viable SARS-CoV-2 could be detected after administration of lopinavir/ritonavir with median time of viable viral clearance being one day after administration. The mean viral load in both upper and lower respiratory tract samples of lopinavir/ritonavir administered group was significantly lower than the group who were not treated with any antiviral agent. The duration of viable viral shedding was shorter in patients with lopinavir/ritonavir treatment compared with those without treatment. Conclusion: This study suggests that lopinavir/ritonavir treatment offers a possible method to reduce isolation time of patients infected with the SARS-CoV-2.

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