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Dynamic Systematic Benefit Risk Analysis of Antiviral Drug Combination of Lopinavir - Ritonavir for Covid-19 Patient

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Abstract: *High-risk patients with early symptomatic COVID-19 in an outpatient setting. Lopinavir/ritonavir and arbidol have been previously used to treat acute respiratory syndrome-coronavirus 2 (SARS-CoV-2) replication in clinical practice; nevertheless, their effectiveness remains controversial. In this study, we evaluated the antiviral effects and safety of lopinavir/ritonavir and arbidol in patients with the 2019-nCoV disease (COVID-19). Fifty patients with laboratory-confirmed COVID-19 were divided into two groups: including lopinavir/ritonavir group (34 cases) and arbidol group (16 cases). Lopinavir/ritonavir group received 400 mg/100mg of Lopinavir/ritonavir, twice a day for a week, while the arbidol group was given 0.2 g arbidol, three times a day. Data from these patients were retrospectively analyzed. The cycle threshold values of open reading frame 1ab and nucleocapsid genes by RT-PCR assay were monitored during antiviral therapy. None of the patients developed severe pneumonia or ARDS. There was no difference in fever duration between the two groups (P=0.61). On day 14 after the admission, no viral load was detected in arbidol group, but the viral load was found in 15(44.1%) patients treated with lopinavir/ritonavir. Patients in the arbidol group had a shorter duration of positive RNA test compared to those in the lopinavir/ritonavir group (P<0.01). Moreover, no apparent side effects were found in both groups. In conclusion, our data indicate that arbidol monotherapy may be superior to lopinavir/ritonavir in treating COVID-19.*

Objective: In this study, we review the evidence of the use of lopinavir/ritonavir as a potential treatment candidate against COVID-19.

Keywords: Lopinavir; Ritonavir; COVID-19; SARS; MERS

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