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## Carvedilol: A Potential Treatment for Symptoms of COVID-19 Infection

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### ABSTRACT

Covid-19 causes severe acute respiratory syndrome. Coronavirus 2 (SARS CoV-19) can damage heart muscle and affect heart functions. Acute heart failure is a common disease state that can be encountered at different stages in the course of a COVID-19 patient. Apart from this, stress also plays a significant role in causing hypertension. Corona virus infection affects the inner surfaces of veins and arteries, causes high levels of inflammation which causes heart damage. Hypertension increases the workload on the heart inducing structural and functional changes in the myocardium, causing hypertrophy of the left ventricle, resulting in heart failure. Carvedilol belongs to a class of drugs known as alpha and beta- blockers. It works by blocking the action of certain natural substances in body, such as epinephrine, on the heart and blood vessels. Thus, Carvedilol acts as a hypotensive drug, which might be used in the treatment of Covid-19 patient. Carvedilol is a third-generation beta- blocker displaying potential inhibitory properties on key enzymatic processes and pathways involved in SARS-CoV-II or other coronavirus replication, in addition to the modulatory effect on inflammatory messengers of covid-19. Carvedilol potentially act on the level of SARS-CoV-II infection, including intracellular replication and exocytosis, in addition to modulating IL6, AgII and NF-kB levels. We hypothesize that this commonly used antihypertensive agents might be valuable addition to the covid-19 therapeutic armamentarium.

**Keywords:** Beta- blockers, hypertension, heart failure, stress, inflammation, enzyme

