# COVID-19 and Cardiac Concerns for Psychiatric Patients

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The coronavirus disease 2019 (COVID-19) pandemic is an international public health emergency.[1] This fast-spreading contiguous disease has caused worldwide anxiety, fear, and distress. Adverse clinical outcomes are significant; misinformation and political issues add to suboptimal infection control.[2] Distress about COVID-19 infectivity creates major psychological problems and socioeconomic dysfunction.[3] People who were already emotionally vulnerable are most affected.

Severe acute respiratory syndrome coronavirus 2 infection sometimes induces cardiac complications, and heart disease can significantly worsen clinical outcomes in those with COVID-19.[4,5] Cardiac injury might occur even without symptoms or signs of pneumonia. The pathophysiologic mechanisms could involve angiotensin-converting enzyme 2 receptors, the imbalanced response between T-helper cells, and a cytokine cascade of interferon-mediated immunopathological events. Atrial fibrillation is sometimes triggered by COVID-19–related hypoxia, with residual complications that persist after a patient's initial pulmonary recovery.[4,5]

Cardiac impairments might also be associated with pharmacotherapies. Some COVID-19 treatment medications can prolong the electrocardiographic QT interval and are proarrhythmic.[6] Chloroquine and hydroxychloroquine are accumulated in lysosomes and inhibit phospholipase activity, induce cytoplasmic inclusion body formation, increase lysosomal pH, and cause protein inactivity; drug-induced atrial and ventricular arrhythmias are also documented.[7] The most usual electrocardiographic alteration seen with chloroquine and hydroxychloroquine is a fascicular block, which may precipitate an atrioventricular block with syncope.

Depressed individuals are often more at risk for cardiac arrhythmias, including ventricular ectopy and ventricular fibrillation.[8] Many antidepressant medications often prolong the QT interval, worsen conduction delays, or precipitate arrhythmias like torsades de pointes. These cardiac abnormalities might occur especially in persons prescribed medications that prolong the QT interval (Table 1).

**Table 1. Recommendations**

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| Since some antidepressant medications have variable risk for QT prolongation, monitoring of the electrocardiographic QT interval as well as serum potassium and magnesium levels is recommended. |
| Patients should be educated about the risks/benefits of antidepressants and counseled to contact their health care provider immediately if they experience cardiac concerns like dizziness, palpitations, or fainting. |
| Medication lists and side effects or problems should be monitored with regular appointments, and potential drug-drug interactions should be reviewed. |
| When antidepressant medications are prescribed, always first consider those with least or no risk for QT prolongation. |

Some pharmaceuticals have desirable cardiovascular effects, including those that induce diminished platelet reactivity, improve heart rhythm stability, and positively influence lipid profiles. Such drugs may be a good choice for management of patients infected by COVID-19.[8]

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