

## LETTER

## INFECTIOUS DISEASES

# QT prolongation risk with antiemetics during COVID 19 treatment

Dear Editor

Antiemetics gained an active position in the COVID-19 pandemic as a medical approach to suppressing SARS-CoV-2-induced nausea and vomiting as well as balance side effects from medications in use. Proposed treatments for COVID-19 initiate a concern in regard to the influential impact on cardiotoxicity and prolonged QT intervals. Antiemetic agents pose an additional risk through the prolongations of QT intervals when medication is used concurrently with COVID-19 pharmacological therapies.<sup>1</sup>

The fundamental understandings of the role of COVID-19 combination treatments in developing QT prolongation in hospitalised COVID-19 patients exhibiting nausea, vomiting, and gastrointestinal related complications remain unclear. Because adverse consequences are the attributes of a versatile range of causatives in the clinical nature of COVID-19, such as drugs, age, sex, or metabolic disorders (PH, hypoxia, electrolyte abnormalities, and multi-organ system failure), previous cardiovascular disease, and viral or autoimmune myocardial injuries.<sup>2</sup> Additionally, antiemetics may even be more important in the field of emergency surgical patients with COVID 19 who might be treated more likely with open surgery and therefore more prone to nausea and vomiting.<sup>3-5</sup>

We searched the consequential risks of prolonging QT intervals on the virtual shelves of scientific databases by courtesy of PubMed, Google Scholar, and Science Direct and classified it by crediblemeds.org website. The recommendations concluded from the findings suggest enforcing a monitoring plan for patients taking hydroxychloroquine-azithromycin medicinal combination in addition to eliminating the use of alternative drugs owing to the presence of QT interval prolongation threats. Precautionary measures include the correction of electrolyte disturbance that increase cardiotoxicity, in addition to involving drugs of conditional effects and eliminating drugs that induce QT prolongation from the treatment plan.



In regard to antiemetics QT interval prolongation risks, some of them carry a known risk (ondansetron, chlorpromazine, droperidol, haloperidol), a few carry possible risk (promethazine) and others carry conditional risk (metoclopramide, diphenhydramine). Based on data obtained from various studies operated by Mitra, Roden, and Chen D,<sup>6-8</sup> we support the Food and Drug Administration alert<sup>9</sup> against the use of hydroxychloroquine and chloroquine combination for coronavirus disease 2019 (COVID-19) outside the hospital and clinical trial condition and recommend the following for the clinicians. Consider performing a baseline electrocardiogram (ECG) at the time of diagnosis and monitor QTc scores if QT-prolonging

is apparent. The average normal QTc scores in healthy individuals after puberty are  $420 \pm 20$  milliseconds. Therefore, QTc  $\geq 450$  ms is considered a risk for TdP.<sup>10</sup> According to CredibleMeds, conditional factors can trigger certain drugs to induce TdP such as overdosing and hypokalemia. Consider the use of antiemetic and which have conditional QT risk prolongation (as ex.metaclopramide) in minimum effective dose and after correction of electrolyte disturbance if present. Retaining a healthy electrolyte balance necessitates the maintaining of potassium and magnesium levels in the upper range of normal levels around 5 (mEq/L) and 2.5 mEq/L, respectively. Avoid drugs that carry known risks such as ondansetron, chlorpromazine, and droperidol. The same recommendation can be considered when using antiemetic to prevent postoperative nausea and vomiting in COVID 19 patients who undergo emergency open surgery.

The pandemic is overwhelming healthcare professionals as death tolls and caseloads remain on a rise. Patient care, diagnosis, and medication management can burden the healthcare workforce and lead to burnout, particularly under the ambiguous state of the world. To surpass the pandemic, healthcare providers of varying specialties from doctors to nurses, and well-rounded clinical pharmacists have to come together and merge expertise because sharing the adversities, will save more patients' life.

## DISCLOSURE

The authors have declared no conflicts of interest for this article.

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