HRS COVID19 Task Force Message:
General Guidance for QTc Monitoring in COVID-19 Patients
April 7, 2020

There are no FDA approved medications for the prevention or treatment of COVID-19. *In vitro* studies showed that hydroxychloroquine (HCQ) and chloroquine may act in an inhibitory fashion against SARS-CoV2, but in vivo case series have shown variable results.[1-3] In addition, there have been at least two non-randomized studies of HCQ and azithromycin (AZM) therapy in COVID-19 patients with conflicting results.[4,5] While this regimen has received substantial public attention, caution must be exercised in using it, as reported studies have not been randomized controlled trials.

Combined use of HCQ and AZM risks QTc prolongation and Torsade de Pointes (TdP)[6]
It now appears that most centers may be eliminating AZM. Polypharmacy and increasing comorbidities/clinical factors add additional risks in the critically ill COVID-19 population. Several QTc monitoring guidance algorithms have been made available by cardiovascular societies and medical institutions, including the recently published, *Urgent Guidance for Navigating and Circumventing the QTc Prolonging and Torsadogenic Potential of Possible Pharmacotherapies for COVID-19* by Giudicessi et al in Mayo Clinic Proceedings.[7] An HRS interview with one of the authors, Dr. Michael Ackerman, regarding COVID19 patients and their risk of QTc prolongation, as well as QTc monitoring can be found at HRSonline.org. It should also be noted that reported experience in China and recent experience in the US at centers caring for a large number of COVID-19+ patients have not yet reported a high risk for TdP or marked QT prolongation as a frequent phenomenon (personal communications). However, these data have not yet been published and medical regimens may vary worldwide.

Information for the treatment of COVID-19 patients with QTc prolonging medications continues to change rapidly as data and experiences are shared across the globe. The following general steps can be used to inform your practice:

- Optimize the baseline QTc, minimizing QTc prolonging medications whenever possible. QTc prolonging drugs can be found at CredibleMeds.org); drug-drug interaction checks can also be performed via mobile app Epocrates.
- Obtain baseline QTc and provide telemetry, if feasible, in patients felt to be at risk for significant QT prolongation (based on baseline QTc, comorbidities, and drug regimen). If QTc ≤ 500ms (narrow QRS) or < 550 ms (for BBB or QRS>120ms), patients may be at a relatively low risk for TdP.
- Understand the risk for QTc prolongation for each patient, including comorbidities, baseline QTc, presence of baseline drugs that prolong QTc (that may not be possible to discontinue) and chosen medical regimen for COVID-19 treatment.
- Monitor the QTc, minimizing use of 12-lead ECGs to reduce contact with COVID-19 and conserve PPE if patients are not considered high risk. QTc measurements when required can be made by telemetry (lead 2) or potentially measured via MCOT/hand-held ECG monitoring.
- Be aware of clinical factors that can prolong the QTc or predispose to Torsade de Pointes (TdP).

The COVID-19 Task Force will be examining further published data as it becomes available regarding the risk of TdP in this COVID-19+ population. No specific algorithm is being recommended at this time, as many of our colleagues have reported a very low risk of marked

QT prolongation in their cohorts (personal communications). In addition, HRS will be gathering information regarding monitoring modalities and will also make this information available for guidance.

References

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