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Obtain Baseline ECG on all patients with COVID-19

A: Keep K and Mg replete  
B: Ideally discontinue all unnecessary QT prolonging drugs

Normal Baseline QT  
(QTc < 470 ms)

Administer potential QTc prolonging medication, if recommended by guidance doc

Obtain ECG 2-3 hours after 2nd dose
Telemetry per EP (see below)

If QTc remains < 500 ms or increases by < 60 ms, can continue regimen

Marginal Baseline QT  
(QTc 470 – 500 ms)  
Or history of long QT*

Caution required

If QTc prolongs to > 500 ms, or increases by ≥ 60 ms, stop or lower dose and repeat daily until QTc returns to < 500 ms

Abnormal Baseline QT  
(QT > 500 ms)

Do not administer QTc prolonging medication, or carefully review and document risk/benefit pre-initiation*

Notes:

- Adjust for baseline wide QRS: (QTc = QTc – (QRS – 100 ms). For example, if the baseline QRS is 180 ms, a QTc of 570 ms translates to 490 ms (570 – (180-100)].
- High risk patients for development of Torsades de Pointes, who should be considered for continuous telemetry monitoring, including those with LV dysfunction (LVEF <40%)
- Must discontinue drug for any evidence of Torsades de Pointes
- Mobile cardiac telemetry available after discharge as of April 21, 2020, page “Holter Lab” pager 2007 with MRN.
- * Consider cardiac arrhythmia consultation
Ventricular Arrhythmia risk & Hydroxychloroquine +/- Azithromycin Treatment for COVID-19

Utilizing QTc* measurements & cardiac telemetry

Guidelines for Inpatient Care:

1. Baseline
   a. Discontinue and avoid all other non-critical QT prolonging agents.
   b. Assess a baseline ECG, renal function, hepatic function, serum potassium and serum magnesium.
   c. Measure QTc, and seek pharmacy guidance in the setting of acute renal or hepatic failure. A cardiac arrhythmia service consultation (ECG review) is appropriate if there is doubt about the QTc measurement or history of LQTS (congenital or prior drug-induced).

2. Relative contraindications (merit frank conversation of risk : benefit)
   a. History of long QT syndrome, or
   b. Baseline QTc >500 msec (or >550 msec in patients with QRS greater than >120 msec)

3. Ongoing monitoring, dose adjustment and drug discontinuation
   a. Place on telemetry prior to start of therapy.
   b. Monitor and optimize serum Potassium & Magnesium daily.
   c. Acquire a reliable and consistent telemetry lead (frequently lead II or lead V5) to measure QT and measure 2-3 hours after the second dose of hydroxychloroquine, and twice daily thereafter.
   d. If QTc increases by >60 msec or QTc >500msec (or >550 msec if QRS >120 msec), discontinue azithromycin (if used) and/or reduce dose of hydroxychloroquine and continue rhythm monitoring.
   e. If QTc remains increased >60 msec and/or QTc >500 msec (or >550 msec if QRS >120 msec), reevaluate the risk/benefit of ongoing
therapy, consider consultation with the cardiac arrhythmia service, and consider discontinuation of hydroxychloroquine.

f. If there is emergence of frequent PVCs (especially those occurring shortly after a preceding QRS complex), consider consultation with the cardiac arrhythmia service, and consider discontinuation of hydroxychloroquine.

g. In particular, do not start anti-arrhythmic or other medications without checking for potential QTc prolonging effects

Note: * - For patients that have a HR<60 bpm (unlikely in this clinical scenario), the absolute QT measurement should be substituted for QTc in the guidelines above.

Modified from:


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