Irish Cardiac Society
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Overview of Clinical Guidance for Covid-19 therapies and patients with Long QT syndrome.

Consensus opinion document, prepared with reference to www.crediblemeds.org and guidance published in Mayo Clinic Proceedings 25th March 2020 (Giudicessi JR, Noseworthy PA, Friedman PA, Ackerman MJ. Urgent guidance for navigating and circumventing the QTc prolonging and torsadogenic potential of possible pharmacotherapies for COVID-19 [published online ahead of print March 25, 2020]. *Mayo Clin Proc*. https://doi.org/10.1016/j.mayocp.2020.03.024.)

General comments:

1. Currently no robust evidence for efficacy of medicines proposed for off-label use in treatment of Covid-19 related acute respiratory distress syndrome (eg Hydroxychloroquine, Azithromycin).
2. Most if not all proposed medications (Hydroxychloroquine, Azithromycin, Kaletra (lopinavir/ritonavir)), have been shown to prolong the QT interval and/or cause Torsades de Pointes (TdeP) cardiac arrhythmia.
3. This guideline is prepared to assist decision-makers, but should never replace clinical judgement – interpretation must be individualised to each patient's risk:benefit assessment, and may alter over the course of a patient's clinical journey.
4. Persistent pyrexia and electrolyte disturbance may significantly increase risk of life-threatening arrhythmia in LQTS, so check for and manage aggressively.
5. If patient has evidence of Covid-19 associated myocarditis (eg very high Troponin and LV systolic impairment) risk of arrhythmia may be significantly increased.
6. Caution should be taken prescribing any QT prolonging medications to all patients with congenital LQTS or to patients without Congenital LQTS who are being treated for COVID19 with the QT prolonging medications mentioned. A full list of QT prolonging medications is available at the following website; www.crediblemeds.org

If patient with potential for QT prolongation is being considered for prescription of one of the off-label treatments, we recommend the following:

1. Obtain a baseline pre-treatment QTc measurement (12 lead ECG, ideally leads II or V5, correction via www.mdcalc.com/corrected-qt-interval-qtc (using HR) or http://www.medcalc.com/qtc.html using R-R interval (for patients with QRS prolongation, correct the measured QT for QRS of 100 msec before calculating). Telemetry strips etc can be used to calculate QTc to avoid recording ECGs repeatedly.
    a. If QTc < 480 msec (adult female), < 470 msec (adult male) or < 460 msec (pre-pubertal patient), then 'green light' (low-risk of TdeP) for treatment if considered clinically indicated.
    b. If QTc > 500 msec, seek modifiable factors (eg electrolyte disturbance, co-prescription of other QT prolonging mediations) and review. Considered 'red-light' (high risk of TdeP). If treatment still considered necessary arrangement for cardiac rhythm monitoring and management of resultant arrhythmia to be agreed.
    c. If QTc < 500 but above the low-risk thresholds then 'orange light' intermediate risk, proceed with caution.
2. On-treatment QTc measurements should be made at 2-4hrs post first dose (red-light patients) and 48 hrs and 96 hrs post first dose (all patients). If QTc increases by 60msec review ongoing benefit:risk ratio and review other modifiable factors as above.
3. In all potentially at-risk patients ideally use single agent as first line treatment.

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