Telemedicine-based early rule out and followup ECG algorithm for COVID-19 patients

Turan OE.[1]; Yilancioglu RY.[2]; Alak C.[1]; Baskurt AA.[1]; Hunuk B.[3]; Dugral E.[1]; Yilmaz MB.[1]; Ergene AO.[1]; Ozcan EE.[1]

[1]Dokuz Eylul University, Izmir, Turkey
[2]Bornova Turkan Ozilhan State hospital, Cardiology, Izmir, Turkey
[3]Yeditepe University Hospital, Cardiology, Istanbul, Turkey

Funding Acknowledgements: Type of funding sources: None.

Background: Drugs with the potential to prolong QT are used in the treatment of coronavirus 19 (COVID-19) pneumonia. We have developed a telemedicine-based corrected QT (QTc) follow-up algorithm that allows early rule out for follow up.

Aims: In this study, we investigated the availability and safety of the algorithm.

Study design: Retrospective cohort

Methods: Consecutive patients; administered hydroxychloroquine (HCQ) for COVID-19 pneumonia were enrolled into digital ECG recording program which includes QTc follow-up algorithm.

Results: Patients were classified into three groups as those, excluded promptly from the QTc follow-up based on two consecutive ECG findings (early rule out, n = 92) and those, for whom the follow-up was continued (n = 12) and usual care group (n = 68). Of note, 237 ECG tracings were performed in our algorithm population contrary to standard practice of daily recommended ECG monitoring which could have yielded 975 ECG tracings along with accompanied risks of exposure. This way; we ended in 738 (75.7%) fewer ECG tracings. Sustained ventricular arrhythmia or sudden cardiac death was not observed in the entire patient population.

Conclusions: It is safe to rely on telemedicine-based early rule out algorithm in COVID-19 patients, receiving hydroxychloroquine treatment. This algorithm abolished the need for further ECG in majority of patients without increased risk during follow up. These algorithms can significantly reduce the healthcare worker exposures by eliminating the need for ECG follow-up promptly.

Abstract Figure. Covid-19 Follow up Algorithm