

Utility and acceptability of remote 6-lead electrocardiographic monitoring in children with inherited cardiac conditions

Web Appendix 1: Additional statistical methodology and results

Additional statistical methods

Sensitivity analysis

A sensitivity analysis was conducted, removing potential overestimation of QTc (difference between QTc measures assessed by two methods ≥ 40 ms (1)).

Interobserver variability

Interobserver variability for continuous variables was assessed using the Intraclass Correlation Coefficient derived from a linear mixed model with random intercepts for participants and observers, and using the Kappa statistic with McNemar's test for trend for categorical variables.

Additional results

Sensitivity analyses

In comparing the QTc measures from the 12-lead ECG versus the supervised KM6LECG and the supervised versus unsupervised KM6LECG there were five individuals and eight individuals, respectively, with a difference between QTc measures of ≥ 40 ms. These observations were subsequently removed in the sensitivity analysis. In comparing the 12-lead ECG and KM6LECG, the results remained similar to those of the main finding (*ICC* of sensitivity analyses and main result: 0.895 and 0.839, respectively). Sensitivity analyses

reported an improved reliability comparing supervised and unsupervised KM6LECG (finding *ICC* of sensitivity analyses and main result: 0.882 and 0.736, respectively).

Interobserver variability

For the subset of children with measures by two observers, there was high correlation for the QTc as calculated from the KM6LECG (*ICC* = 0.92). In comparing the combined categorical variables from the KM6LECG, the following values were obtained ‘any repolarisation abnormality’ (n=13, kappa 0.5, McNemar’s test p value 0.564), ‘HCM-suggestive features shown’ (n=5, kappa 1.0, McNemar’s test p value 1.0) , either prolonged QTc and/or abnormal T-wave morphology (n=13, kappa 0.69, McNemar’s test p value 1.0).

Reference

1. Beers LVA, L. P., Himmelreich, J. C. L., Karregat, E. P. M., de Jong, J. S. S. G., Postema, P. G., de Groot, J. R., Lucassen, W. A. M., & Harskamp, R. E. Manual QT interval measurement with a smartphone-operated single-lead ECG versus 12-lead ECG: a within-patient diagnostic validation study in primary care. *BMJ Open*,. 2021;**11**:e055072–e Online.