

Association of QT markers of arrhythmia and Familial Mediterranean fever: A Meta-Analysis

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Background:

Some studies found no association between Familial Mediterranean fever (FMF) patients and abnormal QT markers of arrhythmia, others found prolongation of these markers in FMF patients. The aim of this study is to perform a met-analysis to find whether there is an actual association between FMF and abnormal QT markers.

Methods:

We searched PUBMED, WOS, OVID and SCOPUS databases. We included in the meta-analysis any observational study that reported QT and its markers in FMF patients without any age restriction. Meanwhile reviews, case reports, editorials, and animal studies were excluded. RevMan software (5.4) was used to do the meta-analysis

Conclusion:

QTc and QTd are prolonged in FMF patients compared with healthy controls. FMF patients are at increased risk of developing arrhythmia. More multi-center clinical trials are needed to support our findings.

Results:

After complete screening, 14 studies were eligible for the meta-analysis. The total number of patients included in the analysis is 1154. The pooled analyses between FMF group and control group in QT interval, corrected QT (QTc), QT dispersion (QTd) and corrected QT dispersion (QTcd) outcomes, were (MD= 2.34, 95% CI = -1.21 to 5.89, p value = 0.20), (MD= 7.06, 95% CI = 2.68 to 11.43, p value = 0.002), (MD= 6.08, 95% CI = 0.84 to 11.32, p value= 0.02), and (MD= 4.82, 95% CI = -0.57 to 10.20, p value = 0.08), respectively. No heterogeneity was observed in QT interval outcome (p = 0.21) but heterogeneity was found in QTc outcome and was solved after performing leave-one out test by removing (Koca, 2011) study (p= 0.12) and the pooled analysis was significant (p= 0.005), and the heterogeneity in QTd and QTcd was not solved by leave-one out test or subgroup analysis. No publication bias was observed in each outcome. After performing subgroup analysis based on age, significant associations were found between increased QTc and QTd markers and FMF in children and adults subgroups, p values = (0.002), (0.02), (0.04), (0.05), respectively.