



Arrhythmias and Clinical EP

RELATION OF OBESITY TO VENTRICULAR REPOLARIZATION: A META-ANALYSIS OF CLINICAL STUDIES

Poster Contributions

Poster Hall B1

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Background: Prior studies have suggested the presence of a relation between obesity and ventricular repolarization. These studies showed prolongation of the QTc interval (QTc) and greater QT or QTc dispersion (QTd) with increased body weight indices.

Methods: A comprehensive literature search was conducted with the electronic databases MEDLINE, EMBASE and the Cochrane Central Register of Controlled Trials (CENTRAL). These were queried to identify controlled studies investigating QTc, QTd and obesity. Two independent reviewers selected studies and extracted data. Fixed-effects meta-analysis method was used to pool outcomes across studies calculating mean difference (MD) for both QTc and QTd with 95% confidence intervals (CI) comparing obese and non-obese subjects. Units were measured in milliseconds.

Results: A total of thirteen original studies fulfilled the inclusion criteria enrolling 7153 patients. Patient demographics were obtained in addition to baseline characteristics including body mass index, study design, sample size, QTc and QTd. Compared to controls, there was a significant longer QTc in obese compared to non-obese subjects with a mean difference of 21.51 milliseconds (95% CI: 23.89 - 19.31). QTd was also significantly longer in obese subjects with a mean difference of 17.99 milliseconds (95% CI: 19.66 - 16.31) when compared to non-obese persons.

Conclusion: Obesity is associated with significantly longer QTc and QTd. This indicates the presence of a strong relation between obesity and ventricular repolarization.