

Prognostic significance of corrected QT and corrected JT interval for incident coronary heart disease in a general population sample stratified by presence or absence of wide QRS complex: the ARIC Study with 13 years of follow-up.

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BACKGROUND: Heart rate-corrected QT interval (QTc) is the traditional method of assessing the duration of repolarization. Prolonged heart rate-corrected QT interval is associated with higher risk of mortality in patients with coronary heart disease (CHD) and in the general population. However, the QTc is typically not evaluated when QRS duration is $>$ or $=120$ ms, because increased QRS duration (QRSd) contributes to QT interval prolongation. In these circumstances, the JT interval has been proposed as a more valid way to assess ventricular repolarization.

METHODS AND RESULTS: To allow for variation in heart rate, corrected JT interval (JTc) was defined as $QTc - QRSd$. Using data from the Atherosclerosis Risk in Communities Study, JTc and QTc were compared for their prognostic associations with incident CHD events among 14 696 men and women who were CHD-free at baseline, having either normal conduction or wide QRS complex. Among individuals with normal QRS duration, logistic regression adjusted for age, hypertensive status, diabetes, race, systolic blood pressure, smoking, HDL and LDL cholesterol, R-R interval, and menopausal status in women showed QTc and JTc were nonpredictive of future coronary events in men but significant in women. In individuals with wide QRS complex ($QRSd >$ or $=120$ ms), similar analyses showed JTc had a significant prognostic advantage compared with QTc in men but not in women, among whom only 11 events occurred.

CONCLUSIONS: The JTc is a simple measurement that is a significant independent predictor of incident CHD events in men with wide QRS complex.

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