

Effects of Treatment on QT-Interval in Patients with Acute ST-Elevation Myocardial Infarction

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Acute myocardial infarction with ST-elevation (STEMI) is associated with abnormalities in depolarization and repolarization. Coronary reperfusion affects the extra-cellular milieu which may result in changes in repolarization. Aim: evaluate the effects of reperfusion therapy on QT interval in patients with acute STEMI.

Methods: One hundred forty six patients acute myocardial infarction, 65 inferior and 81 anterior STEMI were evaluated. All patients with anterior STEMI had coronary angiography, 78 had successful angioplasty and coronary stent implantation, 1 failed and 2 had coronary ectasia and treated with anticoagulants. Patients with inferior STEMI, 29 had primary angioplasty and 36 were treated with thrombolysis. QT intervals in all 12 leads were measured at admission, a day after the procedure and before discharge.

Results: In patients with acute anterior STEMI, in the anteroseptal electrocardiographic leads QT interval increased from 349 ± 35 at admission to 378 ± 49 msec after treatment, $p < 0.000002$. In inferior and high lateral leads, QT intervals increased significantly after treatment. No significant changes in QT interval were observed between electrocardiograms after treatment and at discharge. In patients with acute inferior STEMI, QT intervals were normal and did not change significantly after treatment and at discharge.

Conclusions: In patients with acute anterior STEMI, reperfusion therapy lengthened the QT interval, while in patients with acute inferior STEMI, QT intervals did not change significantly.