Electrocardiographic identification of prior myocardial infarction during right ventricular pacing--effect of septal versus apical pacing.

Abstract:
Electrocardiographic (ECG) identification of prior myocardial infarction (MI) during right ventricular (RV) pacing is of clinical importance. Proposed ECG criteria have been evaluated only during apical pacing. We evaluated the effect of pacing site on the predictive performance of ECG signs of prior MI. The present study is a secondary analysis of a prospective, multicenter study which randomized recipients of an implantable cardioverter defibrillator to an apical versus septal RV lead positioning. ECGs of patients with or without prior MI were analyzed for the presence of the following criteria: Cabrera sign, Chapman sign, QR pattern in leads I, aVL, V5 or V6, QR in inferior leads and notching in the descending slope of the QRS complex in inferior leads. The MI group included 89 patients (55.1% apically paced), while 99 patients had no prior MI (50.5% apically paced). In the total population, the Cabrera sign presented the highest specificity (97%) and diagnostic accuracy (62.2%), with a sensitivity of 23.6%. The Cabrera sign was the only significant predictor of a prior MI [OR=9.9, (95%CI:2.8-34.5), p<0.001], among all ECG markers. Pacing site did not significantly influence the sensitivity and specificity of the Cabrera sign for detection of
prior MI. In our study, the Cabrera sign was the only ECG marker that predicted the presence of prior MI during ventricular paced rhythm. Septal RV lead positioning did not affect the predictive performance of the Cabrera sign.