Long-term prognostic value of the preoperative 12-lead electrocardiogram before major noncardiac surgery in coronary artery disease

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BACKGROUND: Knowledge of the prognostic information of preoperative 12-lead electrocardiogram (ECG) recordings in patients with coronary artery disease (CAD) undergoing noncardiac surgery is limited. METHODS: The prognostic information derived from the preoperative ECGs of 172 CAD patients undergoing major noncardiac surgery was analyzed to determine its predictive value for long-term outcome. Primary end point was all-cause mortality; secondary end point was major adverse cardiac events (MACE) at 2 years. RESULTS: Prevalence of ECG abnormalities was 53% for T-wave alterations; 46% for Q waves; 38% for ST deviations; and, depending on the criterion used, 2% to 19% for left ventricular hypertrophy. During follow-up, 40 (23%) patients died and 31 (18%) had MACE. After adjustment for clinical baseline findings, including current medication with beta-blockers, ST depressions (odds ratio [OR] 4.5, 95% confidence interval [CI] 1.9-10.5) and faster heart rate (HR) (OR 1.6, 95% CI 1.1-2.4, per 10 beats per minute [bpm] increase) were independent predictors of all-cause mortality. Faster HR (OR 1.7, 95% CI 1.1-2.6, per 10-bpm increase) was also an independent predictor of MACE. The predictive value of ECG variables did not change after adjustment for occurrence of perioperative ischemia. CONCLUSION: In CAD patients, the preoperative ECG contains important prognostic information and is predictive of long-term outcome independent of clinical findings and perioperative ischemia.

type                journal paper/review (English)
date of publishing  2-2006
journal title       American heart journal (151/2)
ISSN electronic     1097-6744
pages               508-13