The relationship of late potentials to assessment of heart rate variability in post-infarction patients

邱泓文
Kao T;Hsiao HC;Chiu HW;Kong CW

Abstract

In order to investigate the relationship of late potential (LP) to assessment of heart rate variability (HRV) after acute myocardial infarction (AMI), we studied 101 Chinese patients with AMI (10+/-2.4 days) in Taiwan by collecting 24-h ECG from a Holter tape recorder and signal-averaged ECG from a high-resolution ECG cart. Of the 101 patients, 36 patients had LP (LP group) and 65 patients did not (NLP group). The mean heart rate was significantly lower in the LP group than in the NLP group ($P<0.05$). The LP group had a significantly increased high-frequency (HF) spectral component of HRV compared with the NLP group ($P<0.005$), but their low-frequency (LF) to HF ratio (LF/HF) was lower ($P<0.05$). Analysis of the circadian variation of HRV revealed significant difference of morning SDRR (standard deviation of normal RR intervals) compared with noon SDRR ($P<0.05$ in the LP group, $P<0.005$ in the NLP group) and evening SDRR ($P<0.05$ in the LP group, $P<0.005$ in the NLP group). In the NLP group, morning HF (normalized unit, nu) was 0.258+/-0.098 compared with noon HF (nu) of 0.219+/-0.83 ($P<0.05$) and evening HF (nu) of 0. 225+/-0.085 ($P<0.05$). Nine patients died during follow-up from cardiac causes, three (8.3%) in the LP group and six (9.2%) in the NLP group. In post-MI patients, there was higher vagal tone in patients with late potentials compared to those without late potentials. NLP patients had more circadian change in vagal tone compared with LP patients.