AUTONOMIC NERVE MODULATION DEMONSTRATED BY TILT TABLE TEST IN PAROXYSMAL ATRIAL FIBRILLATION

ACC Poster Contributions
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Authors: Wei Hua Tang, Kun Tai Lee, Wei Chung Tsai, Wen Ter Lai, Kaoshiung Medical University Hospital, Kaoshiung, Taiwan, ROC

Background: The autonomic nerve function (ANF) played an important role in the genesis of atrial fibrillation. Modulation of ANF in patients with atrial fibrillation is still unclear. This study was aimed to evaluate the modulation of ANF in patient with paroxysmal atrial fibrillation (PAF) by tilt table test.

Methods: This study enrolled 27 healthy adults (13 F, mean age 46±8 years) as control group (CG) and 14 patients with PAF (8 F, mean age 51±7 years) as PAF group (FG). The tilt table test was performed during sinus rhythm with the following protocol: 1. resting baseline stage for 10 minutes 2. tilting 70 degree stage for 10 minutes and 3. return flat position stage for 10 minutes. Heart rate variability (HRV) and beat to beat blood pressure were recorded and analyzed by TASK FORCE monitor.

Results: In resting baseline stage, there were no differences in heart rate (HR) and all HRV parameters between the CG and FG. In tilting stage, compared with resting baseline, the HR (80± 9 vs 70 ± 8 bpm, p< 0.001), the normalized HRV low frequency component (LF-HRV, 65± 13% vs 51 ± 16, p< 0.001), and the ratio of diastolic blood pressure variability low frequency component over the HRV high frequency component (LFHF, 2± 1.4 vs 1± 0.6% to, p< 0.001) were significantly increased in the CG but not in the FG. Compared to resting baseline, after returned to the flat position, the HR and all HRV parameters were not significantly changed in both CG and FG. However, in tilting stage, compared with CG, the HR(60± 10 vs 80 ± 9 bpm, P= 0.003), LF-HRV(47± 21 vs 65 ± 13%; P= 0.002), LFHF(1± 0.9 vs 2 ± 1.4, P= 0.02) and normalized HRV high frequency component (54± 21 vs 35± 14%, P= 0.002) were significant different in FG.

Conclusions: The ANF could be remodeled in patients with PAF. The remodeling of ANF could be demonstrated easily by tilt table test.