Assessment of Autonomic Cardiac Control in Women with Cardiac Syndrome X using Time Related Autonomic Balance Indicator

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In our previous studies we indicated that the various CVD have a different circadian profile of heart autonomic balance (HAB), compared to the profile in healthy subjects. In this study we analyze the specific abnormalities in HAB circadian changes in patients with cardiac syndrome X (CSX). The study comprised of 26 women (mean age 55.3 ± 9.5) with CSX and 22 healthy women (45.8 ± 10.9). All patients are with fulfilled criteria for CSX at the period of pre- or postmenopause and with clearcoronary arteries verified from angiography or multi-slice CT. Stratification by risk factors, comorbidity and pharmacological management have been done using a standardized protocol. The HAB changes were assessed by HRV indices from ECG recordings in resting state (RS) and by parasympathetic (Valsalva manoeuvre; VM), or sympathetic (handgrip test; HT) stimulation. In Computers in Cardiology 2003:30 we proposed the Time Related Autonomic Balance Indicator (TRABI) a non-parametric criterion for estimating the changes in HAB by any HRV indices. In this study, TRABI was used for evaluation of the specific changes in HAB in the women with CSX. The mean value of TRABI for the HRV indices in the study in RS versus HT in healthy subjects is 0,103; in patients with CSX is 0.059 ($p = 0.062$; n.s.). The mean value of TRABI in the study in RS versus VM in healthy women is 0,167; in patients with CSX is 0.072 ($p = 0.049$) see Fig. 1 and Fig. 2. The results indicated that: i) both components in HAB are suppressed in women with CSX; ii) the parasympathetic circadian characteristic is more decreased from the sympathetic one; iii) although the autonomic cardiac control has suppressed activity circadian profile of HAB in women with CSX is similar to profile in healthy women.