A Correlation between Heart Rate Variability (HRV) and somatization of stress

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A Correlation between Heart Rate Variability (HRV) and somatization of stress

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Background: HRV has shown a significant relationship with trauma symptoms and psychological distress, but no direct relation has been found between HRV and somatization of stress. Hence the present study was aimed to assess the correlation between HRV and somatization of stress.

Material and Methods: Twenty healthy participants with ages ranging between 17 to 35 years (group mean age±SD, 26.4 5.5 years) were recruited for the study. They were staying in the north region of the India. Participants with good health condition were included and those who were taking any medication, or suffering with any chronic illness were excluded from the study. Signed informed consent of all participants was taken prior to the study and was approved by the Institutional Ethics Committee. HRV was assessed using a two channel ECG (MP 45 Biopac Student Lab, BIOPAC System Inc, U.S.A.), and somatization of stress was assessed using SCL 90-R. HRV data were extracted by using standard method. Pearson correlation was performed using PASW (SPSS version 18) to correlate HRV values with somatization of stress.

Result: The LF/HF values showed a negative correlation with somatization of stress (p<0.05).

Conclusion: The results are difficult to interpret. Generally higher sympathetic levels (usually, but not entirely, associated with LF values) should positively correlate with somatization of stress. The incongruent findings may suggest that subjective and objective measures do not always bear a direct relationship to each other. A larger sample is needed for conclusions.

Evaluation of Heart rate recovery in lean polycystic ovarian syndrome phenotype

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Background: Polycystic ovarian syndrome (PCOS), a common reproductive disorder, is associated with blunted heart rate response to exercise. We assessed Heart rate recovery (HRR) to exercise challenge in PCOS patients and healthy controls.

Materials and methods: We evaluated 29 PCOS patients and 32 controls. BMI was estimated using weight and height. Baseline heart rate was recorded after 10 minutes of rest. Ergometer exercise was performed in both groups for 6 minutes at 50-85% of target heart rate. A cool down period of 20 minutes was given after the exercise. Lead II ECG was recorded throughout. Peak heart rate was recorded during exercise. Heart rate recovery (HRR) was calculated at 1st minute, 5th minute and 20th minute and compared in both groups.

Results: BMI values were normal and comparable between the controls and cases (20.94 ± 2.9 and 22.33 ± 4.67 kg/m2, p=0.18). Baseline heart rate was comparable between the groups (83.9 ± 9.5 and 83.3 ± 13.9 per minute, p=0.87). There was no significant difference between HRR at 1st minute, 5th minute and 20th minute (20 (19.0–29.0) and 27 (19.5–35.75), p=0.12, 37 (33.5- 45) and 42 (35.25–47.75), p=0.15 and 41 (36 – 47.5) and 45.5 (38.25 – 53.5), p=0.45 respectively).

Conclusion: Both the groups had normal BMI and the baseline heart rate and HRR were also comparable. Newly diagnosed lean phenotype PCOS patients did not display typical blunted recovery pattern. Our findings confirm the significant role of