



SUBCLINICAL ATHEROSCLEROSIS: ASSOCIATION WITH SIMPATO-VAGAL BALANCE AND TOTAL AUTONOMOUS REGULATION CAPACITY

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Abstract:

Introduction and objectives: Alterations of the sympathetic and parasympathetic nervous system were proposed as precursors of the genesis and perpetuation of atherosclerosis since a long time. Our objective was to determine if there is an association between the presence of carotid atherosclerosis and the reduction of heart rate variability.

Methods: By a prospective case-control design, we investigated heart rate variability and the presence of carotid atherosclerosis in 54 patients divided into two groups according to the presence or absence of carotid atherosclerosis. Heart rate variability variables were chosen in the frequency (spectral) domain in high frequency band, low frequency band, sympatho/vagal balance and the total spectral band.

Results: Over 54 individuals without previous cardiovascular disease consecutively evaluated, 26 of them (48%) presented with subclinical (ATE+). A reduction in HRV was observed in the ATE + group represented by the LF spectrum ($p < 0.0001$), the parasympathetic activity specifically represented in the HF band was also lower in the ATE + group in univariate analysis ($p < 0.0001$) same as the TPow ($p < 0.0001$). No significant differences were found when LF / HF was analyzed ($p = 0.1598$). After analyzing variables with significant differences in the univariate analysis, with a multiple logistic regression model, only LF and TPow resulted independent predictors of ATE +.

Conclusion: We found a reduction in heart rate variability in subjects with carotid atherosclerosis. Some spectral components of heart rate variability, like low frequency or total spectral power, they were better predictors of carotid atherosclerosis than sympatho/vagal balance. In this study it seems that total spectral power



is a correct measurement for analyzing autonomic function.

Biography:

Dr. Diego Sebastián Mendo, Specialist in Arterial Hypertension and Vascular Mechanics currently Working in Group Orna Hospitals Argentina. He has an experience of 8 years dealing with Laboratorio de Mecánica Vascular. Also holding a degree in Universidad Austral Buenos Aires. specialist in vascular doppler, currently developing areas of arterial hypertension, vascular mechanics and cardiovascular prevention.

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International Conclave on Hypertension and Healthcare | July 19, 2020 | Veinna, Austria.

Citation: SUBCLINICAL ATHEROSCLEROSIS: ASSOCIATION WITH SIMPATO-VAGAL BALANCE AND TOTAL AUTONOMOUS REGULATION CAPACITY- Diego Sebastián Mendo – Argentina; Hypertension Conclave 2020; July 19, 2020; Vienna, Austria.