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Hyperuricemia is associated with sympathovagal imbalance in older adults

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Abstract

Purpose: This study aimed to compare heart rate variability (HRV) parameters obtained through symbolic analysis (SA), between older adults with and without hyperuricemia.

Methods: This is a cross-sectional study including 202 community-dwelling old adults, which was clinically stratified as with or without hyperuricemia, according to the cutoff point of serum uric acid ≥ 6 mg/dL for women and ≥ 7 mg/dL for men. Successive RR intervals were recorded along 5 min and analyzed with SA method. 0 V%, 1 V% and 2 V% patterns were quantified and compared between groups. Comparisons were carried out through parametric or nonparametric tests, according to the data distribution characteristics, evaluated by Kolmogorov-Smirnov test. The significance level was set as $p \leq 0.05$ for all statistical procedures.

Results: The prevalence of hyperuricemia was 67.8 %, and the hyperuricemic older adults exhibited significant higher values for V0% and lower values for V2% parameters when compared to normouricemic older adults.

Conclusion: These results suggesting a sympathovagal imbalance in hyperuricemic older adults, characterized by greater sympathetic predominance (0 V%) and lower vagal modulation (2 V%) at rest conditions.

Keywords: Aging; Oxidative stress; Sympathovagal balance; Uric acid.

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