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Dear Editor,

We read with interest the article titled "Autonomic function and its relationship with central obesity and hemodynamic variables in obese

and overweight adults," whose objective was to analyze the relationship between the time and frequency domains of heart rate variability (HRV) and central obesity, as well as hemodynamic variables in adults with different levels of body weight (1). This study included 65 sedentary young adults, distributed into three groups based on their body mass index. HRV measurements were taken at rest using a Polar H7 device, highlighting significant correlations between waist circumference and the LF/HF ratio in the overweight and obese groups.

Regarding the conclusions, the authors noted that "adults with overweight and obesity present sympathetic predominance at rest, reinforcing the relevance of HRV as a non-invasive diagnostic tool for predicting cardiovascular risk" (1). However, we have identified certain methodological and conceptual limitations that could be considered for future research.

Firstly, the cross-sectional design of the study, although adequate for exploring correlations, limits the ability to establish causality between central obesity and autonomic alterations. In this context, incorporating a longitudinal design would allow for the observation of dynamic changes in autonomic function as specific interventions, such as lifestyle changes or exercise programs, are implemented (2). Similarly, the small sample size limits robust comparisons between the normal weight, overweight, and obese groups. Furthermore, the studied population, composed exclusively of young sedentary adults, restricts the generalization of the results to other groups such as women, older adults, or individuals with active lifestyles (3).

Moreover, the evaluation was conducted only at rest, without considering how the autonomic nervous system responds to dynamic stimuli such as exercise or metabolic stress (4). Additionally, although smokers and individuals with chronic diseases were excluded, key variables such as inflammation, stress, or sleep quality—factors that

significantly influence autonomic regulation—were not controlled for (5,6).

Finally, the interpretation of the LF/HF ratio as a direct indicator of sympathetic-parasympathetic balance is limited. This parameter, widely questioned, should be complemented with other more comprehensive metrics to more accurately reflect autonomic dynamics (2).

Despite these observations, we believe this work represents an advancement in understanding the interactions between central obesity and autonomic alterations. We suggest that the limitations mentioned be considered in future studies to strengthen the clinical applicability of its conclusions.

Conflict of interest: the authors declare no conflict of interest.

Artificial intelligence use statement: the authors declare that ChatGPT was used for the correction and editing of the manuscript.

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