Cardiovascular and Cardiorespiratory Interactions – From Physiological Mechanisms to Clinical Applications
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Methods for Analyzing Cardiovascular Signal Asymmetry in Healthy Individuals and Patients with OSA

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This study aims to evaluate the application of the Makowiec Generalised Asymmetry Index (MI) to cardiovascular signal analysis in healthy individuals and patients with obstructive sleep apnea (OSA). Time series of RR intervals and systolic blood pressure (SBP) were analyzed by examining the distributions of MI values and comparing the resulting parameters between the study groups.

The analysis will be extended to account for respiratory phase. RR and SBP values will be assigned to separate datasets corresponding to inspiration and expiration, and the MI will be calculated independently for each phase. This approach will let us assess how respiratory phase affects signal asymmetry and evaluate its usefulness in cardiovascular signal analysis.