
Poster (Subdiscipline) | 専門領域別 | 運動生理学

運動生理学（奇数演題）／ポスター発表

Fri. Sep 1, 2023 10:00 AM - 11:00 AM RY207 (良心館2階 R Y 2 0 7 番教室)

[04生-ポ-01]The relationships between interval exercise-induced arterial stiffness parameters changes and metabolic health biomarkers in middle-aged physically active males.

Relationship between exercise-induced changes in PWV and metabolic biomarkers.

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The study aimed to explore the relationship between pulse wave velocity and metabolic fitness parameters in physically active middle-aged men. Forty healthy male adults were recruited, and their baseline fasted venous blood sample, blood pressure, brachial-ankle pulse wave velocity (baPWV), and ankle-brachial index (ABI) were measured after resting for 10 minutes. Participants then performed a single bout of moderate/high-intensity interval exercise (MHIE), and post-measurements were taken immediately (blood pressure) and after 10 minutes of exercise (baPWV and ABI). The results showed that acute MHIE significantly improved ABI ($p < 0.001$) but not baPWV. Changes in baPWV were significantly correlated with the platelet to lymphocyte ratio (PLR), and changes in ABI were significantly correlated with the neutrophil to lymphocyte ratio (NLR). However, changes in baPWV and ABI were not correlated with other factors such as HOMA, age, blood lipid profiles, VO₂peak, body fat, and WHR. The study concluded that acute MHIE increased ABI but did not decrease baPWV in physically active middle-aged men. Still, interval exercise-induced changes in baPWV and ABI were significantly correlated with baseline PLR and NLR, suggesting that systemic inflammatory status may be associated with the decrease in arterial compliance in this population.

Keywords: arterial compliance; ankle-brachial index (ABI); pulse wave velocity (PWV); metabolic fitness; cardiovascular diseases