

HEART RATE VARIABILITY AND ADAPTATION CAPABILITIES OF BADMINTON PLAYERS OF DIFFERENT AGES

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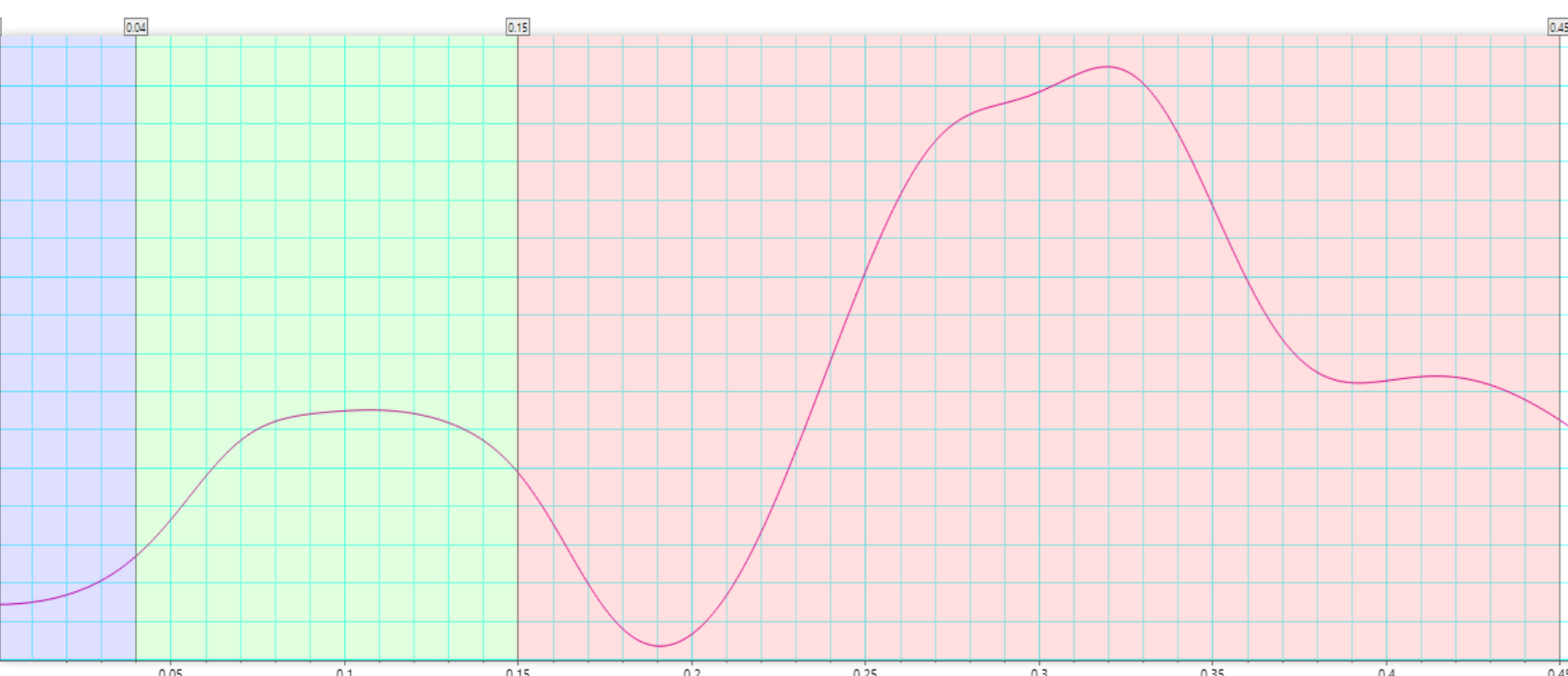
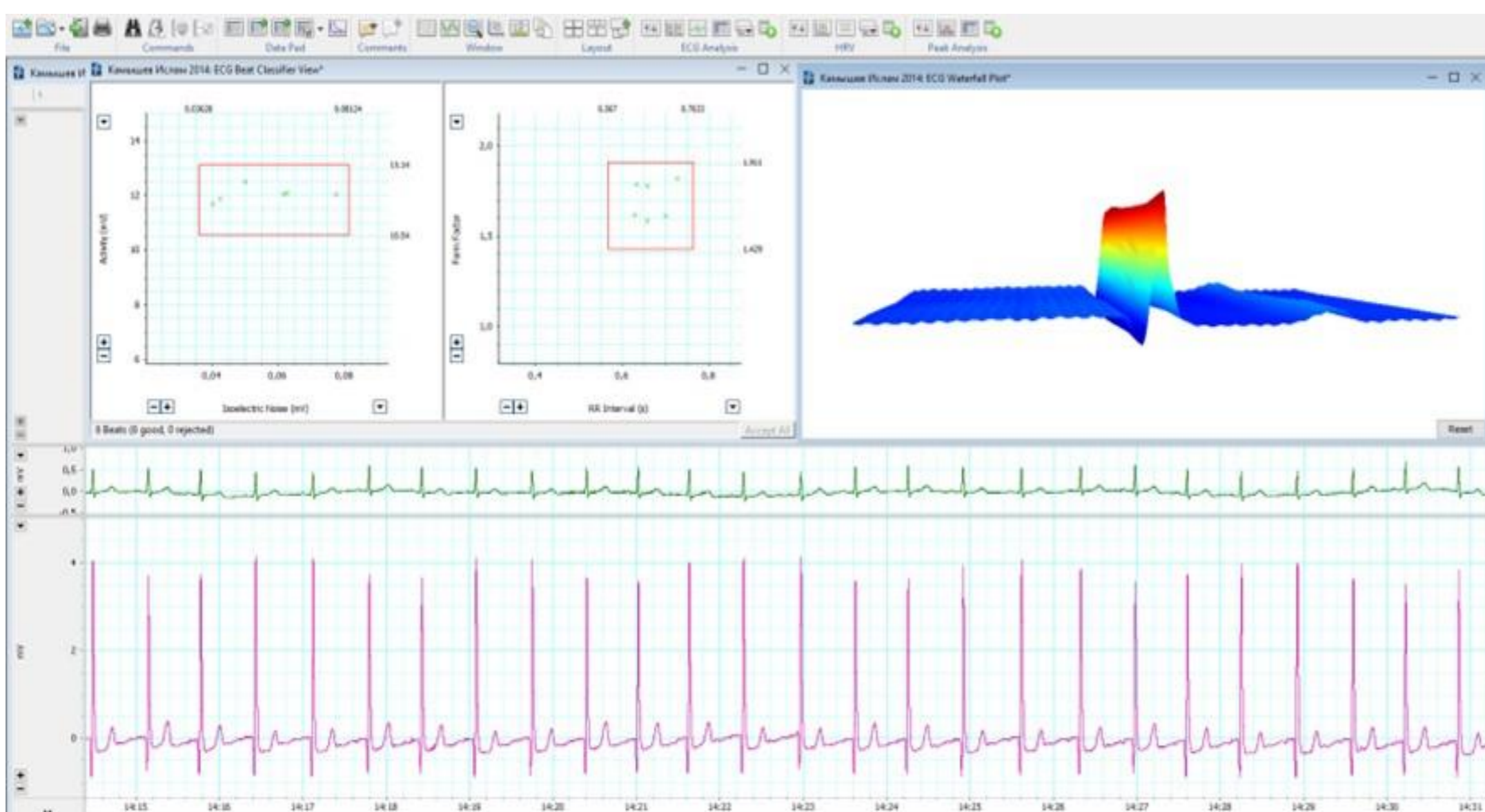
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INTRODUCTION & AIM

Heart rate variability (HRV) analysis is one of the actively developing areas of physiology and functional diagnostics, as it allows objectively assessing the functional condition of the vegetative status, as well as the condition of adaptation mechanisms under stress loads. The aim of the study: investigate changes in heart rate variability in badminton players of different age groups during an orthostatic test.

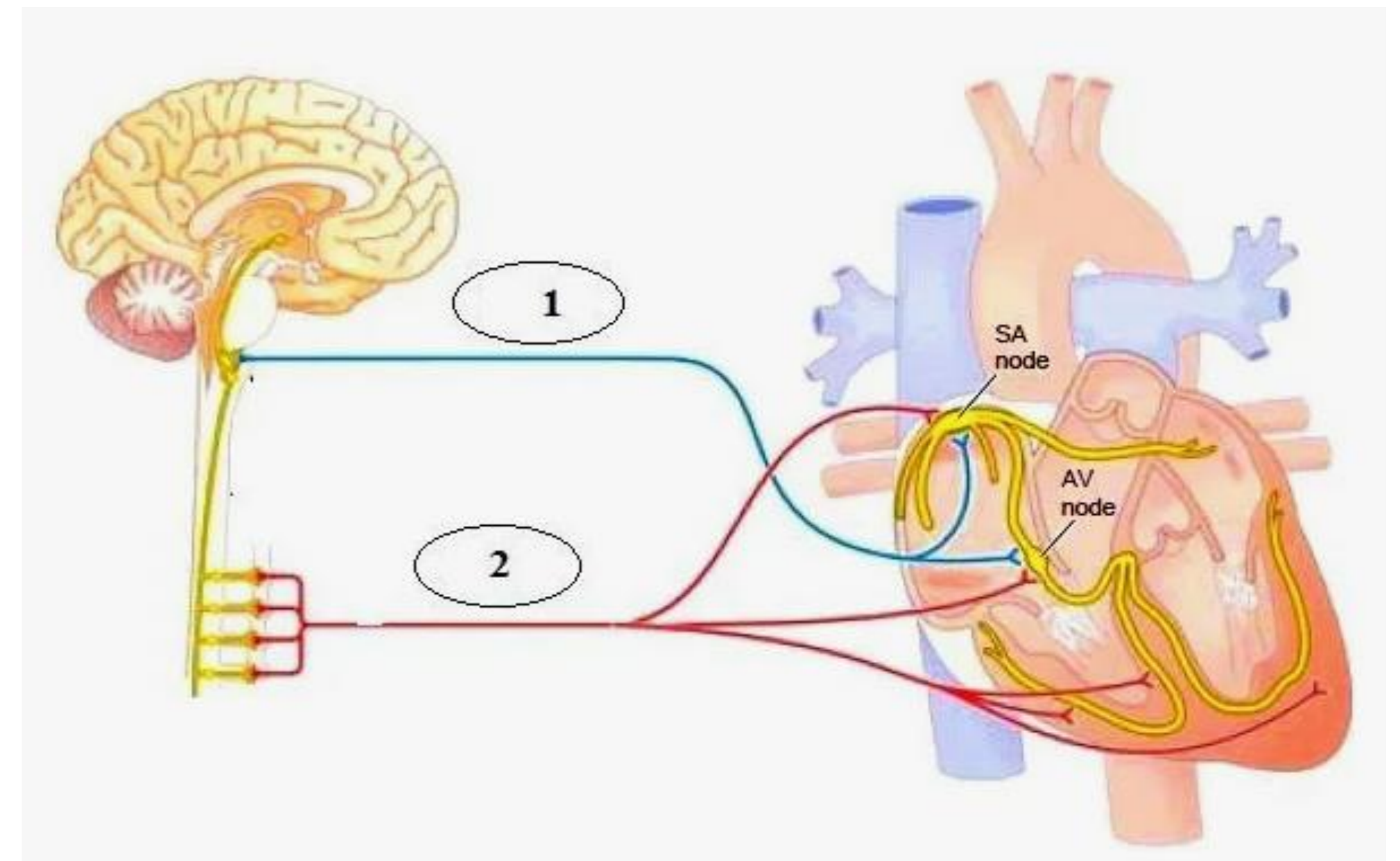
METHOD

Electrocardiograms were recorded using a PowerLab (ADInstruments) installation throughout the study protocol. Processing was performed using the built-in ECG analysis module in the Lab Chart Pro 8.0 software. The effects of HRV changes were assessed every 10 seconds. Statistical processing of the experimental results was carried out in the Statistica 13 program.



RESULTS & DISCUSSION

In the age groups of 8-10 years ($n = 16$) and 17-19 years ($n = 10$), HF waves prevailed at rest in 68% and 80% of the subjects, LF waves were recorded in 12% and 20%, respectively. During the active orthostatic test, a decrease in parasympathetic and an increase in sympathetic effects on the heart were observed in all age groups. This was most clearly manifested in the age group of 17-19 years. VLF waves decreased during the active orthostatic test at 8-10 years and did not change in athletes aged 17-19 years.



CONCLUSION

The results obtained demonstrate the high information content of the active orthostatic test in assessing the functional and adaptive reactions of badminton players in response to physical activity, and may be associated with the specifics of the sport and the length of training.

