EVALUATION OF PULSE WAVE VELOCITY IN RHEUMATOID ARTHRITIS

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The measurement of pulse wave velocity (PWV) is one of the important methods to identify the elasticity properties of arteries. Arterial stiffness is an independent risk factor of cardiovascular disease.

Study objectives: to determine carotid—femoral PWV in rheumatoid arthritis (RA) patients.

Methods: 32 patients with moderate and severe activity of RA (mean age 48.7 ± 1.5 years) and 20 healthy subjects in the control group (mean age 46.2±5.0 years) were examined. RA was diagnosed according to EULAR criteria (2010). Activity of RA was defined with using of the validated disease activity score (DAS28). Aorta pulse wave velocity was determined by SphygmoCor device (Australia) which allowed for pulse wave recording and automated measurement.Statistical processing of results was carried out using licensed Microsoft Office 2000.

Results: The mean disease duration of the RA group was 10.1 ± 1.1 years. We found that carotid-femoral PWV was increased in the RA group compared to the control group (9.2 ± 0.30 m/s vs. 7.6 ± 0.70 m/s, $p<0.05$). Arterial stiffness correlates with the duration of the disease ($r = 0.5$; $p < 0.05$).

Conclusion: Carotid-femoral PWV was found to be high in RA compared to the control group and allow to provide a noninvasive technique for identifying patients at increased risk of vascular disease.

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