**Aortic stiffness comparison between healthy and juvenile rheumatoid arthritis children**

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**Introduction:** Aortic pulse wave velocity (PWV) is indicator of arterial stiffness. It is advances with age and seems accelerated in certain disease conditions like rheumatoid arthritis (RA), diabetes and chronic kidney disease. The aim of this study was to find the difference between PWVs between healthy and RA patients.

**Methods:** Carotid-femoral PWV was assessed by pulsed-Doppler ultrasound synchronized with electrocardiography (ECG) in 65 healthy and 87 juvenile rheumatoid arthritis children aged 10.3 ± 4.1 years. Demographic data: age, height, weight, heart rate (HR) and high-sensitive C-reactive protein (hs-CRP) were measured or taken from a health record.

**Results:** The median PWV were: 4.52 (3.24 to 5.21) vs. 4.71 (3.47 to 5.56) in healthy and RA patients. PWV is significantly higher in RA patients (P = 0.0007). PWV significantly correlates with age (r = 0.245, P = 0.022), height (r = 0.312, P = 0.003), but not with HR (r = 0.176, P = 0.102) and weight (r = 0.187, P = 0.082) in RA patients group. PWV significantly correlated with CRP in juvenile RA patients (r = 0.241, P = 0.024), but not in healthy control (r = 0.179, P = 0.154).

**Conclusion:** Arterial stiffness or precisely PWV was more pronounced in the child with juvenile RA than in the healthy control. Hs-CRP as a marker of acute and low-grade inflammation is correlated with artery elasticity in juvenile RA patients.

**Key words:** arterial stiffness, pulse wave velocity, juvenile rheumatoid arthritis, C-reactive protein.





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Patient Consent: No, I have not receive consent

Disclosure of Interest: None Declared