

Oral presentation

14.3 Early cardiovascular risk assessment in patients with juvenile idiopathic arthritis

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Background

Inflammation has emerged as an important factor that contributes to the development of atherosclerosis and is associated with increased cardiovascular risk. Juvenile idiopathic arthritis (JIA) is a chronic inflammatory condition with its origin in childhood. Its adult form, rheumatoid arthritis, has been associated with an excess of cardiovascular disease even after adjustment for traditional risk factors.

Materials and methods

Arterial stiffness indices were measured, noninvasively. Pulse Wave Velocity (PWV) and Augmentation Index (AIx) were calculated using the ShpygmoCor device (AtCor Medical, Sydney, Australia). Vascular Compliance was determined as a function of both the arterial system's capacitance (C1) and that of the reflectance or oscillatory (C2) function using the HDI/PulseWave CR-2000 (Hypertension Diagnostics, Inc., Eagen, MN). The cardiac diastolic function was assessed using classic, tissue Doppler and colour M-mode echocardiography.

Results

There were 33 patients with JIA (25 F, 8 M) aged 13 ± 6 years with 6 years mean duration of the disease that were compared with 22 controls (13 ± 3 years) matched for age and gender. Among the indices assessed a significant difference was found regarding the AIx ($p = 0.006$) and the C1 ($p = 0.029$) of the patients, indicating increased vascu-

lar stiffness compared to controls. There was no difference in the cardiac diastolic function in respect to all indices assessed.

Conclusion

Early manifestations of vascular dysfunction are evident in patients with JIA from childhood. Cardiac diastolic dysfunction appears to be a later finding in this patient group. Since vascular stiffness is an early finding this may necessitate appropriate pharmaceutical and lifestyle intervention.