

Oral presentation

## 14.3 Early cardiovascular risk assessment in patients with juvenile idiopathic arthritis

AP Vlahos\*<sup>1</sup>, S Alfantaki<sup>3</sup>, A Bechlioulis<sup>2</sup>, K Vakalis<sup>2</sup>, LK Michalis<sup>1</sup> and A Siamopoulou<sup>1</sup>

Address: <sup>1</sup>University of Ioannina, Ioannina, Greece, <sup>2</sup>Michaelidion Cardiac Centre, University of Ioannina, Ioannina, Greece and <sup>3</sup>University Hospital of Ioannina, Ioannina, Greece

\* Corresponding author

from 15<sup>th</sup> Paediatric Rheumatology European Society (PreS) Congress  
London, UK. 14–17 September 2008

Published: 15 September 2008

*Pediatric Rheumatology* 2008, **6**(Suppl 1):S30 doi:10.1186/1546-0096-6-S1-S30

This abstract is available from: <http://www.ped-rheum.com/content/6/S1/S30>

© 2008 Vlahos et al; licensee BioMed Central Ltd.

### 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  $13 \pm 6$  years with 6 years mean duration of the disease that were compared with 22 controls ( $13 \pm 3$  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 vascular

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.