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FRI0545

HEMODYNAMIC MEASUREMENTS AND ARTERIAL STIFFNESS IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS COMPARED TO CHILDREN WITHOUT JUVENILE IDIOPATHIC ARTHRITIS

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Background: Juvenile Idiopathic Arthritis (JIA) can cause long-term cardiovascular complications. There are non-invasive, validated, easy to perform methods for cardiovascular testing, such as: carotid intimal-media thickness (cIMT), and measurement of arterial rigidity through carotid distensibility, carotid-femoral pulse wave velocity (cfPWV) and the augmentation index (AIx).

Objectives: To compare the main hemodynamics measurements (cIMT, carotid distensibility, cfPWV and AIx) between JIA and non-JIA subjects.

Methods: Analytical cross-sectional study in subjects 5 to 16 years of age. Two groups: patients with JIA according to the ILAR classification without any other condition vs healthy children. Measurements: somatometry, laboratory (glucose, creatinine, lipid profile), disease activity index (JADAS-27) and hemodynamic variables (cIMT, carotid distensibility, cfPWV and AIx).

Results: 63 JIA subjects and 50 healthy controls were included, mean age 11.5 ± 2.8 vs 10.7 ± 3.2 years ($p = 0.17$) and 70% vs 54% females, respectively. Both groups were also similar ($p > 0.05$) for nutritional state, sedentary lifestyle, smoking habits and family history of cardiovascular risk. Table 1 show lipid profile of both groups. Subtypes of JIA were: RF positive polyarthritis (29%), RF negative polyarthritis (29%), oligoarthritis (19%), enthesitis-related arthritis (14%) and systemic arthritis (9%). Mean time of disease evolution was 4 ± 3 años. There were no significant differences between groups in the main hemodynamic parameters (table 2). When comparing inactive vs active disease and active disease vs controls there were no differences either, we found a discrete trend to less carotid distensibility and higher cfPWV in patients with active disease compared to controls [0.63 ± 0.17 mm vs 0.66 ± 0.15 mm ($p = 0.94$) and 6.12 ± 2.88 m/s vs 5.42 ± 0.75 m/s ($p = 0.33$), respectively]. 59% of subjects with JIA were inactive according to JADAS-27. When considering time of disease evolution, children with 0-4 years vs children with >4 years and children with >4 years vs controls, we found differences in cIMT [0.41 ± 0.62 mm vs 0.44 ± 0.50 mm ($p = 0.02$) and 0.44 ± 0.50 mm vs 0.40 ± 0.70 mm ($p = 0.01$), respectively].

Finally, cfPWV was higher in patients with 0-4 years than in patients with >4 years of evolution ($p = 0.01$).

TABLE 1. LIPID PROFILE

LIPID	JIA	CONTROLS	<i>p</i> [†]
Triglycerides	94 ± 56	85 ± 36	0.22
Total cholesterol	141 ± 27	152 ± 26	0.06
HDL cholesterol	45 ± 12	47 ± 10	0.36
LDL cholesterol	77 ± 21	87 ± 22	0.01
VLDL cholesterol	18 ± 11	17 ± 7	0.52

[†]Mann-Whitney U test.

TABLE 2. HEMODYNAMIC MEASUREMENTS

MEASUREMENT	JIA	CONTROLS	<i>p</i> [†]
cIMT (mm)	0.42 ± 0.59	0.40 ± 0.70	0.11
Carotid distensibility (mm)	0.64 ± 0.16	0.66 ± 0.15	0.78
cfPWV (m/s)	5.77 ± 2	5.42 ± 0.75	0.66
AIx (%)	69 ± 15	69 ± 12	0.64

[†]Mann-Whitney U test.

Conclusion: We found a tendency to increased cardiovascular risk when the disease has more than 4 years of evolution, specially in patients with persistent active disease. Traditional and non-traditional cardiovascular risk factors add up in this population. We need longterm follow-up studies.

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FRI0546

TRAJECTORIES OF DISEASE ACTIVITY OVER THE FIRST THREE YEARS FOLLOWING JUVENILE IDIOPATHIC ARTHRITIS DIAGNOSIS

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Background: The advent of biological therapies and early aggressive treatment strategies have drastically changed prognoses for children and young people (CYP) with juvenile idiopathic arthritis (JIA). Clinical trials and observational research have demonstrated improvements in disease for the majority, but not all, CYP over time. It is not currently known what the patterns of disease activity are in CYP with JIA and how these cluster over time.