Background

Objectives The aim of this study was analyse the frequency of joint hypermobility in urban schoolchildren and association with musculoskeletal pain.

Methods The modified criteria of Cartier and Wilkinson for joint hypermobility was applied, by two Rheumatologists, on 479 schoolchildren (263 female and 216 male). Mean age was 11±2.4 years, range 6–17 years. The population was 92% Caucasian. All children answered a questionnaire for musculoskeletal pain.

Results Forty one percent had one of the five positive test manoeuvres for joint hypermobility. Only one child had 3 positive test manoeuvres, 20 had two positive test and 175 had one positive test manoeuvres (mean 1.1 ± 0.3). Passive apposition of the thumbs to the flexor aspects of the forearm occurred in 168 cases.

Musculoskeletal pain occurred in 32% of children, without relationship of pain and hypermobility in the same joint.

Presence of pain was no statistically significant among cases with and without hypermobility.

Physical activity was no associated with pain in hypermobility joint.

Conclusion Hypermobility syndrome was rare in our population. Passive apposition of the thumbs to the flexor aspects of the forearm was the most frequent positive maneuver. Joint hypermobility was no related with musculoskeletal pain. Physical activity was no a risk factor to pain in joint with hyperlaxity.

AB0160 THE INFLUENCE OF DIFFERENT KINDS OF THERAPY ON OXIDATIVE-ANTIOXIDATIVE BALANCE IN CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS/JIA/

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Background The aim of this study was to investigate the influence of different kinds of therapy on oxidative-antioxidative balance in children with rheumatoid idiopathic arthritis.

Objectives In our study the intensity of peroxide lipid oxidation was calculated by the contents of malonic dialdehyde (MDA) in plasma. At the same time antioxidant activity was evaluated. We measured the content of vitamin E (Vit. E) in plasma, the total antioxidant status (TAS), as well as the activity of glutathion peroxidase (GPX) and superoxide dismutase (SOD).

In our study we examined 39 children with JIA aged 4–18 years and 27 healthy subjects aged 4–16 years.

8 patients were treated with glucocorticosteroids administered 1–2 mg/kg/24 h in relation to the prednisone standard. 8 children received Methotrexate in the dose of 10–15 mg/m²/week. 9 children were treated with Sulphasalazine in the dose of 20–40 mg/kg/24 h. 14 children were treated with non-steroid anti-inflammatory agents (naproxen 10 mg/kg/24 h). The examination was performed 4–6 weeks after the beginning of the treatment. The results obtained after the treatment were compared with those obtained before the treatment and those in the control group.

Methods We used colorimetric and fluorometric methods.

Results The level of MDA before the treatment, i.e. 2.32 ± 0.86 nM/ml, was significantly higher than that in the control group, i.e. 1.32 ± 0.38 nM/ml ($p < 0.05$). After the treatment with Mtx, Sulphasalazine and non-steroid anti-inflammatory agents,

the values of MDA were still significantly higher than those in the control group and equalled, respectively, 2.32 ± 0.71 nM/ml, 2.14 ± 0.1 nM/ml, and 2.14 ± 0.1 nM/ml ($p < 0.05$). After the treatment with glucocorticosteroids, the values of MDA approximated to those in the control group and averaged 1.72 ± 0.17 nM/ml ($p < 0.05$). Before the treatment, the activity of GPX was significantly lower than those in the control group (4.75 ± 2.59 U/ml vs 7.06 ± 1.99 U/ml ($p < 0.05$)). The values of the other parameters did not appear to depend on the treatment.

Conclusion 1. Our results confirmed the existence of oxidative stress in children with juvenile idiopathic arthritis. 2. The strongest inhibitory effect on peroxide lipid oxidation is exerted by glucocorticosteroids, which conforms to their strongest anti-inflammatory activity. No significant influence of non-steroid anti-inflammatory agents on peroxide lipid oxidation was observed, despite their generally-acknowledged, weak antioxidant activity. No influence of Mtx and Sulphasalazine on peroxide lipid oxidation was observed in the period of examination.

AB0161 CLINICAL AND SEROLOGIC CHARACTERISATION OF 72 JUVENILE IDIOPATHIC ARTHRITIS PORTUGUESE PATIENTS

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Background Juvenile Idiopathic Arthritis (JIA) is a heterogeneous group of systemic inflammatory disorders affecting children below the age of 16 years.

Objectives

Methods We have used the ILAR revised classification criteria for JIA in order to evaluate the clinical patterns of disease of 72 patients regularly followed in our Unit.

Results 72 children with the diagnosis of JIA are being regularly followed: 41 (57%) females and 31 (43%) males. The mean age of diagnosis was 6.6 ± 4.9 years (females) and 8.0 ± 4.5 years (males). The mean follow-up period was 5.44 ± 4.0 years, with a mean disease duration of 6.31 ± 4.6 years. Patients were classified in JIA subtypes: systemic – 16 (22,2%); polyarthritis – 6 (8,3%); oligoarthritis – 35 (48,6%): extended – 9 (12,5%) and persistent ? 26 (36,1%); enthesitis ? 13 (18,0%); psoriatic arthritis ? 2 (2,7%). The knee was the most commonly involved joint in all subtypes: 77.7% of the extended oligoarthritis patients, 92% of the persistent oligoarthritis, 75% of the systemic arthritis, 83.3% of the polyarthritis, 100% of the psoriatic arthritis and 61.5% of the enthesitis related arthritis patients. The second most affected joint was the elbow in extended oligoarthritis (66.6%), the hand in persistent oligoarthritis (30.7%), the wrist in systemic arthritis (50%); the hand and wrist in polyarthritis (83.3%) and psoriatic arthritis (100%), the ankle and hip in enthesitis related arthritis (53.8% and 46.1%). Antinuclear antibodies (ANA) were presented in 19 (26.3%) children: 4 (44.4%) extended oligoarthritis patients; 11 (42.3%) persistent oligoarthritis patients; 2 (12.5%) systemic arthritis patients and 2 (15.3%) enthesitis related arthritis. Rheumatoid factor (FR) was only present in 3 (50%) children with polyarthritis and HLA-B27 was only found in 8 (66.6%) children with enthesitis related arthritis. Uveitis affected 10 (13.8%) children: 6 (23.1%) with persistent oligoarthritis, 2 (22.2%) with extended oligoarthritis, 1 (6.2%) with systemic arthritis and 1 (7.6%) with enthesitis

related arthritis. Uveitis and ANA were only observed in 4 (11.4%) children with oligoarthritis: 3 with persistent oligoarthritis (11.5%, 27.3% of the ANA positive patients) and 1 with extended oligoarthritis (11.1%, 25% of the ANA positive patients). No case of severe uveitis was detected. Erosions were present in 4 (5.5%) children: 2 (33.3%) with polyarthritis, 1 (38.4%) with persistent oligoarthritis and 1 (11.1%) with extended oligoarthritis. 17 (23.6%) patients were treated with methotrexate (MTX): 5 (55.5%) with extended oligoarthritis; 3 (11.5%) with persistent oligoarthritis; 6 (37.5%) with systemic arthritis; 2 (33.3%) with polyarthritis and 1 (50%) with psoriatic arthritis. 106 intraarticular (i.a.) injections of steroids were administered in 36 (50%) children: knee in 25 (69.6%) cases, ankle in 9 (25%) cases, elbow in 4 (11.1%) cases and hand small joints in 4 (11.1%) cases. The i.a. injections were administered in 16 patients with persistent oligoarthritis, 8 with extended oligoarthritis, 5 with systemic JIA and 7 in the other subtypes.

Conclusion The pattern of joint involvement is similar to previous published results. Although, uveitis was less clearly associated with the presence of antinuclear antibodies and also appeared to be milder in comparison to other series. I.a. injections were the mainstay of therapy in the persistent oligoarthritis subtype, but MTX had to be used in 55.5% of the extended oligoarthritis group, stressing the importance of differentiating this 2 patterns of involvement.

OP0088 CHILDHOOD SARCOIDOSIS: EXPERIENCE IN A PAEDIATRIC RHEUMATOLOGY CENTRE

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Background Sarcoidosis is a multisystemic granulomatous disease of unknown aetiology, most commonly affecting young and middle-aged adults. It is relatively uncommon in children.

Objectives To report our experience on the diagnosis, management and outcome of childhood sarcoidosis in a Paediatric Rheumatology settings.

Methods A retrospective chart review to detect patients with sarcoidosis seen by the Rheumatology Service from 1993 to 1998. All patients had initial evaluation that included a complete history and physical examination and an eye evaluation by an Ophthalmologist. Laboratory evaluation at initial and follow-up visits included CBC, ESR, renal and liver function tests, urinalysis, serum calcium, serum immunoglobulins, and Angiotensin converting enzyme (ACE) and chest radiograph. Clinical response to therapy was measured by clinical severity score that we devised. These data were analysed at diagnosis and follow-up visits.

Results Sixteen patients with sarcoidosis were identified. Thirteen were African-Americans. There were nine females and seven males with mean age at onset of 8 (range, 1–15) years; mean age at diagnosis of 10 (range, 2–16) years. Four patients had onset before age 4 years and were classified as early-onset sarcoidosis. Common manifestations included uveitis (69%), pulmonary disease (44%), hilar adenopathy (44%), arthritis (31%), generalised lymphadenopathy (25%), and skin rash (25%). Unusual associated features included abdominal aortic aneurysm (1 case), nephrocalcinosis (1), membranous nephropathy (1), and marrow disease (3). The diagnosis was confirmed by demonstration of noncaseating granuloma on a biopsy specimen associated with negative stains for mycobacteria and fungi in 12 patients. The

tissue biopsy sites included peripheral lymph node (1), skin (1), kidney (1), lung (3), conjunctival nodule (1), lacrimal gland (1), bone (2), bone marrow (1), and tonsil (1). Laboratory abnormalities included elevated ACE serum levels (82%), hyper IgG (82%), anaemia (75%), elevated ESR (70%), and hypercalcemia (12%). Treatment with oral prednisone (1–2 mg/kg/day) was initiated in all 15 symptomatic patients with significant improvement. Prednisone was tapered and successfully discontinued within a mean duration of one year in four patients. Low-dose methotrexate (MTX) in oral dose of 10–15 mg/m²/week was administered in 11 patients. On oral MTX therapy steroid dose was successfully tapered and discontinued within a mean duration of 2.6 years in 6 patients, and was tapered from 1.2 mg/kg/day to 0.2 mg/kg/day within 3.5 years in four. One patient received cytoxan. Two patients relapsed 6 months after discontinuation of MTX. No deaths were noted. Morbidity included persistent iritis (3 patients), restrictive lung disease (1) and joint sequelae (1).

Conclusion Childhood sarcoidosis is prevalent in the State of Louisiana. This enigmatic disorder may involve a broad spectrum of body systems and may present in unusual ways in children. Low-dose MTX seems to be effective, steroid-sparing, and safe adjunct to treat sarcoidosis with multisystem involvement. Long-term follow-up is critical for better understanding of the guide of therapy and prognosis in this disease.

OP0090 SOLUBLE ADHESION MOLECULES ICAM-1 AND E-SELECTIN IN JUVENILE ARTHRITIS – CLINICAL AND LABORATORY CORRELATIONS

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Background Raised concentrations of soluble intercellular adhesion molecule-1 (ICAM-1) and E-selectin (E-sel) are believed to reflect processes of their up-regulation and endothelial cell (EC) activation by various inflammatory stimuli. Resulting enhancement of cell infiltration is a pre-requisite of tissue damage.

Objectives To evaluate serum and synovial fluid (SF) concentrations of ICAM-1 and E-sel in patients with juvenile idiopathic arthritis (JIA) and in paediatric controls and to correlate them with clinical and laboratory variables.

Methods Total of 33 JIA patients (mean age 10 y) were evaluated: 18 with polyarthritis (JIAPoly) disease course (mean active joint count 9) and 15 with oligoarthritis (JIAoligo). Paediatric age-matched control groups consisted of 11 Henoch-Schönlein purpura (HSP) and 10 febrile (FC) patients and 28 healthy children. Current medication, ESR, CRP and FBC were recorded. Soluble ICAM-1 and E-sel in serum and SF were measured by commercially available sandwich ELISA kits.

Results Significant negative correlation with age was observed for the whole group (ICAM-1: $p < 0.01$, E-sel: $p < 0.001$), E-sel correlated with leucocyte and thrombocyte counts ($p < 0.01$), both molecules with CRP ($p < 0.05$) and with each other ($p < 0.01$). For JIA group as a whole no correlation was found with disease duration or therapy used. JIAoligo did not differ from controls, in JIAPoly levels of both molecules were higher than in healthy ($p < 0.001$ for ICAM-1, $p < 0.06$ for E-sel), but not febrile controls. Both molecules correlated with active joint count ($p < 0.01$). In 13 JIA patients (9 oligo, 4 polyarthritis) no correlation was found of SF ICAM-1 and E-sel concentrations