FRI0574

CLINICAL RESPONSE TO HIGH-DOSE INTRAVENOUS METHYLPREDNISOLONE IN CHILDHOOD AUTOIMMUNE UVEITIS: A RETROSPECTIVE ANALYSIS

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Background: Intraocular inflammation accounts for up to 10-15% of total blindness cases [1]. The incidence of uveitis in children ranges around 4.9/100.000, and a significant number of patients develop chronic courses and irreparable complications [2]. An impressive 74% of children with juvenile idiopathic arthritis (JIA)-associated uveitis are legally blind at diagnosis [3]. This underscores the importance of timely diagnosis and effective anti-inflammatory treatment.

Objectives: To evaluate the clinical response to high-dose intravenous methylprednisolone (IVMP) in children and adolescents with autoimmune uveitis.

Methods: A retrospective chart review was conducted in two tertiary referral centers in Germany (TU Dresden and University of Würzburg) to investigate treatment responses to IVMP (10-30mg/kg/day on three successive days with a total of one to five IVMP at monthly intervals) in children and adolescents (<16 years) with autoimmune uveitis diagnosed between 2003 and 2016. Clinical features of uveitis, disease activity, outcomes, and concomitant anti-inflammatory treatment were documented at treatment initiation, after 3 and 6 months.

Results: Fifty-six patients (93 affected eyes) with a median age of 7.4 (range: 2.5-16.7) years were included. In 29% of patients uveitis was associated with JIA. Uveitis was predominately located in the anterior segment (43%), bilateral (66%) and recurrent (43%). Complications occurred in 77% of patients and included visual loss, synechiae, cataract and/or retinal lesions. Patients with active uveitis received between 1 and 5 IVMP. Visual acuity improved significantly (0.52 ± 0.33 to 0.69 ± 0.30 at 3 months ($p < 0.001$), 0.78 ± 0.31 at 6 months ($p < 0.001$)) independent of the number of IVMP. Furthermore, anterior chamber cells (45% to 18%, $p = 0.01$), synechiae (47% to 32%, $p < 0.005$), keratic precipitates (27% to 18%, $p < 0.001$), papillary edema (30% to 13%, $p < 0.001$) and/or macular edema (15% to 4%, $p = 0.01$) improved 3 months after IVMP. Over all, children treated with 3 or more IVMP ($n = 27$) (as compared to 1 IVMP ($n = 18$)) experienced fewer relapses (Median 1 [0-6] vs 3 [0-13], $p = 0.186$), developed fewer cataracts (7% vs 39%, $p < 0.02$) and less frequently required treatment with biologics (19% vs 39%, $p = 0.174$).

Conclusion: High-dose IVMP induces rapid improvement in children with autoimmune uveitis. Data suggest improved outcomes in children treated with three or more courses of IVMP when compared to one course (without reaching statistical significance). Prospective randomized trials in larger cohorts are required to confirm results.

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PREVALENCE OF OVERWEIGHT AND OBESITY IN CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS

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Background: Children with juvenile idiopathic arthritis (JIA) may have an increased risk for overweight and obesity, which could be an additional risk factor for inflammatory arthritis.

Objectives: The aims of this study were to determine the prevalence of overweight and obesity in children and adolescents with JIA, and to assess the association between overweight and disease parameters in this population.

Methods: We assessed the weight (kg) and height (cm) according to the standard deviation score (SDS) in a cross-sectional study of JIA children. The diagnosis of JIA was based on the International League of Association of Rheumatology (ILAR) criteria. Overweight and obesity were defined by the Body Mass Index (BMI) (weight/height^2) matched on age and sex and in reference to the French curves. Children were classified as obese if their BMI was $\geq$ 95th percentile, overweight if their BMI was between the 85th and 94th percentile, and healthy weight if their BMI was between the 5th and the 84th percentiles. Functional disability was determined by the Childhood Health Assessment Questionnaire (CHAQ). Disease activity was assessed using a validated score, Juvenile Arthritis Disease Activity Score 27 (JADAS- 27).

Results: Fifty-five patients (38 boys and 17 girls) with JIA were enrolled in this study. The median age was 8.5 ± 4.12 years (range 6-14). Thirty-one patients (53%) had persistent oligoarticular JIA, 15 (27%) had polyarticular JIA, 5 patients (9%) had systemic JIA, and 4 (7%) had enthesitis-related arthritis. The median disease duration was 3.2 ± 2.8 years. Twelve patients had active disease at the time of the study with a mean JADAS 27 of 6.9 ± 2.7 . The mean CHAQ was 1.4 ± 0.5 . Nineteen children (52.7%) had received corticosteroids during an average period of 1.7 years [0.6-3] with a mean of 10mg/day of prednisone or equivalent. The mean BMI was $14.56 \pm 2.1 \text{ kg/m}^2$. Twenty-two patients (40%) were overweight, 15 (27%) were obese and 18 (33%) have normal weight. Patients with normal weight, overweight and obese represented respectively 60%, 20% and 20% of systemic forms, 53%, 27% and 20% of polyarticular form, 39%, 32% and 29% of persistent oligoarticular forms, and 50%, 25% and 25% of enthesitis-related arthritis forms. Obesity was more frequent in older patients ($p = 0.021$), with significant functional impairment ($p < 0.001$) and with active disease ($p < 0.001$). Only systemic JIA was more likely to be associated with overweight ($p = 0.031$) and obesity ($p = 0.024$). There was no relationships with other subtypes of JIA ($p = 0.428$) or with corticosteroid treatment ($p = 0.636$).

Conclusion: In our study, more than 60% of patients were overweight. Severe functional limitation, systemic JIA, and active disease were the most correlated parameters with obesity. Better management of the activity and functional status of the disease may reduce overweight in children with JIA.

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PULSE WAVE VELOCITY EVALUATING ARTERIAL STIFFNESS IN FAMILIAL MEDITERRANEAN FEVER

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Background: Chronic inflammation leads to atherosclerosis, resulting in increased arterial stiffness. Familial Mediterranean Fever (FMF) patients, experiencing recurrent inflammatory process during the attacks, are at increased risk for atherosclerosis and cardiovascular disease. Carotid-femoral Pulse Wave Velocity (cf-PWV) is considered the gold standard for arterial stiffness evaluation. There are few studies investigating arterial stiffness with the use of PWV only in adult patients with FMF, but none in children.

Objectives: In the present study we aimed to investigate indices of arterial stiffness, cf-PWV and aortic augmentation index (AIx75), measured with the SphygmoCor XCEL device, in patient with FMF -mostly of childhood- and their associations with disease-related factors and colchicine treatment.

Methods: A total of 85 individuals were enrolled in the study, 43 FMF patients, including 30 children, in attack free period, attending the outpatient clinic of a paediatric rheumatology referral center in Northern