index, medications in use, cumulative dose of corticosteroid, traditional and nontraditional risk factors for atherosclerosis, laboratory tests, including plasma cytokine levels, clinical disease activity score (SLE Disease Activity Index - SLEDAI-2K) and cumulative damage index (Cumulative Organ Damage of the SLE International Collaborating Clinics - SLICC/ACR damage index) with CIMT.

Methods: This was a cross-sectional study. Clinical and laboratory data were collected based on chart review and laboratory testing; present clinical and nutritional evaluation were performed during interviews and CIMT was evaluated by ultrasound carried out by an expert radiologist. Associations were estimated using univariate analysis (Fisher and Wilcoxon-Mann-Whitney tests) and multivariate analysis (linear and log binomial regression).

Results: Twenty-eight patients, aged 13.9 ± 3 years, were enrolled in the study. The prevalence of subclinical atherosclerosis was 32.14% (95% CI: 14.8, 49.4) and the mean carotid intima-media thickness (CIMT) was 0.43 ± 0.035 mm. Most common traditional risk factors observed were dyslipidemia in 89.3%; uncontrolled hypertension in 66.6%; overweight or obesity in 32% and poor diet in 78.6%. Nontraditional risk factors observed were duration of disease of 2.4 ± 2.12 years; mean SLEDAI-2K of 7.8 ± 6.0 ; SLICC/ACR damage index scored ≥ 1 in 25%; high levels of ultra-sensitive C-reactive protein in 25% and nephritis and neuropsychiatric involvement in 75% and 28.5% of the patients, respectively. Cumulative dose of corticosteroids was 0.48 ± 0.83 mg/kg/day and 60.7% of patients were using immunosuppressive drugs. Univariate analysis showed that uncontrolled hypertension, proteinuria, estimated glomerular filtration rate < 75 ml/min/1.73 m² and SLEDAI-2K > 5 were associated with subclinical atherosclerosis. The association of CIMT with SLEDAI-2K > 5 was maintained after adjusting for control variables (cumulative corticosteroid dose, duration of disease, levels of cholesterol fractions, hypertension and renal disease).

Conclusion: This study demonstrated that subclinical atherosclerosis was frequently observed in cSLE, mainly in patients with moderate to severe activity disease (SLEDAI-2K greater than 5)

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AB1021 CURRENT COURSE OF JUVENILE ARTHRITIS AND ASSESSMENT OF PHYSICAL DEVELOPMENT OF CHILDREN

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Background: Appointment of modern methods of treatment led to a modification of the course of juvenile idiopathic arthritis (JIA). In Ukraine, the basic preparations were prescribed at JIA since 1984, then the biological registered only in 2011

Objectives: To evaluate the effect of treatment changes on activity indicators, functional disorders and physical development of patients with JIA.

Methods: retrospective analysis of medical records of 67 patients in 2018 and compared with the data of the clinical registry of the department in 1997-2010 (231 children). The diagnosis of JIA is based on the PRIMO criteria, the evaluation of the activity was performed for JADAS27, the JADI functional disturbances, the linear growth delay was estimated for SD, the BMI calculation using the Kettl formula was performed.

Results: The analysis showed that the structure of sub-variants of JIA during the 20 yrs. did not significantly change (10.6% sJIA, 31.9% oJIA, 8.5% RF-pJIA, 29.8% RF-pJIA, 12.8% of the eA). Compared to the historical control group, there was a decrease in the total no. of affected joints, which increased with age (from 4.92 ± 0.7 in 1-6 yrs. to 7.7 ± 1.8 in adolescents now compared with 5.33 ± 0.8 & 14.3 ± 1.02 in the past). The max. no. of injured joints was at RF-pJIA (17.0 ± 2.9), and 38.3% of the limbs were deformed. In recent years, JIA did not show visceral lesions (12.8% in past). JADAS27 was generally low, the max. for sJIA 7.1 ± 5.0 , eA 6.7 ± 0.79 , and RF-pJIA 6.5 ± 1.04 . The greater activity of the disease was observed on average in children aged 10-14 y, 5.8 ± 0.9 (3.3 ± 0.9 at 6-10 & 5.0 ± 1.3 in 1-6 y). The race was the best in oJIA: an acceptable state of symptoms was 27%, a lack of activity of 27%, while with pJIA in 40% - high activity of the disease. Indicator JADAS27 did not significantly depend on serological features: ANA+ 3.9 ± 0.6 ($r = -0.06$), RF+ 4.5 ± 1.0 ($r = -0.2$), HLA B27 7.2 ± 0.8 ($r = 0.05$), sero-neg. 4.9 ± 0.6 ($r = -0.6$). In cases of relapse or persistence of active inflammation in patients with ≥ 5 y, JADAS27 was lower when DMARDS was administered before 3 mo. from the debut of the disease (1.8 ± 1.2 vs. 3.5 ± 0.7). In patients with high disease activity, the combination of DMARDS and sCS was worse

in the first 6 mo. from the debut (JADAS 6.6 ± 1.2 - 5.5 ± 1.7) than DMARDS + ADA (4.0 ± 2.3 - 0.0) and DMARDS + TOCY (5.2 ± 1.2 - 3.6 ± 1.3). The max. JADI were in RF-pJIA (2.0 ± 1.3), in general, JADI increased with age (< 6 y 0.55 ± 0.3 ; > 10 y 1.7 ± 0.9). JADI didn't depend on the onset age ($r = -0.12$), disease duration ($r = 0.16$), ANA detection (1.8 ± 1.1 ; $r = 0.18$), the RF (1.2 ± 0.5 ; $r = 0.07$); HLA B27 0.5 ± 0.3 ($r = -0.1$); sero-negative (1.02 ± 0.4 ; $r = 0.07$). In patients last years of FI II-III cen. marked with a higher frequency of 35.9%. A smaller proportion of patients with growth retardation was observed than in previous yrs. (10.4 vs 49%). The delay in linear growth with JIA is -1.37 ± 0.06 SD now, the degree of growth retardation depends on the duration of the disease (up to 3y -1.2 ± 0.1 , 8-13y 1.6 ± 0.07) and the variant of the course (the max. growth retardation rate observed in sJIA (78% to -1.2 SD; 11% -3 SD). The DMARDS+sCS+TZ in high activity JIA and growth retardation was better for normalizing the growth (-0.94 ± 0.04 SD after 2y) compared to DMARDS +sCS+ADA (-1.3 ± 0.4). On average, BMI at JIA did not differ from the age norm (17.8 ± 0.7 ; 48% cases with overweight in last). DMARDS in higher doses was better for the normalization of BMI (MTX 15 mg/m² 17.1 ± 1.2 ; 10 mg/m² 19.2 ± 1.9). The use of ADA in patients with malnutrition resulted in 6 mo. to normalization of the BMI (18.55 ± 1.5) in contrast to the use of ETA (16.52 ± 0.1).

Conclusion: The results obtained show that the overall activity of JIA is significantly reduced today. Improvement of the course of JIA and the degree of functional impairment is explained by the introduction of modern methods of pathogenetic therapy into the clinical practice.

Disclosure of Interests: None declared

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AB1022 UVEITIS AND ANTI-DFS70 ANTIBODIES IN JUVENILE IDIOPATHIC ARTHRITIS: AN OBSERVATIONAL RETROSPECTIVE STUDY

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Background: Juvenile idiopathic arthritis (JIA) is the most common rheumatic disease in childhood and uveitis is one its major extra-articular manifestation. Children with JIA and a positive antinuclear antibodies (ANA) are known to be at risk to develop severe uveitis, which is usually asymptomatic and can lead to blindness if misdiagnosed. To date the finding of markers of uveitis is still a challenge. In adults anti-DFS70, ANA which have indirect immunofluorescence pattern described as dense fine speckles (DFS pattern) and bind a 70kDa protein in immunoblot or chemoluminescence, are reported to be a marker of otherwise healthy individuals among asymptomatic ANA positive patients (in the absence of anti-Extractable Nuclear Antigens antibodies). The role of anti-DFS70 in children is yet not established even though but it has also been reported with a remarkably high frequency in unhealthy children (localized scleroderma, juvenile dermatomyositis and uveitis); it has also been detected in 2.1% of healthy children.

Objectives: The aim of our observational study is to evaluate the correlation between uveitis and anti-DFS70 antibodies in children with JIA.

Methods: 36 paediatric patients (24 females, 12 males) affected by JIA admitted to the Rheumatology Unit of Verona were evaluated. For each patient the following data were analysed: JIA subtype, ANA positivity, anti-DFS70 positivity, presence of uveitis diagnosed by a pediatric ophthalmologist.

Results: In our series oligoarticular ANA + JIA was the predominant subtype (25 cases, 70% of total JIA cases), followed by oligoarticular ANA - subtype (6 cases, 16.5% of total), polyarticular ANA - subtype (3 cases, 8% of total) and polyarticular ANA + (2 cases, 5.5% of total). All 6 patients (16.5%), who developed mono- or bilateral uveitis, were affected by oligoarticular ANA + JIA and presented DFS ANA pattern, confirming the evidence that DFS ANA pattern is the most common pattern associated with uveitis. Only one patient presented anti-ENA antibodies encompassing anti-DFS70 positivity. None of the other five patients presented antibodies anti-DFS70, regardless of the clinical history of uveitis.

Conclusion: DSF ANA pattern remains the most common pattern seen in JIA patients and seems to be an hallmark of uveitis. In our series we found that neither JIA nor the risk of uveitis in JIA correlates with anti-DFS70 isolated positivity. The role of these antibodies in children remains unclear. Further studies are necessary to identify a reliable biomarker to

guide ophthalmologic screening in JIA patients in order to identify children likely to develop uveitis.

REFERENCES

- [1] Conrad K, et al. The Clinical Relevance of Anti-DFS70 Autoantibodies. *Clinic Rev Allerg Immunol* 2017; 52: 202.
- [2] Malyavantham K, et al. Analysis of DFS70 pattern and impact on ANA screening using a novel Hep-2 ELITE/DFS70 knockout substrate. *Auto Immun highlights* 2017; 8: 3
- [3] Mariz, et al. Pattern on the antinuclear antibody-Hep-2 is a critical parameter for discriminating antinuclear antibody-positive healthy individuals and patients with autoimmune rheumatic diseases. *Arthritis Rheum* 2011; 63: 191.
- [4] Mahler M, et al. Anti-DFS70/LEDGF antibodies are more prevalent in healthy individuals compared to patients with systemic autoimmune rheumatic diseases. *J Rheumatol* 2012; 39: 2104.

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AB1023

PHYSICAL ACTIVITY LEVEL IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS IN THE GERMAN NATIONAL PAEDIATRIC RHEUMATOLOGIC DATABASE: A COMPARISON WITH THE GENERAL POPULATION

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Background: Insights in pathogenesis and the availability of new biologic drugs have created requirements and an increasing interest for encouragement of physical activity (PA) as long-term treatment option in patients with juvenile idiopathic arthritis (JIA). A low level of PA in healthy individuals is related to a higher incidence of overweight and hypertension in later life. This low level of PA might even be more dangerous for children with JIA, as they also have elevated inflammatory parameters, perhaps increasing the risk of future cardiovascular diseases.

Objectives: Since children and adolescents with physical disabilities may have an increased risk for developing a sedentary lifestyle, the objective was to investigate if encouragement of PA in most German medical care settings has led to PA levels in JIA similar to that of healthy counterparts.

Methods: Data from children and adolescents with JIA recorded in the German National Paediatric Rheumatologic Database (NPRD) in the year 2017 were considered for the analyses. In accordance with the methodology used in the general population survey [1], the achievement of the WHO recommendations on PA for health was determined on the basis of self-reported outcomes in individuals aged 3 to 17 years. Patients met the WHO criteria if they stated to be physically active for at least 60 minutes per day.

Results: In 2017, the data from 5,918 patients (mean age 11.2 ± 4.1 years, female 67%, disease duration 4.6 ± 3.7 years, persistent oligoarthritis 42%) were available for evaluation. Almost 35% of patients aged 3 to 17 years met the recommended physical activity level (72% aged 3 to 6; 47% aged 7 to 10; 27% aged 11 to 13; 16% aged 14 to 17). In the general population, 26% fulfilled the WHO recommendations on PA (46% aged 3 to 6; 27% aged 7 to 10; 38% aged 11 to 13; 12% aged 14 to 17). In multivariable analyses, increasing age (OR 1.27; 95%CI: 1.24-1.29), psoriatic arthritis (OR 1.49; 95%CI: 1.06-2.11), overweight (OR 1.33; 95%CI: 1.04-1.71), functional disability (OR 0.83; 95%CI: 0.69-0.98), and worse patient-reported overall well-being (OR 1.10; 95%CI: 1.03-1.17) were associated with non-achieving the recommended PA amount.

Conclusion: Encouraging PA in most German medical care settings and the growing attention of the importance of regular PA for pleasure and health benefits may have led to a similar or even higher amount of PA compared to healthy counterparts. However, since a large proportion does not meet the global recommendations on PA, further research should address especially patients with inactive or minimal active disease who have previously largely refrained from PA. In order to derive adequate

strategies, future work is warranted to comprehensively and objectively measure PA behavior in this population.

REFERENCES

- [1] Finger JD, et al. Körperliche Aktivität von Kindern und Jugendlichen in Deutschland - Querschnittergebnisse aus KiGGS Welle 2 und Trends. *Journal of Health Monitoring* 2018;3:24-31.

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AB1024

USE, EFFICACY AND LONG TERM SAFETY OF RITUXIMAB IN PEDIATRIC RHEUMATIC DISEASES: SINGLE CENTER EXPERIENCE FROM NORTH INDIA

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Background: Rituximab(RTX) is used in pediatric rheumatic diseases as an off label indication. There is paucity of data on safety and long term efficacy in countries with high burden of infectious diseases.

Objectives:

- 1. To study the use and safety of RTX in pediatric rheumatic diseases
- 2. To assess the long term efficacy of RTX in pediatric systemic lupus erythematosus(pSLE).

Methods: Data of all children who received RTX was collected on standardized collection forms. This data set was reviewed. Children with pSLE who were given RTX were included for efficacy analysis. Screening, use and safety were evaluated for all patients.

Results: USE: Rituximab was given to 4 children with polyarticular juvenile idiopathic arthritis (PJIA) (4/145=2.7%) and 17 children with pSLE (17/225=7.5%). In children with PJIA, RTX was used as third line treatment, who failed methotrexate and TNF inhibitor therapy. In pSLE, lupus nephritis was the primary indication for RTX (56%), vasculitis (17%), neuropsychiatric SLE and refractory cytopenias (12% each) and aggressive polyarthritis with steroid dependence (5%).

SAFETY: Pre-biologic screen for HIV, Hepatitis B and C and tuberculosis was negative. Total immunoglobulin G level was assayed prior to RTX for all children. CMV PCR was done in 11/17 pSLE patients. No immediate or delayed anaphylaxis was noted. No child had reactivation of herpes zoster. There was no mortality in this cohort.

EFFICACY: Studied in 17 children with pSLE over 21 episodes of RTX (2 received 3 cycles of RTX over 5 years). Median age at RTX use was 13.66 years (range 6.58-21.66 years). Median duration of follow up was 48 months (range 3-120 months). During long term follow up 14 patients did not have any disease flare. Three (17.6%) flared and required cyclophosphamide/second cycle of RTX. Mean dose of prednisolone prior to RTX was 0.7mg/kg/day while that at 1 year post RTX was 0.065mg/kg/day (p value 0.001) and at 2 years was 0.05mg/kg/day (p value 0.003). Mean SLE disease activity index 2K (SLEDAI-2K) prior to RTX was 16.25 while that at 1 year post RTX was 1.25 (p value 0.004), at 2 years was 2 (p value 0.004) and at 3 years was 0.85 (p value 0.028).

Abstract AB1024 Table 1. Therapy prior and post RTX in patients with pSLE

Medication	Prior to RTX (n=17)	At 1 year (n=14)	At 2 year (n=12)	At 3 year (n=7)
Prednisolone	17(100%)	7(50%)	4(33%)	3(43%)
Hydroxychloroquine	17(100%)	14(100%)	12(100%)	7(100%)
Mycophenolate mofetil	7(41%)	12(86%)	10(83%)	7(100%)
Cyclophosphamide	6(35%)	1(7%)	0(0%)	0(0%)
Methotrexate	2(12%)	1(7%)	1(8%)	0(0%)
Tacrolimus	1(6%)	1(7%)	1(8%)	1(14%)
Cyclosporin	1(6%)	0(0%)	0(0%)	0(0%)
Intravenous immunoglobulin	1(6%)	0(0%)	0(0%)	0(0%)
Azathioprine	0(0%)	1(7%)	1(8%)	0(0%)