Conclusion: Sustained clinical remission was observed in most patients with sJIA treated with canakinumab for up to 7 years, with no new or unexpected adverse events reported.

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AB0972

DEVELOPMENT OF THE PARENT VERSION OF THE JUVENILE ARTHRITIS DISEASE ACTIVITY SCORE CUT-OFFS FOR MODERATE AND HIGH DISEASE ACTIVITY STATES IN JUVENILE IDIOPATHIC ARTHRITIS IN A LARGE MULTINATIONAL PATIENT SAMPLE

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Background: Measurement of disease activity level is of pivotal importance in the care of patients with juvenile idiopathic arthritis (JIA). According to the most recent requirements, both, parent's and children's perception should be taken into account while evaluating the disease course and assessing effectiveness of therapy. Therefore, a new disease activity evaluation tool, based only on parent assessment of the outcome, is under development and named Parent Juvenile Arthritis Disease Activity Score (parJADAS) [1].

Objectives: The aim of this study is to develop the parJADAS cut-off values of moderate disease activity (MDA) and high disease activity (HDA) in JIA patients.

Methods: The parJADAS (score range 0-40) is the sum of 4 values: 1) parent's assessment of disease activity on a 21-numbered circle 0-10 VAS; 2) assessment of pain intensity on a 21-numbered circle 0-10 VAS; 3) proxy assessment of joint disease up to a maximum of 10 joints; 4) assessment of morning stiffness (MS) on a Likert scale, ranging from no MS (0 points) to > 2 hours of MS (10 points). The study dataset is composed of 2,412 patients with JIA, seen in 3389 visits with parJADAS available, enrolled in the the multinational registry PharmaChild, assessing the long-term safety of treatment of children with JIA. At each visit, subjects were subjectively rated as being in inactive disease, low disease activity, MDA, or HDA by the attending physician. For each patient, only one visit per disease state was retained.

To identify the cut-offs the following methods were implemented: 1) Mapping: the 25th percentile value of the parJADAS in patients having MDA or HDA, respectively, was calculated; 2) Youden Index: Youden Index (J) identifies the maximum potential effectiveness of the biomarker through the receiver operating characteristic (ROC) curve analysis; 3) Max agreement: The analysis of agreement was based on kappa statistics, which assesses the agreement beyond chance between 2 dichotomous ratings. The first rating was obtained using all possible parJADAS values as hypothetical test criteria; to obtain the second rating, the categorical ratings of each attending physician were dichotomized and were coded as 0 or 1.

Results: Preliminary cut-off values for parJADAS with sensitivity and specificity are presented in the table.

	25th centile	Youden Index	Kappa	Mean	Sensitivity	Specificity	AUC
MDA	6	5	9	7	73.4	82.0	0.853
HDA	14.8	11	18.5	15	71.2	87.6	0.892

Conclusion: Tentative cut-off values for classifying the states of MDA and HAD using parJADAS were calculated. The obtained values will be tested in the validation analysis. Once validated the cut-offs are ideally suited to identify subjects at risk of disease flare when remotely monitored with the parJADAS.

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AB0973

THE IMPACT OF YOGA, ANTI-INFLAMMATORY DIET & SELF MONITORING IN CHILDREN WITH RHEUMATIC DISEASES

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Background: There is growing evidence of positive effects of yoga, special diet and an internet-based model of self-monitoring in adults with rheumatic diseases in various small scale independent studies. These studies have shown improvement in disease activity, symptom relief, quality of life, mental health issues and social life and thereby optimizing the disease management in a holistic way.

Objectives: The present study was designed to investigate the combined effects of yoga, anti-inflammatory diet and self monitoring in children with chronic rheumatic diseases.

Methods: In the clinical study, a total of 22 children aged more than 8 years with newly diagnosed rheumatic disease were enrolled. Depending on their consent, they were divided into two groups; 1) experimental group and 2) control group. Experimental and Control Group (n=22)

All 22 participants were advised every month follow up for the next 4 months. Baseline disease activity and damage scores were calculated for all.

Experimental Group (n=14) Three different printed materials were given.

1. Pictures of "Yoga Ashnas" with explanation in their understandable language
2. Pictures of foods under two headings: 1) beneficial and 2) harmful
3. Self monitoring kit: Disease and medicines information leaflets and simplified pictorial

version of disease specific monitoring and damage scores

- ✓ All 14 participants were enrolled to a single time yoga training session under a guidance of an experienced yoga teacher.
- ✓ All are advised 45 minutes yoga every day at home.
- ✓ All are put on strict diet chart.
- ✓ All should read the material and calculate their disease score/s every time before their next visit.

Table:

Table A: Characteristics	Experimental group (n=14)	Control group (n=8)
Median age	12.8 years	11.2 years
Males	5 (35.71%)	3 (37.5%)
Females	9 (64.28%)	5 (62.5)
Juvenile Systemic Lupus Erythematosus (JSLE)	2 (14.28%)	2 (25%)
Juvenile Dermatomyositis (JDM)	2 (14.28%)	1 (12.5%)
Juvenile systemic sclerosis (JSSc)	1 (7.14%)	2 (25%)
Mixed connective tissue disease (MCTD)	2 (14.28%)	0
Enthesitis related arthritis (ERA)	3 (21.42%)	1 (12.5%)
Polyarticular Juvenile Idiopathic Arthritis (PJIA)	4 (28.57%)	2 (25%)

Conclusion: Yoga, anti-inflammatory diet and self-monitoring have shown extremely beneficial effects in children with rheumatic diseases in multiple ways.

Table B: Monitoring Parameter	Experimental group (n=14)	Control Group (n=8)
Improvement in disease activity	13 (92.8%)	6 (75%)
Relief in pain and fatigue	12 (85.71%)	3 (37.5%)
Optimum weight maintenance	10 (71.42%)	1 (12.5%)
Improvement in routine activity and school performance	12 (85.71%)	4 (50%)
Improvement in mood and behavioural problems	12 (85.71%)	2 (25%)
Knowledge, awareness and involvement of patient and family members in disease management	12 (85.71%)	2 (25%)
Adherence to management	14 (100%)	6 (75%)
Use of alternative medicines	1 (7.14%)	3 (37.5%)
Early identification of risk factor/s	5 (35.71%)	0 (0%)

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AB0974 ANALYSIS OF DYSLIPIDEMIA IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Systemic lupus erythematosus (SLE) is an autoimmune disease and is characterized by multiple autoantibodies associated with a multisystem illness. However, studies of dyslipidemia in pediatric SLE patients are limited.

Objectives: The aim of our study is to describe the lipid profiles associated with disease activity and organ damage and their correlation with laboratory parameters in pediatric SLE patients.

Methods: We retrospectively reviewed medical records from a single tertiary hospital in Taipei, Taiwan from 2002 to 2018. One hundred and twenty-four patients diagnosed with SLE were included. Dyslipidemia is defined as elevations in total cholesterol (TC), low-density lipoprotein (LDL), and triglyceride (TG) levels, and a reduction in high-density lipoprotein (HDL) levels. We gathered all of the lipid profiles, clinical characteristics, and laboratory parameters from each patient. Pediatric SLE patients participated in this study, based on their lipid profile, were classified as dyslipidemic or not. The mean values of each evaluated parameters were calculated and analyzed with generalized estimating equation (GEE) method.

Results: Total thirty-one SLE patients were enrolled; twenty-four (77%) patients had dyslipidemia. The levels of total cholesterol, TG, and LDL in the dyslipidemic group are significantly higher than those of non-dyslipidemia (214.0 mg/dL vs 145.0 mg/dL, 130.1 mg/dL vs 76.4 mg/dL, 138.7 mg/dL vs 82.0 mg/dL; respectively). The mean values of white blood cell count (6726/ μ L) in dyslipidemia group are significantly higher than non-dyslipidemia group (4521/ μ L; $p=0.0157$). In contrast, the level of high-sensitivity CRP in the non-dyslipidemia group (0.2 mg/dL) are significantly lower than those of patients with dyslipidemia (0.49 mg/dL; $p=0.0486$).

Conclusion: It has been well known that CRP could suppress HDL and increase TG and that elevation of CRP might indicate increased cardiovascular risk. Our results demonstrated that elevated high sensitivity CRP levels were noted in SLE patients with dyslipidemia. It is suggested that routine monitoring of cardiovascular risk factors, such as dyslipidemia, should be recommended for pediatric SLE patients.

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AB0975 LIPID PEROXIDATION AND ANTIOXIDANT PROTECTION IN CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS ON BIOLOGICAL THERAPY

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Background: Juvenile idiopathic arthritis (JIA) is a chronic immuno-inflammatory joint disease that leads to a child's disability. Currently, drugs aimed at the main pro-inflammatory cytokines, such as tumor necrosis factor (TNF), interleukin-1 (IL-1), interleukin-6 (IL-6), and others, are successfully used to treat JIA. The effect of these drugs on metabolic processes has been little studied.

Objectives: The purpose of the study was to determine the state of lipid peroxidation and antioxidant protection in children with JIA receiving biological therapy.

Methods: 28 children with polyarticular JIA, 15 children with systemic JIA and 20 healthy children were examined at the republican center of pediatric rheumatology on the basis of the rheumatology department of the 4th city children's clinical hospital in Minsk. All patients received methotrexate, non-steroidal anti-inflammatory drugs, and glucocorticoids as needed.

Determination of lipid peroxidation (LPO) and serum ACL and ACW were performed at the BelMAPO Central Research Laboratory. Statistical data processing was performed by traditional methods of variation statistics on a personal computer using the Statsoft Statistica 6.0 program.

Results: During the study, prior to the use of tocilizumab, results were obtained that indicate the activation of lipid peroxidation processes and the violation of antioxidant defense processes in children with JIA. A significant ($P < 0.05$) increase in the level of lipid peroxidation products in the blood serum of children with JIA compared with healthy children was established: the content of dienconjugates in the blood of children with JIA was 3.12 ± 0.51 opt.pl., in healthy children - 1.65 ± 0.4 units of opt.pl., the content of dienketones in children with JIA - 2.32 ± 4839 units of opt.pl., in healthy children - 0.19 ± 0.08 units of opt.pl., the content of malondialdehyde in children with JIA is 9.14 ± 1.84 μ mol/L, in healthy children - 7.13 ± 1.35 μ mol/L. A significant ($P < 0.01$) decrease in the serum ACW and ACL in the blood serum of children with JIA was established when compared with the control group: the ACW content in children with JIA was 10.61 ± 5.8 μ mol/L, in healthy children - 13, 72 ± 5.24 μ mol/L, ACL content in children with JIA - 7.21 ± 2.65 μ mol/L, in healthy children - 8.81 ± 3.5 μ mol/L.

During the treatment with tocilizumab, a remission of the disease was achieved. According to the results of a repeated study of lipid peroxidation and antioxidant protection 6 months after the start of biological therapy, a decrease in LPO activity and an increase in the antioxidant ability of substances in blood serum were found. Thus, the content of dienketones decreased to 1.05 ± 0.17 units of optical density, dienconjugates to 2.4 ± 0.6 units of optical density, and malondialdehyde to 6.3 ± 1.7 μ mol/L. The content of ACW increased to 12.91 ± 3.3 μ mol/L, and ACL to 8.9 ± 3.5 μ mol/L.

Conclusion: The results indicate a positive effect of tocilizumab therapy on lipid peroxidation and antioxidant protection in children with JIA.

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AB0976 CAPTURING THE ENTHESITIS RELATED ARTHRITIS CONTEMPORARY PROFILE OF NORTHERN GREEK PATIENTS IN THE ERA OF BIOLOGICS

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Background: Enthesitis-Related Arthritis (ERA) is a subtype of Juvenile Idiopathic Arthritis (JIA) subtype with an estimated prevalence ranging from 8% to 37.4%. The improvement of the disease course and outcome has been