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

related with the introduction of biologic Disease-Modifying Antirheumatic Drugs (bDMARDs) and the uninterrupted monitoring following the transition of young patients to adult rheumatology settings.

Objectives: To capture the contemporary ERA profile in Northern Greek patients by analyzing the characteristics and treatment outcome in the era of bDMARDs.

Methods: This retrospective cohort study included patients who had been monitored on a 3-month schedule for ≥ 12 months, from 2000 to 2017. The periodic metric assessment included the disease status and burden by applying contemporary tools in respect to activity, clinical remission (CR) and damage (cJADAS, JSpADA, Wallace criteria for CR and JADI, respectively).

Results: Forty-three patients, mainly male (60%) with a mean age at disease onset of 10.75 (SD:2.75) years were enrolled. The predominant joints were the hip, ankle and sacroiliac (56%, 49% and 46%, respectively). Median lag time from diagnosis to bDMARDs initiation was 8.5 months. Patients with sacroiliitis were more likely to receive bDMARDs (hazard ratio [HR]:3.26, 95% confidence interval [CI]: 1.35, 7.88). Thirty six patients (84%) achieved clinical remission (CR) on medication (CRONM), within a median time of 11 months and correlated with compliance (HR:3.62, 95%CI: 1.34, 9.76). Twenty patients (47%) experienced a flare following CR, mainly as a single episode (75%). The median flare-free survival following remission on and off medication (CROFFM) was 42 and 34 months, respectively. At the last evaluation, both median baseline cJADAS (8), and JSpADA (2) dropped to 0, while 13 patients (30%) were in CROFFM, 17 (40%) in CRONM, and 13 (30%) had persistent disease activity. The median percentage of CR per patient was 54% and no patient had JADI >0.

Conclusion: Early administration of bDMARDs and compliance to monitoring and treatment improved the long-term outcome in ERA. Axial involvement emerged as a negative prognostic factor with an increased need for bDMARDs and diminished rates of CR.

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AB0977

DISEASE COURSE AND TREATMENT RESPONSES IN JUVENILE SYSTEMIC LUPUS ERYTHEMATOSUS; A SINGLE CENTER EXPERIENCE

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Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune inflammatory disease that may cause morbidity and mortality by affecting multiple systems. The 10-20% of patients have juvenile onset and this cluster have may more severe kidney, neuropsychiatric or hematological involvement.

Objectives: The aim of this study was to assess the clinical and laboratory characteristics, disease activity, and treatment response of patients with juvenile SLE (jSLE).

Methods: This is a retrospective study involving patients between 1 July 2016 and 1 January 2020. The data of patients diagnosed with jSLE and followed up for a minimum of 6 months, were collected. The SLEDAI-2K scores at initiation and at the follow-up (1st, 3rd, 6th, and 12th months of treatment) were examined. The SLEDAI-2K score was considered to be ≤ 4 , for disease remission status.

Results: A total of 49 children were included in to the study. The female/male ratio was 4.4/1 and the median age of the patients at the diagnosis was 13 (IQR: 11.1–15.2) years. The median follow-up of patients was 19 (IQR: 12–25) month. Four of the patients were diagnosed with monogenic SLE. Two siblings were diagnosed with c3 deficiency and two were diagnosed with familial chilblain lupus. The most common clinical findings were found musculoskeletal complaints (69.4%), malar rash (51%), oral ulcers (38.8%), and fever (30.6%), respectively in over all the group. The frequency of involvement of the system and organs was as follows; mucocutaneous 77.6%, musculoskeletal 69.4%, renal 44.9%, hematological 34.7%, serous membranes 16.3%, neuropsychiatric 12.2%, respectively. All patients had anti-nuclear antibody positivity, while 46.9% had anti-ds DNA, 14.3% had anti-Sm and 8.2% had antiphospholipid antibody positivity. While all patients received hydroxychloroquine treatment, 22.4% of the patients were received were mycophenolate mofetil, 22.4% were azathioprine, 14.3% cyclophosphamide, 12.2% methotrexate and 10.2% were rituximab. The median SLEDAI-2K score was 14 (IQR: 10–18.5) at admission, besides it was found to 6 (IQR: 4–12), 4 (IQR: 2–6), 2 (IQR: 0–6) in the 1st, 6th and 12th months of treatment, respectively. While 98% of the patients had active disease at admission, 67.3% at 1 months, 32.7% at 6 months and 22.4% at 12 months still had active disease (SLEDAI-2K >4). Patients with initially high SLEDAI-2K scores had significantly lower remission rates in the first month ($p=0.003$). It was observed that patients with high SLEDAI-2K scores in admission were more

resistant to conventional immunosuppressive treatments and the use of rituximab was more frequent in these patients. At least one major organ (renal, hematological, neurological) were affected in 57% of patients. The remission rate of these patients at 6 months was found significantly decreased compared to the others ($p < 0.005$). Renal biopsy was performed in 21 patients (42.9%). 12 of them had type 4 lupus nephritis (LN), 5 had type 2, 2 had type 3, and 1 had type 5. It was observed that patients with renal involvement were the group that reached remission latest.

Conclusion: The presence of high initial SLEDAI-2K scores and the major organ involvement have poor predictive value to achieve inactive disease.

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AB0978

EFFICACY OF ANAKINRA TREATMENT IN PEDIATRIC RHEUMATIC DISEASES; A SINGLE-CENTER EXPERIENCE

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Background: Anakinra, a recombinant IL-1 receptor antagonist, is a treatment option that acts by blocking the biological activity of IL-1 in autoinflammatory conditions. The diseases that the IL-1 was over expressed are the potential conditions for this treatment. Such as familial Mediterranean fever (FMF), cryopyrin-associated periodic syndrome (CAPS), and hyperimmunoglobulin D syndrome (HIDS) with monogenic inheritance, and systemic juvenile idiopathic arthritis (SoJIA) or idiopathic recurrent pericarditis as non-Mendelian polygenic diseases, can be listed as examples of these diseases.

Objectives: The aim of this study was to review the efficacy of anakinra treatment in children with rheumatic disease followed in our center.

Methods: The study group consisted of children with pediatric rheumatic diseases followed up in the Pediatric Rheumatology Department of University of Health Sciences and treated with anakinra (anti-IL 1) for at least one month, between 1 July 2016 and 1 January 2020. The data of these patients were collected retrospectively. The disease activity of the patients at 3rd month and 12th month after the treatment were assessed. We aim to report our experiences of pediatric rheumatic diseases treated with anakinra.

Results: There were 28 patients treated with anakinra for the different pediatric rheumatic diseases. The diagnoses of these patients were as follows; eight were macrophage activation syndrome (MAS) complicating SoJIA, six were HIDS, four were CAPS, four were FMF, four were idiopathic recurrent pericarditis, one was deficiency of interleukin-36 receptor antagonist (DITRA), and one was undefined systemic autoinflammatory disease. 46.4% of the patients were male and 53.6% were female. The median age of diagnosis of the patients was 6.5 (interquartile range (IQR): 4-12.7) years. The median follow-up duration of the patients was 14 (IQR: 3.7-28) months. The patients median anakinra treatment duration was 3 (IQR: 1-4) months. Fever reduced and C-reactive protein normalized within median 2 (IQR: 1-3) and 5 (IQR: 5-7) days, respectively. In the 3rd month after treatment; It was observed that 53.6% of patients achieved a complete remission (no attack was seen or MAS was improved). The frequency of attacks were decreased more than 50% in 35.7% of patients and less than 50% in 7.1%. 3.6% of patients were unresponsive to treatment. In the 12th month assessment after the initiation of treatment, it was observed that 28.6% of patients were still under anakinra treatment and in remission, 10.7% of them were in remission without anakinra treatment. In 60.7% of patients, anakinra was switch to other biological treatments for different reasons (35.7% partial response or unresponsiveness, 17.8% injection site reactions and 7.1% daily-injection difficulty). Biologic drug switch to canakinumab and tocilizumab was observed in 88.2% and 11.8% of patients, respectively. One patient developed recurrent MAS episodes when the anakinra dose was tapered, and one another patient was unresponsive to the anakinra and dead due to secondary to MAS.

Conclusion: Anakinra seems to be a successful treatment to achieve inactive disease in a significant portion of patients in the early period. The recurrence of disease attacks while drug tapering and injection site reactions were appears the main causes of treatment switch or discontinuation.