Conclusion: The CAREGIVERS questionnaire showed to be validated to assess the impact of pediatric rheumatic diseases.

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AB0982 SERUM ALBUMIN LEVELS AND DEPRESSION IN JSLE

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Background: Albumin is a negative acute phase response protein synthesized in the liver, being an important marker of inflammation. Under inflammatory conditions, the transcappillary escape rate of albumin may increase, leading to hypoalbuminaemia. Systemic lupus erythematosus (SLE) is a chronic condition involving multiple organ systems, inducing functional disability and psychological burden responsible for noteworthy depressive symptoms¹. Depression may be related with psychosocial, environmental and biological factors, disease activity and its severity, age and sex². Several studies show that immune activation and increased concentrations of positive and decreased concentrations of negative acute phase proteins are involved in the pathogenesis of depression³. As albumin has the capacity to bind homocysteine, lowered serum albumin levels leads to hyperhomocysteinemia, a well-known risk factor for depression. Moreover, hypoalbuminaemia decrease the availability of tryptophan, an essential amino acid from which the neurotransmitter serotonin is derived, and induce oxidative stress, which further decreases antioxidant levels in people with depression.

Objectives: To assess the association between serum albumin levels and depressive symptoms in juvenile-onset SLE (JSLE) patients.

Methods: A cross-sectional sample of JSLE patients, currently aged ≥ 16 years, completed a psychosocial assessment including quality of life (SF-36) anxiety and depressive symptoms (HADS) and cognitive assessment (MMSE), between October 2018- May 2019. Local Ethics Committee approved the study. All patients fulfilled both 2012 and 2019 EULAR/ACR classification criteria for SLE. Juvenile-onset was defined as age at diagnosis <18 years. Demographics and clinical characteristics were collected. Statistical analysis was performed with SPSS®. Variables were compared with spearman correlations tests.

Results: 30 JSLE patients were included (90%female) in the study, with median (min-max) age of 21 (16-35) years, with mean (SD) age of diagnosis of 15.8 ± 2.1 . Median albumin serum level was 41.7 (16.7-46.3) g/dL. Psychosocial assessment revealed a mean (SD) score in HADS - Depression of 3.9 (3.3), HADS - Anxiety of 9 (4.3), MMSE of 27.7 (1.8), Physical health SF-36 of 66.8 (9.9) and Mental health SF-36 of 68.9 (17.5). 23.3% JSLE showed mild cognitive impairment, 63.3% anxiety and 13.3% depression. We observed significant inverse linear relationships between serum albumin levels and depressive symptoms score ($p=0.042$, $\rho=-0.380$) and with anxiety symptoms score ($p=0.029$, $\rho=-0.406$). No significant correlations were detected between albumin serum concentrations and cognitive assessment.

Conclusion: Our findings are consistent with studies previously reporting the potentially protective effect of high serum albumin levels on mental health in different populations. A possible inflammation related aetiology for depression in JSLE patients is highlighted, further explained through the protective roles played by albumin in inflammation, infection, and oxidative damage.

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AB0983 LIPID METABOLISM AND DISEASE ACTIVITY IN JSLE PATIENTS

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Background: Systemic lupus erythematosus (SLE) is an autoimmune systemic disease associated with premature atherosclerosis. Risk factors include dyslipoproteinemia, inflammation, oxidized low-density lipoprotein (LDL), hyperhomocysteinemia and antiphospholipid antibodies. Hyperlipidemic condition is being reported to promote the production of proinflammatory cytokines such as IL-1 β , IL-6, and IL-27 and lowering blood lipid levels improves the disease. Oxidative stress is elevated, mainly due to mitochondrial dysfunction, further disrupting lipid metabolism. Some drugs also have an impact on lipid profile, such as chronic steroid use, which worsens LDL, HDL, and TG levels.

Objectives: To assess the relationship between lipid profile and disease activity in juvenile SLE (JSLE) patients.

Methods: Retrospective study of JSLE patients, fulfilling both 2012 and 2019 EULAR/ACR classification criteria for SLE. Juvenile-onset was defined as age at diagnosis <18 years. Demographics and clinical characteristics were collected. To evaluate the activity of JSLE, the Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) was used. Statistical analysis was performed with SPSS®. Spearman's rank non-parametric test or Pearson's parametric test were used to assess the bivariate correlation for inflammatory and metabolic variables. P value <0.05 was considered significant for all the statistical tests.

Results: 35 patients were included, with current median (min-max) age of 22 (16-35) years, mean (SD) age of diagnosis of 15.8 (2.4) years; 91.4%female. Median ESR was 19 (2-75) mm/h, CRP 1.65 (0.1-9.6) mg/L, albumin 41.6 (16.7-46.3) g/L, proteinuria 0.2 (0-3) g/dL, leukocyturia 0 (0-1362.7)/uL, erythrocyturia 0 (0-501.9)/uL and anti-double stranded DNA 89.3 (10-800) U/mL. Mean C3 was 102.1 (21.6), C4 17.1 (7.4) mg/dL and creatinine 0.63 (0.1) mg/dL. Median SLEDAI was 2 (0-12). All were ANA positive, 40% positive for antinucleosome antibodies, 25.7% anti-ribosomal P protein antibody, 11.4% anti-Sm, 8.6% autoantibodies against $\beta 2$ -glycoprotein I, 8.6% anti-cardiolipin, 14.3% lupus anticoagulant, 37.1% anti-SSA and 8.6% anti-SSB. Articular manifestations were present in 48.6%, mucocutaneous in 77.1%, haematological in 45.7%, lupus nephritis in 42.9%, serositis in 8.6% and pulmonary interstitial disease in 2.9%. Mean (SD) total cholesterol values (TC) was 165.5 (44.7) mg/dL and LDL 94.5 (29.9) mg/dL. Median high-density lipoprotein was 52 (28-92) and triglycerides (TG) 81.5 (41-253) mg/dL. Median daily prednisolone dose was 5 (0-40) mg. 88.6% were treated with hydroxychloroquine, 31.4% with mycophenolate mophetil and 14.3% with azathioprine. TC was negatively correlated with serum albumin ($p=0.043$, $\rho=-0.378$) and positively with SLEDAI ($p=0.032$; $\rho=0.392$), proteinuria ($p=0.009$; $\rho=0.469$) and leukocyturia ($p=0.031$; $\rho=0.394$). A positive correlation was found between LDL and proteinuria ($p=0.043$; $\rho=0.385$) and between TG and CRP ($p=0.001$; $\rho=0.575$). TG were also positively correlated with prednisolone daily dose ($p=0.035$; $\rho=0.394$). Mean LDL was higher in anti-Sm positive patients ($p=0.022$). No differences were found regarding anti-phospholipids antibodies. Nephritic lupus patients had worse lipid metabolism, but this did not reach statistical significance.

Conclusion: In out cohort, increased expression of TC, LDL and TG is associated with disease activity in SLE. As expected, higher doses of prednisolone also correlated with lipid metabolism.

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AB0984 BIOLOGICAL THERAPIES IN JUVENILE IDIOPATHIC ARTHRITIS: ARE THERE ANY DIFFERENCES BETWEEN CATEGORIES?

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Background: Juvenile Idiopathic Arthritis (JIA) is a heterogeneous group of pediatric diseases. Different response to biological treatment (BT) has been reported according to disease subtype.

Objectives: To analyze the prescription and withdrawal of BT in JIA patients with focus on JIA category.

Methods: A retrospective observational study was conducted on JIA patients followed in a referral hospital and who had received at least one BT between 1999 and 2019.

Results: 130 JIA patients were analyzed: 29 (22,4%) were Oligoarticular Persistent (OligP), 22 (16,9%) Enthesitis related Arthritis (ERA), 20 (15,4%) Systemic (sJIA), 19 (14,6%) Polyarticular RF- (PolyRF-), 14 (10,8%) Polyarticular RF+(PolyRF+), 13 (10%) Oligoarticular-Extended (OligE), 11 (8,4%) Psoriatic Arthritis (APso) and 2 (1,5%) Undifferentiated (Und).

The main characteristics are summarized in table 1.

The first line BT most frequently indicated was Etanercept up to 40% in all the categories except for ERA, where the most frequent BT was Adalimumab and sJIA, where the most frequent BT was Anakinra. The time between diagnosis and start of BT was different among the categories ($p=0,007$). In the Und category, the time until BT was the shortest (median: 1 month), since both patients had coxitis, followed by APso [median: 9 months IQR(1-57)] and sJIA [median: 17,5 months IQR(0,3-146,8)]. The survival of the first BT was different among the categories ($p=0,006$): 94,7% of the ERA continue receiving the first BT, followed by 76,2% of OligP and 50% of PolyRF+ and APso. Only 42% of sJIA continue on the first BT prescribed [up to 53,3% were TNF inhibitors (TNFi)]. The categories with less retention of the first BT were: OligE (25%); PolyRF- (27,3%) and Und (0%). The most frequent cause of discontinuation, among these categories, was secondary failure.

In the survival analysis between categories, there were differences on OligP ($p=0,004$), OligE ($p=0,042$) and PolyRF- ($p=0,017$). Tocilizumab and Adalimumab were the BT with highest survival with regards to Infliximab, Etanercept, Rituximab (OligE, PolyRF-), Abatacept (OligE, PolyRF-) and Certolizumab (OligP). The survival rate of IL1 inhibitors and IL6 inhibitors was higher regarding to TNFi in sJIA patients ($p=0,013$).

Conclusion: Taking into account JIA category is mandatory to choose BT and to understand the response and discontinuation of BT. OligE and PolyRF- showed a high rate of change of the first BT related to secondary failure of Etanercept and Infliximab when compared to Adalimumab and Tocilizumab, as described in the survival analysis. The category with the highest retention of the first BT was ERA. UND patients started sooner BT due to the presence of coxitis. In sJIA, IL1 inhibitors and IL6 inhibitors were superior to TNFi in the survival analysis, as reported in existing literature.

Table:

Table 1	OligP	ERA	sJIA	PolyRF-	PolyRF+	OligE	Apso	UND
Sex, n%								
M	4(13,8)	17(77,3)	11(55)	2(10,5)	2(14,3)	1(7,7)	4(36,4)	1(50)
F	25(86,2)	5(22,7)	9(45)	17(89,5)	12(85,7)	12(92,3)	7(63,6)	1(50)
Age at diagnosis, me, IQR	4 (2,6-5)	12 (9,8-15)	7 (3-13)	8 (2-13)	12 (8,5-15)	3,5 (2-8,3)	12 (3-15)	12,5
Uveitis, n%	12(41,4)	7(31,8)	0(0)	3 (15,8)	0 (0)	3(25)	2 (18,2)	1(50)
ANA, n (%)	22(75,9)			8 (42,1)	12 (85,7)	9(75)	5 (45,5)	
ACPA, n (%)		18(81,8)			9(64,3)		3(27,3)	
B27, n (%)								
BT lines: n	1 st : 29 2 nd : 11 3 rd : 1	1 st : 22 2 nd : 2	1 st : 20 2 nd : 10 3 rd : 5 4 th : 1 5 th : 1	1 st : 11 2 nd : 9 3 rd : 6 4 th : 3	1 st : 14 2 nd : 7 3 rd : 2 4 th : 2	1 st : 13 2 nd : 9 3 rd : 2 4 th : 1 5 th : 1	1 st : 11 2 nd : 5 3 rd : 4 4 th : 3 5 th : 1	1 st : 2 2 nd : 2

APso, Psoriatic Arthritis; BT, biological treatment; ERA, Enthesitis related Arthritis; F, female; M, male; OligE, Oligoarticular-Extended; OligP, Oligoarticular-Persistent; PolyRF-, Polyarticular RF-; PolyRF+, Polyarticular RF+; sJIA, Systemic JIA; Und, Undifferentiated

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AB0985 THE EFFECT OF GENDER ON CHILDREN AND ADOLESCENTS WITH FAMILIAL MEDITERRANEAN FEVER

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Background: In the literature, it was reported that children with with Familial Mediterranean fever (FMF) have lower functional capacity and muscle strength than healthy children. With reduced functional capacity, daily activities are negatively affected. The individual starts to adopt an inactive lifestyle and decreases in muscle strength are observed. A vicious circle occurs and results in exacerbation of symptoms and worse quality of life.

Objectives: The aim of this study is to investigate the effect of gender on dynamic muscular endurance, physical activity and quality of life with FMF.

Methods: Forty-eight children and adolescents (26 girls, 22 boys, mean age=12.43±3.04 years, age range=7-18 years) were included. Exclusion criteria: The presence of another disease. Intraarticular steroid injection or surgery in any joint in the last 3 months. Evaluations were made by the same pediatric rheumatologist and physiotherapist by face to face interview method. Dynamic muscle endurance was evaluated by use of curl up test (30 sec), push up test (30 sec) and one-legged stationary hop test (15 sec); physical activity level by Physical Activity Questionnaire and quality of life by Pediatric Quality of Life Inventory (PedsQL) 3.0 Arthritis Module. Physical Activity Questionnaire contains nine items and evaluates physical activities in last seven days and frequency of these activities. As score increases, level of physical activity increases. In this study, child and parent forms of PedsQL were used to evaluate the quality of life. High scores mean high quality of life. Independent Samples Test was used in the analysis because the data fit the normal distribution.

Results: Difference was significant in Physical Activity Questionnaire ($p=0.028$) in favor of girl gender whereas in child form ($p=0.017$) and parent form ($p=0.040$) of PedsQL ($p=0.003$) in favor of boy gender.

Conclusion: We see that the physical activity are lower in children and adolescents with FMF who have a gender of girls and, accordingly, lower quality of life. Therefore, we believe that these individuals should increase their physical activities.

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Table 1. Demographic characteristics

Variables	Girls (n=26)	Boys (n=22)
	M±SD	M±SD
Age (years)	12.96±2.91	11.86±3.24
Body weight (kg)	42.76±12.55	40.17±11.89
Height (m)	1.50±0.13	1.48±0.15
BMI (kg/m ²)	18.25±2.90	17.85±3.39
Age of onset (years)	7.57±4.07	7.22±3.99
Dose of colchicine (per day)	1.18±0.60	1.63±0.68
Duration of treatment (years)	5.30±2.90	4.61±3.34
C-reactive protein (mg/dl)	0.88±2.28	1.25±2.91
Pras et al severity score	6.35±2.68	5.31±2.60
	n (%)	n (%)
FMF in the family (Yes/No)	4(15,4)/16(61,5)	12(54,5)/10(45,5)
Arthritis (Yes/No)	9(34,6)/17(65,4)	6(27,3)/16 (72,7)
Arthralgia (Yes/No)	20(76,9)/6(23,1)	14(63,6)/ 8(36,4)
Knee (Yes/No)	6(23,1)/20(76,9)	7(31,8)/15 (68,2)
Elbow (Yes/No)	1(3,8)/25(96,2)	0(0)/22(100)
Ankle (Yes/No)	6(23,1)/20(76,9)	7(31,8)/15(68,2)
Hand (Yes/No)	1(3,8)/25(96,2)	1(4,5)/21(95,5)

Table 2. Comparison of data in terms of gender

Variables	Girls (n=26)	Boys (n=22)	p*
	M±SD	M±SD	
Curl Up Test (repeat)	10.70±3.58	12.80±3.66	0.075
Push Up Test (repeat)	10.55±5.06	11.75±6.29	0.511
One-legged Stationary Hop Test (repeat)	37.60±12.74	35.35±6.02	0.480
Physical Activity Questionnaire	16.93±5.70	20.70±5.77	0.028
PedsQL- child form	19.15±13.48	10.68±9.38	0.017
PedsQL- parent form	22.30±17.85	13.04±11.06	0.040

Disclosure of Interests: None declared

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AB0986 NT-PROBNP LEVEL IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

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