the ESSDAI score. Work incapacity was assessed by the Work productivity and activity impairment for general health questionnaire (WPAI-GH) from which four dimensions can be calculated and expressed in percentages by the following scores: 1) percent work time missed due to health = $Q2/(Q2 + Q4)$ for those who were currently employed; 2) percent impairment while working due to health = $Q5/10$ for those who were currently employed and actually worked in the past seven days; 3) percent overall work impairment due to health $Q2/(Q2 + Q4) + ((1 - Q2/(Q2 + Q4)) \times (Q5/10))$ for those who were currently employed; 4) percent activity impairment due to health $Q6/10$ for all respondents.

Results: Eighty patients were randomly asked to fill out the questionnaire. Response rate was of 62.5%. Total number of enrolled patients was 50. The median age was 56.5 years (min=22, max=60). Patients were mainly women with female to male ratio of 11.5:1. The median age of diagnosis was 50.5 years (min=18, max=59). Mean duration of the disease was 6 years $\pm$ 3.76. Sicca syndrome was the most prevalent clinical feature affecting the eyes in 84% of the cases and the mouth in 90% of the cases. Arthralgia was present in 88% of the cases. 65.1% of patients had an active disease. Anti Ro antibodies were positive in 38%, anti La in 28% and rheumatoid factor in 50% of cases. 36% of the patients were unemployed. Percentage of work time missed due to health for those who were employed in the past 7 days was 2.44% ($Q1=0; Q2=5.26$). Mean percentage of impairment while working due to health for those who were employed and actually worked in the past 7 days was $20.56 \pm 18.25\%$. Percentage of overall work impairment due to health for those who were currently employed and actually worked was $25.87 \pm 19.58\%$, and the percentage of overall activity impairment due to health for all respondents was $26.6 \pm 18.36\%$. Analytic statistics showed no correlation between employment status and age, duration of disease, gender or seropositivity. However, all unemployed patients had ocular symptoms vs 75% of those employed (p value=0.04). The first dimension was correlated with the presence of dry mouth (p value=0.07) but with weak statistical significance. Second and third dimensions weren't associated to any general, clinical or laboratory feature. Fourth dimension was significantly correlated to the presence of dry eyes (p value=0.019) and gender (p value=0.001).

Conclusion: PSS is associated with high unemployment rates in Tunisia, high impairment rates while working and high rates of overall impairment. This high prevalence may be explained by gender and the presence of dry eyes and dry mouths. This work highlights the importance of managing sicca symptoms as they alter different aspects of quality of life like work.

References:

- [1] Reilly MC, Zbrozek AS, Dukes EM. The validity and reproducibility of a work productivity and activity impairment instrument. *PharmacoEconomics*. nov 1993;4(5):353- 65.
- [2] Mandl T, Jørgensen TS, Skougard M, Olsson P, Kristensen L-E. Work Disability in Newly Diagnosed Patients with Primary Sjögren Syndrome. *J Rheumatol*. févr 2017;44(2):209-15.

Disclosure of Interests: : None declared

DOI: 10.1136/annrheumdis-2020-eular.5730

AB0418

APPLICATION OF ACR (2012), ACR/EULAR (2016) AND RUSSIAN (2001) CRITERIA FOR PRIMARY SJÖGREN'S SYNDROME ON RUSSIAN COHORT OF PATIENTS

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Background: Over the past few years new international criteria have been proposed for the classification of primary Sjögren's syndrome (pSS) from the American College of Rheumatology (ACR) in 2012 and the ACR with European League Against Rheumatism (ACR/EULAR) in 2016 [1, 2]. In real practice in Russia we use Russian criteria (2001).

Objectives: To estimate ACR (2012) and ACR/EULAR (2016) criteria in Russian cohort of patients with pSS patients fulfilling Russian criteria (2001).

Methods: From 2016 to 2019 we examined 110 patients (109 female, 1 male) with newly diagnosed pSS fulfilling Russian criteria with the mean age 50.2 ± 14 years (min 18; max 82). Russian criteria for pSS: I) keratoconjunctivitis sicca (stimulated Schirmer's test <10 mm/5 min or fluorescein staining of the cornea or tear break-up time <10 sec); II) sialadenitis (sialectasia on parotid sialography (obligatory) +/- stimulated saliva flow test <2.5 ml/5 min +/- labial salivary gland biopsy with focus score (FS) of ≥ 2 foci/4 mm²); III) positive antinuclear antibody (ANA) or positive ANA with rheumatoid factor (RF) or anti-SSA (anti-Ro) or/and SSB (anti-La). According it pSS is verified if the first two criteria and at least one of the immunological criteria are presented. We evaluated clinical, laboratory and instrumental features (table 1).

Table 1. Characteristics of Russian cohort of patients with primary Sjögren's syndrome (n = 110)

Parameters	Patients (n / %)
ocular dryness	76 (69%)
oral dryness	88 (80%)
anti-SSA (anti-Ro) positive (>25 IU/ml)	93 (84.5%)
anti-SSB (anti-La) positive (>25 IU/ml)	57 (51.8%)
RF positive >2 UNL (>30 IU/ml)	68 (61.8%)
ANA $\geq 1:320$	110 (100%)
(stimulated) Schirmer's test (≤ 5 mm/5 minutes)	55 (50%)
stimulated SFT <2.5 ml/5 min	77 (70%)
OSS ≥ 5	28 (25.4%)
OSS ≥ 3	43 (39%)
FS ≥ 1 foci/4 mm ²	99 (90%)
Sialectasia on parotid sialography	110 (100%)

In our cohort according to Russian criteria (2001) 94 patients (86%) fulfilled ACR (2012) criteria, 86 (78%) - ACR/EULAR (2016) criteria.

Results: In our cohort, 20-30% of patients, according to Russian criteria did not complain of oral or ocular dryness. In 61% of patients, mild eye damage was detected (OSS $<3-5$), and in half of the cases, the stimulated Schirmer's test was more than 5.0 mm, but less than 10 mm/5 minutes, while 69% of patients complained of dry eyes. Most patients (84.5%) had positive anti-Ro, just over half (51.8%) had anti-La. All patients had sialectasia of various stages on parotid sialography. Less than 1 FS was detected in 10% of patients.

Conclusion: Using Russian criteria (2001), we can identify pSS at an early stage. Our criteria inclusion complex examination in which an immunological sign must be present to confirm the diagnosis. Patients with pSS according to ACR (2012) and/or ACR/EULAR (2016) criteria seem to be diagnosed without specific antibodies and on the more progressive disease stages.

References:

- [1] SC Shiboski, CH Shiboski, LA Criswell, AN Baer, S Challacombe, H Lanfranchi, M Schiødt, H Umehara, F Vivino, Y Zhao, Y Dong, D Greenspan, AM Heidenreich, P Helin, B Kirkham, K Kitagawa, G Larkin, M Li, T Lietman, J Lindegaard, N McNamara, K Sack, P Shirlaw, S Sugai, C Vollenweider, J Whitcher, A Wu, S Zhang, W Zhang, JS Greenspan, and TE Daniels for the Sjögren's International Collaborative Clinical Alliance (SICCA) Research Groups. American College of Rheumatology Classification Criteria for Sjögren's Syndrome: A Data-Driven, Expert Consensus Approach in the SICCA Cohort.
- [2] Caroline H. Shiboski,1 Stephen C. Shiboski,1 Raphae 'le Seror,2 Lindsey A. Criswell,1 Marc Labetoulle,2 Thomas M. Lietman,1 Astrid Rasmussen,3 Hal Scofield,4 Claudio Vitali,5 Simon J. Bowman,6 Xavier Mariette,2 and the International Sjogren's Syndrome Criteria Working Group. 2016 American College of Rheumatology/European League Against Rheumatism Classification Criteria for Primary Sjogren's Syndrome. *ARTHRITIS & RHEUMATOLOGY* Vol. 00, No. 00, Month 2016, pp 00–00 DOI 10.1002/art.39859.

Disclosure of Interests: : None declared

DOI: 10.1136/annrheumdis-2020-eular.4686

AB0419

THE COEXISTENCE OF FAMILIAL MEDITERRANEAN FEVER (FMF) IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) PATIENTS - A CROSS SECTIONAL STUDY

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Background: Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disease characterized by multisystem inflammatory lesions affecting many organ systems in the body. Familial Mediterranean fever (FMF) is an autosomal recessive disease of chronic autoimmune inflammation characterized by frequently relapsing self-limiting fever and inflammation that may be localized in peritoneum, pleura, joint or skin.¹ Previous studies have described the similarity of clinical symptoms of FMF among SLE patients. However, the literature on this topic is inconsistent and based mostly on case reports.²⁻⁴

Objectives: To examine the proportions of coexistence of FMF among SLE patients compared to the general population. We hypothesized that the proportion of FMF among SLE patients is higher than the general population.

Methods: This cross-sectional study used the Clalit Health Services database, the largest Health Maintenance Organization in Israel, serving 4,400,000 members. SLE patients were compared to age- and sex-matched controls. Chi- was used for univariate analysis.

Results: The study included 4886 SLE patients and 24430 age- and sex-matched controls. The SLE group had a significantly higher proportion of FMF patients compared to non-SLE controls (0.68% and 0.21% respectively; $p < 0.001$).

Table 1. All study population

Table 1. SLE patients and matched controls basic characteristics

	No SLE N=24430	SLE N=4886	p.overall
Age	51.2±16.5	51.2±16.5	1.000
Gender: Female	20100 (82.3%)	4020 (82.3%)	1.000
FMF	52 (0.21%)	33 (0.68%)	<0.001

Table 2. Stratification

Table 2. comparison of FMF patients with and without SLE

	FMF without SLE N=52	FMF with SLE N=33	p.overall
Age	44.6±13.7	50.5±17.7	0.106
Gender: Female	45 (86.5%)	26 (78.8%)	0.523

Conclusion: FMF was found to be more common amongst SLE patients compared to matched controls. The current study results suggest that the occurrence of SLE turn patients with an appropriate genetic and environmental setting to develop also FMF. This cross-sectional study sheds light on the coexistence of these two diseases, autoimmune and autoinflammatory.

References:

- [1] Kucuk A, Gezer IA, Ucar R, Karahan AY. Familial mediterranean fever. *Acta Medica (Hradec Kralove)*. 2014;57(3):97-104.
- [2] Lidar M, Zandman-Goddard G, Shinar Y, Zaks N, Livneh A, Langevitz P. SLE and FMF: A possible negative association between the two disease entities—report of four cases and review of the literature. *Lupus*. 2008;17(7):663-669.
- [3] Erten S, Taskaldiran I, Yakut ZI. Are systemic lupus erythematosus patients carrying MEFV gene less prone to renal involvement? report of three cases and review of the literature. *Ren Fail*. 2013;35(7):1013-1016.
- [4] Shinar Y, Kosach E, Langevitz P, et al. Familial mediterranean Fever gene (MEFV) mutations as a modifier of systemic lupus erythematosus. *Lupus*. 2012;21(9):993-998.

Disclosure of Interests: : None declared

DOI: 10.1136/annrheumdis-2020-eular.2305

AB0420 RISK OF DEVELOPING TYPE 2 DIABETES MELLITUS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Patients with systemic lupus erythematosus (SLE) have higher than in general population prevalence of diabetes mellitus (DM). Hyperinsulinemia is a predictor of developing type 2 DM, however routine measurement of insulin levels for DM risk assessment is uncomfortable in daily clinical practice. International Diabetes Federation recommends the use of patient questionnaires to quickly identify people who may be at a higher risk of DM development.

Objectives: To determine the 10-years risk of developing type 2 DM in SLE patients using dedicated questionnaire - Finnish Type 2 Diabetes Risk Assessment Form (FINDRISK) data.

Methods: The study included 92 SLE patients without DM (83 women, 9 men, 39 [34; 47] years old). The median disease duration was 6 [2,14] years, SLE-DAI-2K was 4[2;8]. SLE pts were treated with glucocorticoids (GC) (89%) and hydroxychloroquine (78%), immunosuppressive drugs (28%) and biological agents (10%). The control group consisted of 88 subjects without systemic rheumatic diseases, inflammatory arthritis or DM, matched by age and sex with SLE patients. Eight items of FINDRISK questionnaire (age, overweight, abdominal obesity, family history of diabetes, physical inactivity, eating habits, history of antihypertensive drugs treatment, history of hyperglycemia) were taken into account to calculate the total risk score (TS). The risk of developing DM within following 10 years is regarded as low (1%) or slightly elevated (4%) with TS ≤11 points, as moderate (17%), high (33%) or very high (50%) with TS ≥12 points.

Results: The risk of developing DM was low or slightly elevated in 65 (71%) SLE pts and moderate, high or very high in 27 (29%) pts. The difference was significant compared with the control group, in which 76 (86%) subjects had a

low or slightly elevated risk and 12 (14%) had a moderate, high or very high risk ($p=0,01$). The number of risk factors (4[2;5]) and the median TS of SLE pts (9[5;12] points) were higher than values in control subjects (3[2,4] factors and 6[3;9] points, respectively) ($p<0,01$ for both). DM risk factors profiles were similar in two groups, except for higher prevalence of abdominal obesity (66% vs 41%, $p<0,01$) and history of antihypertensive drugs treatment (57% vs 17%, $p<0,01$) in SLE. There were positive correlations between TS and CRP levels ($r=0,25$, $p=0,02$), SLICC ($r=0,36$, $p<0,01$), HAQ ($r=0,29$, $p<0,01$), and negative correlations between TS and SLEDAI-2K ($r=-0,32$, $p<0,01$), glomerular filtration rate by CKD-EPI ($r=-0,23$, $p=0,03$). Current GC use had no influence on TS values in SLE.

Conclusion: Patients with SLE were more likely than individuals without systemic rheumatic diseases to have a moderate, high and very high risk of developing DM, and therefore, required interventions to prevent the metabolic disease. Increased risk of developing DM was associated with most common traditional factors, especially by abdominal obesity and regular use of antihypertensive drugs that can be considered a kind of equivalent to the presence of hypertension. Current contribution of inflammation, lupus activity and irreversible damage index can't be ignored. Clarification of SLE-specific phenomena in DM pathogenesis requires further research.

Disclosure of Interests: : None declared

DOI: 10.1136/annrheumdis-2020-eular.4087

AB0421 EFFECT OF BODY WEIGHT ON COMPLEMENT LEVELS IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: The complement system is a recognized biomarker for diagnosis or monitoring of disease activity in systemic lupus erythematosus (SLE) patients (pts). But on the other hand, it has been linked to insulin resistance and obesity in general population.

Objectives: To find out whether overweight/obesity can modify C3 or C4 levels in SLE pts.

Methods: A total of 92 SLE pts (83 women, 9 men, 39 [34;47] years old) were enrolled in the study. Median disease duration was 6[2;14] years, and SLE activity using SLEDAI-2K was 4[2;8]. SLE pts were treated with glucocorticoids (89%), hydroxychloroquine (78%), immunosuppressants (28%), biologics (10%). The overweight/obesity status was determined by World Health Organization criteria in patients with body mass index (BMI) ≥25kg/m².

Results: Overweight/obesity were established in 46% SLE pts. Overweight/obese SLE pts were older than pts with normal BMI (40[36;48] vs 37[31;44] years, $p=0,02$), and had lower SLEDAI-2K (3[2;6] vs 6[4;8], $p<0,01$). Lower C3 concentrations were found in 36% overweight/obese pts vs 68% pts with normal weight ($p<0,01$), decreased C4 levels - in 19% vs 30% pts ($p=0,33$), median C3 concentrations were 0,98[0,81;1,14] g/l vs 0,84[0,69;0,96] g/l ($p<0,01$), and C4 levels were 0,15[0,10;0,19] g/l vs 0,12[0,09;0,16] g/l, respectively ($p=0,03$). C3 and C4 levels negatively correlated with SLEDAI-2K ($r=-0,5$, $p<0,01$ for both), the effect was more strongly pronounced in patients with BMI≥25kg/m² ($r=-0,6$, $p<0,01$ for both) than in those with normal weight ($r=-0,2$, $p=0,09$ for C3, $r=-0,3$, $p=0,04$ for C4).

Conclusion: Overweight/obesity status in SLE pts was associated with increased levels of complement proteins, therefore decreased C3 or C4 levels in patients with BMI≥25kg/m² are more likely related to disease activity and, can potentially induce SLE flares.

Disclosure of Interests: : None declared

DOI: 10.1136/annrheumdis-2020-eular.4097

AB0422 LEFT VENTRICULAR ABNORMALITIES IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS FOLLOWED BY SEQUENTIAL ECHOCARDIOGRAPHY

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Background: Cardiovascular disease (CVD) is detected in up to 50% of systemic lupus erythematosus (SLE) patients¹ and major cause of death². Even clinically silent SLE patients can develop left ventricular (LV) diastolic dysfunction³. Proper echocardiographic follow up of SLE patients is required.

Objectives: To clarify how the prevalence of LV abnormalities changes over follow-up period and identify the associated clinical factors, useful in suspecting LV abnormalities.

Methods: 29 SLE patients (24 females and 5 men, mean age 52.8±16.3 years, mean disease duration 17.6±14.5 years) were enrolled. All of them underwent echocardiography as the baseline examination and reexamined over more than a year of follow-up period (mean 1075±480 days) from Jan