Results: There were 41 SLE patients integrated in the study, female:male ratio 9,25:1, mean age (SD) 39 (12.35) years (range 20–67 years), disease duration (SD) was 9.92 (9.18) month (range 1–24). The mean disease activity by SLEDAI was 11.2±7.84 (range 2–34) and SLAM – 8.83±4.41 (range 3–22) points, both indices denoted high disease activity level. Mean PGA values were 48.93 (19.13) (range 10–80), and mean MDGA values 45 (19.04) (range 10–80). Also, PGA and MDGA didn't correlate with SLEDAI (r=0,25, p>0,05; r=0,27, p>0,05), while a statistically significant correlation was determined with SLAM index (r=0,85, p<0.001; r=0,46, p=0.002). A subclass analysis of SLAM components showed that cortical dysfunction (depression, psychosis) and the presence of headache correlated with PGA (r=0,36, p<0,05; r=0,4, p<0,05), so we can establish that the difference in correlation between SLAM and SLEDAI with PGA and MDGA is explained by a more accurate disease assessment by SLAM, including also subjective complaints that influences the global patient's status.
Conclusions: The use of SLAM for disease activity assessment in early SLE patients is more sensible than SLEDAI and its results correlates with PGA and MDGA.
Disclosure of Interest: None declared
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SAT0297 SLE PATIENTS WITH SECONDARY SJÖGREN'S SYNDROME ARE CHARACTERIZED BY TYPICAL AUTOANTIBODIES AND A PRO-INFLAMMATORY STATE

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Background: Sjögren's syndrome occurs in isolation (primary Sjögren's syndrome, pSS), but it is also often secondary (sSS) to, and sometimes difficult to delineate from, other rheumatic diseases, in particular from systemic lupus erythematosus (SLE). Consequently there is a need to investigate similarities and differences between SLE patients with (SLE-sSS) and without sSS (SLE-noSS).
Objectives: To investigate the occurrence of sSS in a large cohort of SLE patients and to explore clinical and laboratory characteristics associated with SLE-sSS as compared to SLE-noSS and controls.
Methods: We included 504 consecutive SLE patients and 322 population controls, individually matched for age and gender to the first patients. All patients fulfilled the 1982 revised ACR criteria for SLE. SLE-sSS was defined according to the American-European consensus criteria (AECC). Accordingly, subjective and objective quantifications of sicca symptoms were recorded on all subjects. All underwent a thorough clinical investigation. SLE-associated autoantibodies, (ANA screening by BioPlex 2200 system, Bio-Rad) and Rheumatoid factor (RF, Phadia Immunocap 250) were determined with standardized methods for all subjects, Routine laboratory workup and a panel of cytokines (MSD 30-plex cytokine assays, performed on samples from 433 consecutive SLE patients and 319 controls) were measured on fasting blood samples.

Immunoglobulins, autoantibodies and pro-inflammatory cytokines in SLE-SS, SLE-noSS and population controls

	Controls N=322 median (IQR) or N(%)	SLE-SS N= 117 median (IQR) or N(%)	SLE-noSS N=387 median (IQR) or N(%)	p-value SLE-SS vs. SLE-noSS
IgA total g/L	2.1 (1.5-2.8)	2.9 (1.8-4.3)	2.7 (1.9-3.6)	0.38
IgG total g/L	10.9 (9.5-12.2)	14.5 (10.4-18.3)	12.4(9.8-15.8)	0.009
IgM total g/L	1.1 (0.8-1.6)	1.0 (0.5-1.6)	0.9 (0.6-1.5)	0.89
anti-dsDNA % positive (+)	5(1.6)	36(31.3)	154(41)	0.06
anti-Ro52 % +	3 (0.9)	56(47.9)	84(21.8)	<0.0001
anti-Ro60 % +	5 (1.6)	69(59)	137(35.9)	<0.0001
anti-La/SSB % +	10 (3.1)	44(37.6)	69(18)	<0.0001
anti-Sm % +	1 (0.3)	19(16.2)	75(19.5)	0.42
anti-RNP 68 % +	0 (0)	11(9.4)	40(10.4)	0.74
Rf IgG % +	10/261(3.8)	17/80(21.2)	35/259(13.5)	0.09
Rf IgM % +	14/283(4.9)	32/83(38.6)	56/281(19.9)	0.0005
Rf IgA % +	12/282(12.4)	34/74(45.9)	75/267(28.0)	0.004
TNF-α pg/mL	2.3(2.0-2.8)	4.9 (3.6-7.1)	4.4 (3.0-6.0)	0.008
IL-6 pg/mL	0.5 (0.4-0.7)	1.5 (0.8-3.0)	1.1 (0.6-2.0)	0.009
MCP-4 pg/mL	55.8 (40.8-80.5)	94.9 (66.9-131.3)	74.7 (52.4-120.0)	0.019
MIP-1 β pg/mL	43.7 (33.4-56.4)	81.1 ((54.8-123.6)	68.9 (50.3-105.1)	0.021
IL12/IL-23p40 pg/mL	131.2 (99.8-179.5)	211.3 (141.4-363.8)	177.1 (119.6274.5)	0.032
IP-10 pg/mL	351.9 (259.2 -476.4)	808 (536-1911)	726 (440-1471)	0.036

Results: SLE-sSS, as defined by AECC, occurred in 23% of the SLE patients. Compared to SLE-noSS the SLE-sSS group was older, both at inclusion (55 vs 43yrs, p<0.0001) and at disease onset (40 vs. 32 yrs p<0.0001), and with a greater number of females (96 vs. 83%, p=0.0007), higher occurrence of leucopenia (57 vs. 45%, p=0.02) and peripheral neuropathy (15 vs 7%, p=0.01). Nephritis was less common in SLE-sSS (32 vs 43%, p=0.03). Higher levels of total IgG, positivity for anti-SSA/Ro52, anti-SSA/Ro60, anti-SSB antibodies, RF IgM and RF IgA further characterized the SLE-sSS group. 20/30 investigated cytokines were detectable, of these 19/20 were higher in SLE than in controls. 6/20 cytokines (TNF-a, IL-6, MCP-4, MIP-1β, IL12/IL-23p40 and IP-10) were upregulated in SLE-sSS vs. SLE-noSS (see table for figures).
Conclusions: Through strictly applying the AECC criteria we report that the frequency of SLE-sSS increases with age and affects roughly ¼ of SLE patients. Nephritis was less common while leucopenia and peripheral neuropathy were more common among SLE-sSS patients. In addition to excess of well-known SS-associated autoantibodies we report higher levels of six pro-inflammatory cytokines in SLE-sSS as compared to SLE-noSS. These findings demonstrate that, though often regarded as a milder version of SLE, patients with SLE-sSS are characterized by a state of chronic systemic inflammation.
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SAT0298 INFLUENCE OF AGE ONSET IN CLINICAL AND BIOLOGICAL SPECTRUM OF SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Systemic lupus erythematosus (SLE) is a multi systemic auto immune disease which can affect patients at any age.
Objectives: We aimed to study influence of age onset in clinical and biological spectrum of SLE
Methods: medical records of 89 patients diagnosed as SLE according to the ACR criteria of 1997, between January 2004 and December 2016, were retrospectively analyzed. Patients were divided into 3 groups according to the age of onset: Juvenile onset patients (group 1) (G1) (≤16 years), Adult onset patients (group 2) (G2) (>16 and <50 years), Late onset patients (group 3) (G3) (≥50 years). Clinical and biological comparative study was conducted between the 3 groups. Data were analyzed by chi-square test and potentially associated factors were tested by binary logistic regression.
Results: among the patients 11.2% are in G1, 75.3% in G2 and 13.5% in G3. Prevalence of SLE was higher in female than male (F/M=9/1) but predominance of women was lower in G1 (F/M=4/1) compared to G2 (F/M=10/1) and G3 (F/M=11/1). Patients in G3 had more hypertension (41.7%) compared to G2 (6%) (p=0.5) and G1 (0%) (p=0.04). Vespertilio erythema was less frequently found in G3 (33.3%) compared to G2 (64.2%) (p=0.045) and G1 (80%) (p=0.04). Anti Sm antibodies were more frequent in G1 (87.5%) compared to G2 (38.5%) (p=0.009) and G3 (18.2%) (p=0.003). Multivariate analysis showed that hypertension is significantly associated to late onset lupus (OR=29, 95% IC= [2.77 – 320], p=0.05) and anti Sm antibody is more frequent in juvenile onset patients (OR=12, 95% IC= [1.4- 117], p=0.024).
Conclusions: according to our study, prevalence of lupus is higher in female regardless of age onset. Late onset lupus is associated to a high frequency of co morbidity while anti Sm antibody seems to be a hallmark of juvenile onset.
Disclosure of Interest: None declared
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SAT0299 ATYPICAL ANTIBODIES IN PATIENTS WITH PRIMARY SJOGREN'S SYNDROME

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Background: One of the main features of primary Sjögren's syndrome (pSS) is

the polyclonal activation of B cells, leading to the synthesis of a large variety of autoantibodies.
Objectives: The aim of this study is to describe the prevalence of atypical autoantibodies in patients with pSS from the SjogrenSER registry.
Methods: SjogrenSER registry is a multicenter transversal study of pSS patients fulfilling European/American consensus criteria 2002. Patients were included by randomization from thirty-three Rheumatology Spanish departments. Data were collected by reviewing clinical records and interviewing the patients. Informed consent was obtained and local ethics committees approved the study. Variables were analysed by descriptive statistical methods, using means, medians, and rates. Chi-square was used to establish the statistical associations, being considered a $p<0,05$ as significant.
Results: Four hundred and thirty-seven patients were included. Ninety-five percent of them were women. The median age of the cohort was 58 years. Twenty-three patients had AntiDNA (5.26%), 10 patients AntiSm (2.29%), 23 patients AntiRNP (5.26%) and 26 patients antiphospholipid antibodies (5.95%). Regarding AntiDNA+ patients, there were minimal non-significant differences in age at diagnosis and age at onset of symptoms compared to AntiDNA- patients (47 vs 50.5 years and 43.5 vs 46.5 years, respectively). The association with some systemic manifestation was only observed with joint involvement, which was significantly more frequent in AntiDNA+ patients (56.5% vs 34.2%, p=0.031). Regarding AntiSm+ patients, a significant negative association with AntiDNA antibodies was observed, being 70% of patients AntiDNA-; we also found a significant positive association with AntiRo and AntiLa, being 100% and 68% of patients AntiRo+ and AntiLa+ respectively. A significant negative association with lymphopenia was observed (no AntiSm+ patient had lymphopenia). AntiRNP+ patients showed a significant negative association with AntiDNA antibodies, being 80% of patients AntiDNA-, and a significant positive association with AntiRo, being 96% patients AntiRo+. A significant positive association was also observed with decreased C4 compared to AntiRNP- patients (28% vs 13.38%, p=0.025). Regarding patients with antiphospholipid antibodies, a significant negative association was observed with antiDNA antibodies, being 93% of patients AntiDNA-. A significant positive association with some systemic manifestation was only observed with the presence of anemia (44% vs 17.7%). A significant positive association with decreased C3 and C4 was also observed, compared with the AntiRNP- patients (C3 20% vs 13.67% and C4 33% vs 12.67%).
Conclusions: More than 5% of pSS patients had antibodies characteristic of other autoimmune diseases. These atypical autoantibodies were significantly related to some pSS characteristic: antiSm, antiRNP and antiphospholipid antibodies were significantly related to the presence of antiRo, antiDNA antibodies were significantly related to joint involvement, antiphospholipid antibodies were significantly related to anemia, and antiRNP and antiphospholipid antibodies were significantly related to hypocomplementemia.
Disclosure of Interest: None declared
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SAT0300 HIGH PROPORTIONS OF DEMENTIA AMONG SLE PATIENTS: A BIG DATA ANALYSIS

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Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease affecting wide range of systems including the peripheral and central nervous system[1]. Cognitive impairment leading to dementia is one of the harmful central nervous system manifestations of SLE[2].
Objectives: The aim of this study was to investigate the association of SLE and dementia.
Methods: A cross-sectional study was performed utilizing Clalit Health Care database, the largest HMO in Israel with more than 4.4 million enrollees. SLE patients were compared in a 1:5 ratio to age and sex matched controls. Chi-square and *t* tests were used for univariate analysis, and a logistic regression model was used for multivariate analysis.
Results: The study included 4886 SLE patients and 24,430 age and sex frequency matched controls without SLE. The proportion of dementia was higher among SLE patients compared to controls (1.56% and 0.51% respectively; $p<0.001$).
This finding was consistent across all age groups by univariate analysis.
In a multivariate logistic regression analysis, SLE was significantly associated with dementia (OR =2.039, 95% CI =1.110–2.039).
Conclusions: SLE is significantly associated with dementia. This finding should give rise to search for SLE in patients with an ambiguous cause for dementia, especially those with an early onset cognitive decline.
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SAT0301 SERUM AUTOANTIBODY PROFILING OF PRIMARY SJÖGREN'S SYNDROME PATIENTS REVEALS NOVEL BIOMARKERS ASSOCIATED WITH THE DISEASE, DISEASE ACTIVITY, AND CLINICAL RESPONSE TO VAY736

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Background: Overexpression of B cell activating factor (BAFF) in salivary glands contributes to the pathogenesis of primary Sjögren's syndrome (pSS) by promoting autoantibody (AAB) production. Treatment of pSS patients with VAY736, an anti-BAFF receptor mAb, appears promising and was associated with a depletion of circulating B cells and a positive therapeutic effect [1]. In addition to the classical anti-SS-A/Ro and anti-SS-B/La, a broader set of AABs may reflect B cell disturbances in pSS and could serve as markers during clinical development of novel pSS therapeutics.
Objectives: In this study, we explored novel AABs in pSS patients and healthy controls (HCs) and we tested their associations with the disease, disease activity, and clinical response to VAY736.
Methods: Reactivity of AABs to 1,596 antigens was measured in serum samples from 27 pSS patients from a placebo-controlled trial at baseline and post-treatment week 12 and from 50 age and gender-matched HCs. Patients were treated at baseline with a single dose of VAY736 at 10 mg/kg (n=12), 3 mg/kg (n=6), or placebo (n=9). First, to identify AABs associated with pSS, 3 different methods compared AAB levels at baseline between pSS patients and HCs: Wilcoxon rank sum test, significance analysis of microarrays, and comparison of the 90th quantiles between groups. Second, to identify AABs associated with pSS activity, Pearson correlation of AABs with EULAR Sjögren's Syndrome Disease Activity Index, secondary outcomes, and salivary and serum BAFF were tested, using baseline and week 12 levels as well as relative changes. Third, VAY736 treatment-specific changes in AAB levels were investigated using linear mixed-effects models adjusting for dosage, age, and gender effects.
Results: Of 1,596 antigens, 36 were statistically different between pSS patients and HCs for at least one of the 3 tests, including the known SS-A/Ro and SS-B/La (significant for all 3 tests) as well as novel antigens. SS-A/Ro and SS-B/La AABs were not associated with disease activity or response to treatment. However, 48 AABs were significantly correlated with pSS activity combining all treatment arms, and 12 AABs had baseline values that correlated with change in pSS activity upon VAY736 treatment (unadjusted $p<0.05$). Interestingly, 51 serum AABs correlated with BAFF saliva levels ($|r|>0.55$), but not with BAFF serum levels. The genes encoding novel antigens are involved in apoptotic, anti-viral, metabolic, inflammatory, blood coagulation and B-cell processes, suggesting a possible link to the disease pathology.
Finally, there was no reduction in AABs levels in response to VAY736, possibly because the 12 weeks post-treatment analysis was too short to identify large effects.
Conclusions: In conclusion, we identified new AABs in pSS patients that have the potential to serve as markers of diagnosis, pSS activity, or as predictors of clinical outcome measures. Further large-scale studies are needed to confirm the value of these markers.
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Disclosure of Interest: P. Budde Employee of: Protagen AG, J. Doucet Employee of: Novartis AG, H.-D. Zucht Employee of: Protagen AG, R. Kazma Employee of: Novartis AG, P. Maguire Employee of: Novartis AG, A. Avrameas Employee of: Novartis AG, M.-A. Valentin Employee of: Novartis AG, S. Oliver Employee of: Novartis AG, P. Schulz-Knappe Employee of: Protagen AG, A. Vitaliti Employee of: Novartis AG
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SAT0302 ANALYSIS OF 9302 PATIENTS FROM THE BIG DATA INTERNATIONAL PRIMARY SJÖGREN SYNDROME COHORT: CLINICAL PRESENTATION AT DIAGNOSIS OF EUROPEAN VS NON-EUROPEAN PATIENTS

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