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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Objectives: Baseline characterization of European patients diagnosed with primary Sjögren syndrome (SS) according to the 2002 AE criteria.
Methods: The Big Data Sjögren Project was formed in 2014 to take a "high-definition" picture of the main features of primary SS by merging international SS databases. International experts of the EULAR-SS Task Force were invited to participate. By January 2017, the database included 9302 consecutive patients recruited from 21 countries of the 5 continents.
Results: A total of 6586 (71%) patients were included from European countries. In comparison with non-European countries, European patients had a higher mean age (54 v 51yrs, p<0.001), higher frequency of men (7% v 5%, p=0.001), dry eyes (94% vs 88%, p<0.001), dry mouth (94% vs 91%, p<0.001), and lower frequency of abnormal ocular (84 vs 86%, p=0.049) and oral (75 vs 81%, p<0.001) tests. Immunologically, European patients had a lower frequency of anti-Ro/La antibodies (69 vs 78%, p<0.001) and a higher frequency of RF (50 vs 47%, p=0.01), low C4 (14 vs 9%, p<0.001) and cryoglobulins (8% vs 3%, p<0.001). Logistic regression identified as independent variables older age (OR 1.02), male gender (OR 2.62), abnormal oral tests (OR 0.26), anti-Ro/La antibodies (OR 0.69), RF (OR 1.76), low C4 (OR 1.97) and cryoglobulins (OR 3.85).
Conclusions: European patients are diagnosed at older age, are more frequently men, and presented a lower frequency of anti-Ro/La antibodies and a higher frequency of immunological markers related to mixed cryoglobulinemia.
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SAT0303 CLINICAL DIFFERENCES BETWEEN DEFINITE AND PROBABLE ANTIPHOSPHOLIPID (APS) PATIENTS: SHOULD THEY BE TREATED THE SAME?

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Background: The management of patients with recurrent thromboses/pregnancy morbidity and transient detection of antiphospholipids antibodies (aPL) can be a medical challenge. Although these patients are commonly seen in practice, there are no specific guidelines for the treatment in this situations.
Objectives: To investigate the clinical differences between definite and probable APS patients.
Methods: We performed a cross-sectional study in a group of 90 outpatients seen in our department. Seventy-seven of them met the Sydney classficiation criteria for definte APS, and thirteen had thrombosis or gestational morbidity, but no definite serological criteria for the diagnosis of APS. Clinical and serological features were collected during visits and by chart review, and the two groups were compared. Transient aPL was defined as only one detection of aPL (lupus anticoagulant, anticardiolipin IgM/IgG and/or anti-beta-2-glycoprotein 1 IgM/IgG) after 2 or more assays, at least 12 weeks apart.
Results: Demographic and clinical characteristics are shown in Table 1. In a bivariate analysis, there was no difference between groups regarding the criteria and non-criteria manifestations of APS, except for the presence of livedo (p=0.033). In a multivariate regression analysis, the model was adjusted to age, sex, and variables with p<0.10 in the bivariate analysis (age, sex, race, livedo, Raynaud's phenomenon). No difference between groups was found after the analysis.
Conclusions: This study suggests patients with transient detection of aPL have the same clinical characteristics of patients with definite APS, including thrombotic features, pregnancy morbidity, and non-criteria manifestations. In this context, our data suggests that both groups should be treated according to the current treatment guidelines for APS.
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Table 1. Demographic and clinical characteristics (N=90)

Variable	Definite APS (N=77)	Probable APS (N=13)	P value
Age	42.0±12	40.5±10.3	NS
Female gender	64 (83.1)	12 (92.3)	NS
Caucasian	50 (64.9)	8 (61.5)	NS
Time first manifestation (mo)	120 (33.3–50)	174 (81–202)	NS
	Criteria manifestations		
Thrombotic	72 (93.5)	13 (100)	NS
Obstetric	28 (43.8)*	1 (8.3)**	NS
	Non criteria		
Livedo	20 (26)	0 (0)	p=0.033
Thrombocytopenia	11 (14.3)	0 (0)	NS
Valvulopathy**	7 (11.7)‡	1 (11.1)‡‡	NS
Raynaud phenomenon	21 (27.3)	1 (7.7)	NS
Migraine	36 (46.8)	8 (61.5)	NS

*N=64; **N=12, ‡N=60, ‡‡N=9. Mo = months. CVD = cardiovascular disease. Values showed as N (%) for categorical variables, mean ± SD for normal distribution and Median (interquartil range) for asymmetric distribution.

SAT0304 STIMULATORY AND INHIBITORY KILLER IMMUNOGLOBULIN-LIKE RECEPTORS ON NATURAL KILLER T (NKT) CELLS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE): RELATION TO DISEASE ACTIVITY

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Background: Natural killer T (NKT) cells are a unique subgroup of T cells that represents a bridge between innate and adaptive immunity. The functions of NKT-cells are regulated by the balance between activating and inhibitory Killer cell immunoglobulin-like receptors (KIRs). Systemic lupus erythematosus (SLE) patients showed aberrant expression of KIRs on NKT-cells. Whether the expression pattern of KIRs on NKT-cells is associated with disease activity in SLE is still unknown.
Objectives: Assessment of expression of stimulatory and inhibitory KIRs on NKT-cells in SLE patients and its relation to disease activity.
Methods: We recruited 40 SLE patients and 20 age and gender matched healthy controls. According to SLE disease activity index (SLEDAI), patients were divided into two groups; active SLE (n=20) and inactive SLE (n=20). SLE was active when SLEDAI was ≥4. Immuno-phenotyping by flow cytometry was done using markers for NKT-cells (CD3 and CD56), stimulatory KIRs (KIR2DL4, CD158D) and inhibitory KIRs (KIR3DL1, CD158E1). Absolute counts and percentage of NKT cells expressing CD158D and CD158E1 together with their mean fluorescence intensity (MFI) were measured. The histogram of CD158 expression was used to assess KIRs on NKT cells.
Flow cytometry charts of lymphocytes and NKT cells in SLE patients (active and inactive) and controls are shown in (Figure 1).
Laboratory work included ANA, anti-dsDNA, Anti-smith, C3, C4, CRP and ESR.
Results: Mean age of patients was 29.9±10.8 years. Females constituted 95% (n=38) of patients. Mean disease duration was 4.4±4.5 years. Mean SLEDAI was 11.75±7.43.
NKT-cells absolute number (cell/mm^3) was significantly decreased in SLE patients (89±135) compared to controls (287±133), (*P*=0.001). Likewise, the absolute number of NKT-cells (cell/mm^3) was significantly lower in active SLE patients (65.2±57.8) compared to inactive ones (114.5±181.1), (*P*=0.001).