Abstract PO.2.31 Table 1

	ANA- at 2 years	ANA+ at 2 years
Patients, n	4	11
Female, n (%)	3 (25)	10 (9)
Age, mean ± SD	13.80 ± 1.91	13.45 ± 2.72
Disease duration, mean ± SD	6.47 ± 4.22	6.17 ± 2.71
SLICC criteria		
Acute cutaneous, n (%)	4 (100)	6 (54.5)
Chronic cutaneous, n (%)	0 (0.0)	0 (0.0)
Alopecia, n (%)	0 (0.0)	1 (9.1)
Oral or nasal ulcers, n (%)	2 (50)	7 (63.6)
Arthritis, n (%)	3 (75)	4 (36.4)
Serositis, n (%)	0 (0.0)	2 (18.2)
Renal, n (%)	1 (25)	2 (18.2)
Neurological, n (%)	0 (0.0)	0 (0.0)
Hemolytic anemia, n (%)	1 (25)	4 (36.4)
Leukopenia, n (%)	4 (100)	9 (81.8)
Thrombocytopenia, n (%)	3 (75)	5 (45.5)
ANA+, n (%)	4 (100)	11 (100)
Anti-dsDNA+, n (%)	4 (100)	11 (100)
Anti-Sm+, n (%)	1 (25)	2 (18.2)
LAC, n (%)	0 (0.0)	1 (9.1)
anti-cardiolipin+, n (%)	2 (50)	2 (18.2)
anti-beta2GPI+, n (%)	2 (50)	2 (18.2)
Low complement, n (%)	4 (100)	11 (100)
C3, mean ± SD (mg/dL)	40.25 ± 5.51	52.73 ± 20.81
C4, mean ± SD (mg/dL)	3.67 ± 2.89	4.60 ± 2.72
SLEDAI at diagnosis, mean ± SD	12.75 ± 4.50	12.18 ± 7.14
SLEDAI at last follow-up, mean ± SD	0.00 ± 0.0	1.36 ± 1.43
Treatment		
PDN, n (%)	3 (75)	11 (100)
HCQ, n (%)	4 (100)	11 (100)
MMF, n (%)	4 (100)	11 (100)
RTX, n (%)	0 (0.0)	2 (18.2)

Table 1. Clinical and laboratory parameters of patients with SLE divided in two groups according to antinuclear antibodies (ANA) status after 2 years of follow-up. Anti-beta2GPI, anti-beta2glycoprotein-I antibodies; Anti-Sm, anti-Smith antibodies; HCQ, hydroxychloroquine; LAC, lupus anticoagulant, MMF, mycophenolate; PDN, prednisone; RTX, rituximab, SD, standard deviation, SLEDAI, systemic lupus erythematosus disease activity index.

2 groups (Figure 1C). Similarly, anti-dsDNA antibodies titers declined over time with no clear different patterns between the 2 groups (Figure 1C).

Conclusions Our analysis showed two different patterns in the reduction of ANA titers over time in patients with childhood onset SLE, with 26% of patients becoming ANA negative after 6 months from diagnosis and remaining persistently negative during follow-up. Our data have important implications, specifically for the recruitment of patients into clinical trials, where the latest classification criteria of SLE require ANA positivity as entry criterion. Moreover, a seronegative state may represent a different subcategory of patients with SLE with specific pathogenetic pathways involved, possibly independently from autoantibodies. Therefore, further studies are needed to confirm and expand our data.

PO.2.32 DISEASE ACTIVITY CORRELATION OF ANTI-DSDNA, ANTI-SM AND ANTI-RIBO-P AUTOANTIBODIES IN SYSTEMIC LUPUS ERYTHEMATOSUS USING THE NOVEL PMAT TECHNOLOGY

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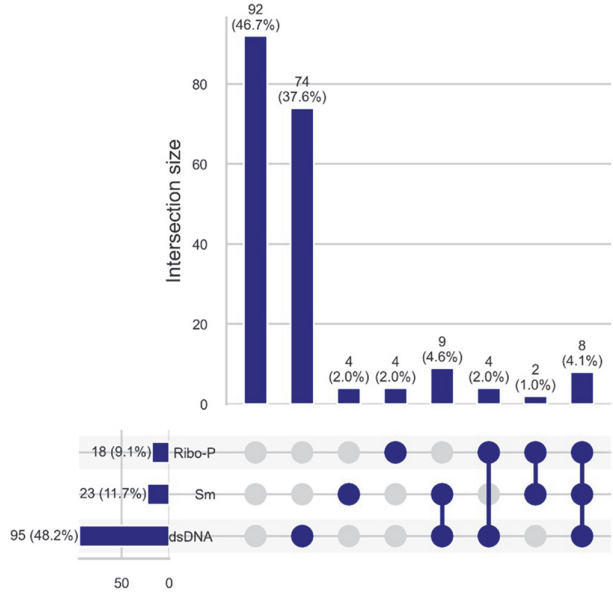
Purpose The immunologic domain of the 2019 EULAR/ACR classification criteria for Systemic Lupus Erythematosus (SLE) includes the presence of anti-Sm and anti-dsDNA autoantibodies as well as low complement (C3 and/or C4) levels. Anti-dsDNA, anti-Sm and anti-Ribo-P autoantibodies are highly specific for SLE and depending on the assay used can correlate with disease activity. Low C3 and C4 levels have been associated with renal involvement and disease activity. The aim of the present study was to evaluate the association of anti-dsDNA, anti-Sm and anti-Ribo-P autoantibodies determined on a particle-based multi-analyte technology (PMAT) platform with disease activity measured by SLEDAI (SLE Disease Activity Index) score or cSLEDAI (clinical SLE Disease Activity Index) and C3 and C4 levels in a Spanish SLE cohort.

Methods A total of 197 SLE patients were tested for anti-dsDNA, anti-Sm and anti-Ribo-P autoantibodies by the novel PMAT system using the Aptiva CTD Essential Reagent (research use only) (Inova Diagnostics, USA). The correlation between anti-dsDNA, anti-Sm and anti-Ribo-P autoantibodies and SLEDAI/cSLEDAI scores, as well as between anti-dsDNA autoantibodies and complement levels were assessed by Spearman´s correlation analysis.

Results Of the 197 SLE samples, 41.6% (n=82) were single positive for each of the autoantibodies evaluated: 37.6%



Abstract PO.2.32 Figure 1 Combined of anti-dsDNA, anti-Sm and anti-Ribo-P antibodies on SLE patients using Upset plot

Abstract PO.2.32 Table 1 Spearman's rank correlation and p-values between Aptiva dsDNA, Sm or Ribo-P PMAT (particle-based multi-analyte technology) and SLEDAI/cSLEDAI scores and/or complement levels (C3 or C4)

Clinical Parameter	Spearman´s rank correlation coefficient (*p*-value)		
	Aptiva dsDNA	Aptiva Sm	Aptiva Ribo-P
SLEDAI	0.618 (<0.0001)	0.359 (<0.0001)	0.260 (0.0002)
cSLEDAI	0.210 (0.0031)	0.244 (0.0006)	0.164 (0.0217)
C3	-0.406 (<0.0001)	-0.276 (<0.0001)	-0.252 (0.0004)
C4	-0.472 (<0.0001)	-0.306 (<0.0001)	-0.252 (0.0004)

(n=74) were positive for anti-dsDNA, 2% (n=4) were positive for anti-Sm, and 2% (n=4) were positive for anti-Ribo-P. In addition, 4.1% (n=8) were positive for all three analytes and 7.6% (n=15) were positive for a combination of two analytes (Figure 1).

Anti-dsDNA autoantibodies determined by Aptiva-PMAT showed a positive strong correlation with disease activity ($p<0.0001$) and moderate negative correlation with C3 and C4 levels ($p<0.0001$). Anti- Sm and anti-Ribo-P showed a positive weak correlation with disease activity ($p<0.0001$ and $p=0.0002$, respectively) and negative weak correlation with C3 and C4 levels (Table 1).

Conclusion Our study shows a positive strong association between anti-dsDNA antibodies measured by Aptiva-PMATand disease activity and a moderate negative correlation with complement levels (C3 or C4).

PO.2.33 ASSOCIATION OF ACPA AND RF ANTIBODIES WITH SYNOVITIS AND JOINT DESTRUCTION IN ALGERIAN PATIENTS WITH RHUPUS

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Purpose Rhupus is defined as an overlapping syndrome that combines the clinical and immunological features of systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA) simultaneously. The aim of our study was to characterize the clinical and immunological profiles of rhupus patients and to look for a possible association between the presence of autoantibodies and joint destruction.

Methods Eighteen (18) rhupus patients were included in our work. A clinical and a paraclinical examination were carried out. A serum assay of anti-cyclic citrullinated peptide antibodies (ACPA), rheumatoid factor (RA) and antinuclear antibodies (AAN) was performed.

Results Our series of rhupus patients was exclusively female with an average age of 39.4 ± 11.4 years. ACPA and anti-DNA antibodies were positive in 72.22% and 77.8% of cases, respectively. Joint manifestations were present in 94.44% of patients; all of them presented sonographic synovitis in the wrists and hands, accompanied by bone erosions in 72.22% of cases. Interestingly, our results demonstrated a significant association of ACPA positivity with the presence of arthralgia, synovitis and bone erosion ($p=0.017$, $p<10–3$, $p=0.05$, respectively). Also, RF positivity was associated with the presence of synovitis in our patients ($p<10–3$). Also, our analysis demonstrated the existence of a significant association between the presence of ACPA and RF at initial diagnosis with the onset of RA in patients initially diagnosed with lupus ($p=0.001$). In addition, a significant link was demonstrated between the presence of anti-DNA at initial diagnosis and the appearance of SLE-specific manifestations in patients initially diagnosed with RA ($p=0.003$).

Conclusion A better characterization of the rhupus syndrome on the clinical and immunological levels will allow an earlier and faster diagnosis of this entity; therefore, the choice of therapies and the prognosis of joint damage would be better.

PO.2.34 ANTI-DNASE I ANTIBODIES: AN EMERGING DIAGNOSTIC MARKER OF SLE

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Background No single biomarker, suited for SLE diagnosis verification, have been found among a great number of candidates, and the oldest one, anti-dsDNA antibodies, remains to be suggested as most appropriate test. Native DNA and nucleoproteins are fairly unstable antigens, and its single usage in immunoassays, including ELISA, seems to be unreasonable. DNase I is a low-priced and widespread tool for DNA analysis, and its epitopes are quite stable. We are to assess validity and diagnostic efficiency of evaluation of serum anti-DNase I antibodies using enzyme immobilized on reusable magnetic polyacrylamide beads.

Purpose Comparative assessment of discrimination accuracy between SLE and other autoimmune rheumatic diseases by means of anti-DNase I antibodies testing.

Methods The research was carried out in agreement with the WMA Declaration of Helsinki principles after approval of the local Committee on Medical Ethics. All the patients signed the informed consent. 54 patients with verified SLE and 52 controls with verified diseases other than SLE (RA, systemic scleroderma, systemic vasculitis, idiopathic inflammatory myopathies, Sjogren's disease) were included in the study. SLE diagnosis was verified using EULAR/ACR classification criteria (2019). 44 healthy volunteers were used as a reference group. Serum anti-DNase I antibody concentration was measured by modified ELISA test with DNase I immobilized on the magnetic polyacrylamide beads. The beads were synthesized using our original technique, and modified ELISA was performed as published previously.[1] Antibody concentrations were expressed as relative optical density units (ODU). Anti-DNA antibodies were measured by conventional ELISA. Results were expressed as means (95% confidence intervals). Differences were considered significant when $p<0.05$.

Results Anti-DNase I antibodies were detected in 35 (64.8%) SLE and 8 (15.4%) control patients. Average anti-DNase I concentration for SLE group was 0.079 (0.033–0.125), in the control group it was 0.063 (0.019–0.107) ODU ($p>0.05$). Optimum cutoff level between SLE patients and non-SLE autoimmune diseases (0.057 ODU) was equal to the lower limit of positive test results. Sensivity and specificity of the modified anti-DNase I ELISA were 64.74 (53.09–76.39) and 85.01 (72.95–97.07)%, respectively. Positive LR for this test was 4.21, and negative LR was 0.42. The area under anti-DNase I ROC curve had reached 0.774 and there was no significant difference between this AUC and the anti-dsDNA AUC.

Conclusion For the discrimination between SLE and commonly seen autoimmune rheumatic diseases diagnostic accuracy of the anti-DNase I antibodies test is high, being closely equal to the present reference standard, anti-dsDNA assay.

REFERENCES

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