obtained from Stago (Parsippany, NJ, United States of America). Platelet neutralization procedure (PNP; delta < 1 second) has been performed using a STA-R Evolution instrument by Stago [4, 5]. IgG and IgM antibodies against β 2-glycoprotein 1 ($\alpha\beta$ 2-IgG, $\alpha\beta$ 2-IgM) and cardiolipin (aCL-IgG, aCL-IgM) were measured in house while IgA isotypes ($\alpha\beta$ 2-IgA, aCL-IgA) were tested by LabCorp Diagnostics (Burlington, NC). Sensitivities, specificities, and positive (PPV) and negative predictive values (NPV) for detection of APS were calculated and compared by 2-tailed chi-square tests using GraphPad software.

Results: 222/1633 SLE patients had APS when using a combination of nine tests. Table 1 shows the frequency of positive and negative test results and p value for each assay. The greatest sensitivity was seen when all nine tests were performed together for detecting APS in SLE patients (74%; $\chi^2 p=0.0003$). In contrast, combining all tests had the lowest specificity (52%; $p<0.0001$). Importantly, the 2nd most sensitive test for detection of APS was the HPPNA at 52%, this tests also had the second lowest specificity (66%). Similar trends were seen when individual APS comorbidities, such as deep venous thrombosis (DVT), pulmonary embolism (PE), and stroke or TIA, were separately analyzed. Among the charts reviewed, the complete 9-test panel was only performed in 550 of 1633 patients (Table 1).

TEST	HPPNA	PNP	dRVVT	$\alpha\beta$ 2-IgG	$\alpha\beta$ 2-IgM	$\alpha\beta$ 2-IgA	aCL-IgG	aCL-IgM	aCL-IgA	All 9 tests
APS+ TEST+	102	35	36	15	14	13	21	28	8	73
APS+ TEST-	96	77	155	191	192	175	195	185	181	26
APS-TEST+	395	78	96	43	57	47	81	123	41	215
APS-TEST-	777	536	1179	1285	1271	1110	1298	1245	1069	236
p value	<0.0001	<0.0001	<0.0001	0.0046	NS	NS	0.0316	NS	NS	<0.0001
Sensitivity (%)	52	31	19	7	7	7	10	13	4	74
p value vs	HPPNA	0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003
PPV (%)	21	31	27	26	20	22	21	19	16	25
Specificity (%)	66	87	92	97	96	96	94	91	96	52
p value vs	HPPNA	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
NPV (%)	89	87	88	87	87	86	87	87	86	90
Number of Patients Tested	1370	726	1466	1534	1534	1345	1595	1581	1319	550

Conclusion: This study demonstrates that utilizing a combined 9-test panel has the greatest sensitivity but lowest specificity for detecting APS in SLE subjects. Thus, a failure to employ the complete panel may lead to exclusion of patients who may meet criteria for identifying patients with APS who need long-term anticoagulation for preventing life-threatening thrombotic events.

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FRI0255

LOW ATTENUATION NON-CALCIFIED CORONARY PLAQUES AND POSITIVE REMODELING INDEX: MARKERS OF VULNERABLE CORONARY PLAQUES IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: The presence of low attenuation noncalcified plaque (LANCP) and positive remodeling index (RI) are characteristic vessel changes in unstable coronary plaques. LANCP (<30 Hounsfield Units) contain necrotic cores that are characterized by endothelial dysfunction, oxidative stress, and inflammation. They

have been shown to be a better predictor of future cardiovascular events compared to traditional cardiovascular risk factors in the general population.

Coronary arterial remodeling describes changes of vessel size at the site of atherosclerotic lesions. Positive remodeling (expansion) of early lesions maintains lumen size despite plaque accumulation. This explains why these lesions might pass undetected by conventional angiography. Plaque rupture is often apparent at sites with only modest luminal stenoses but marked positive remodeling.

Accelerated atherosclerosis leading to premature coronary artery disease remains the major cause of late death in SLE.

Objectives: We sought to characterize LANCP and positive RI in patients with systemic lupus erythematosus.

Methods: A total of 72 patients who met the ACR or SLICC classification criteria for SLE had CT angiogram studies, 30 of which had follow up CT angiograms. A total of 100 healthy controls who had two CT angiograms were included in the study. Each noncalcified plaque (NCP) detected within the vessel wall was evaluated for minimum CT density and vascular remodeling index. A LANCP was defined as an NCP with a density <30 Hounsfield units. Lesions with remodeling 0% were considered to have positive RI. T-test was used to evaluate baseline characteristics between lupus patients and controls. Paired t-test or Wilcoxon signed ranks test was used to compare LANCP volume and RI between baseline and follow-up. Fisher's exact test was used to evaluate the association between change in LANCP, RI, demographic and clinical variables.

Results: Lupus patients had a significantly higher burden of LANCP at baseline compared to healthy controls in all age subgroups except in those >60 years of age. LANCP volume was associated with age ($p<0.01$) and body mass index ($p<0.01$). No significant differences were observed between RI in lupus and controls at baseline.

Despite a significant progression of the total noncalcified plaque burden in lupus compared to controls ($p<0.0001$), the LANCP in lupus patients regressed ($p<0.001$). No demographic or clinical differences were observed between lupus patients whose LANCP progressed and those whose LANCP regressed. Lupus patients who were not treated with statins had a more significant regression of their LANCP burden ($p<0.01$) compared to controls who were on statins, while lupus patients who were taking statins had a significant progression ($p<0.01$).

There were only 5 cardiovascular events in the studied group and there were no differences in remodeling index or low density noncalcified plaque observed but the number of events was small.

Conclusion: Lupus patients have a significantly higher burden of LANCP at baseline compared to healthy controls in all age subgroups except in those >60 years of age. The LANCP burden regresses more rapidly over time in lupus compared to controls. Surprisingly, the most significant LANCP plaque volume regression was seen in lupus patients who were never treated with statins, while the most significant progression was observed in those taking statins. Positive RI was ubiquitous, with no evidence of progression or differences compared to controls. These characteristic vessel changes may identify SLE patients at need for more frequent noninvasive cardiac monitoring.

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FRI0256

ASSESSING THE PREVALENCE AND USE OF VALIDATED SYSTEMIC LUPUS ERYTHEMATOSUS DISEASE ACTIVITY METRICS IN REAL WORLD PRACTICE

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Background: Disease activity metrics for systemic lupus erythematosus (SLE) are not widely used in real world clinical practice.

Objectives: To assess the use and drivers of SLEDAI and BILAG index in real world clinical practice.

Methods: A cross-sectional study of rheumatologists in the US and EU5. Data were collected from the Adelphi Real World 2010/2013/2015 Lupus Disease Specific Programmes (DSP). Physicians were asked to complete an attitudinal survey and patient record forms (PRFs) for the next 5 patients consulting with SLE; the same patients were asked to complete patient self-completion (PSC) forms describing how SLE affected them. PRFs collected data pertaining to the patient's diagnosis, disease history, current clinical outcomes, treatment and management history. PSCs focused on similar data collection and included patient reported outcome measures (PROs) to assess the humanistic burden. 2015 DSP data was used to assess the profile of patients with a SLEDAI assessment were compared to those without a SLEDAI assessment, using Fisher's Exact and Mann-Whitney tests. Similar analysis was also conducted for those with/without BILAG index assessments. 2013 & 2010 DSP datasets were merged, and multiple linear regression was used to assess drivers of SLEDAI and BILAG index utility, respectively.

Results: Physicians provided 263 surveys, extracted from the 2015 DSP, indicating that 131 were aware of but did not use the BILAG index, and 92 of physicians were aware of but did not use the SLEDAI.

Physicians provided 1376 record forms for SLE patients, extracted from the 2015 DSP; 71 (5.2%) had a BILAG index (1305, 94.8% had no BILAG index), and 373 (27.1%) had had a SLEDAI calculated prospectively (1003, 72.8% had No SLEDAI). Patients with SLEDAI had longer disease duration than patients who did not have a SLEDAI (mean: 6.3 vs. 5.2 years, $p=0.007$), were less likely to have been described as mild at diagnosis (no SLEDAI mild: 18.7%; SLEDAI mild: 11.3%, $p=0.0004$) and consulted more with health care professionals in the past 12 months (no SLEDAI mean visits: 6.5, SLEDAI mean: 7.7, $p<0.001$).

Patients with a BILAG index had flared more in the last 12 months (no BILAG: 30.6%, BILAG: 45.1%, $p=0.0126$).

Physicians provided data on 220 SLEDAI and 75 BILAG assessments, extracted from the 2010 & 2013 DSPs. Multiple linear regression analyses revealed that flaring in the last 12 months (Coef: 3.27 [0.36 – 6.18], $p=0.028$), renal symptoms (Coef: 5.67 [1.84-9.51], $p=0.004$), and muscular symptoms (Coef: 4.58 [1.22-7.94], $p=0.008$) were all associated with a higher SLEDAI score, with r -squared 0.1948.

Multiple linear regression showed that renal symptoms (Coef: 3.87 [1.00 – 6.75], $p=0.009$) were associated with a higher BILAG score, with r -squared 0.3717.

Conclusion: The use of SLEDAI and BILAG index in clinical practice is limited and seemingly reserved for use in more severe patient cohorts; understanding the ongoing impact of this selective use on the treatment and management of SLE would be beneficial. Additionally, understanding the drivers and barriers to the use of disease activity metrics is important to improve the management of SLE in the future.

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FRI0257

PROLACTIN AND DEHYDROEPIANDROSTERONE SULFATE IN WOMEN WITH ACTIVE SYSTEMIC LUPUS ERYTHEMATOSUS OF RECENT ONSET VERSUS CHRONIC INACTIVE PATIENTS

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Background: Systemic lupus erythematosus (SLE) is an autoimmune disease, typically affecting young women at reproductive age. Prolactin (PRL) levels have shown direct correlation with clinical and serological disease activity. Hyperprolactinemia has been reported in a wide range of SLE patients (15–33%). Dehydroepiandrosterone (DHEA) and its sulfated form dehydroepiandrosterone sulfate (DHEAS) are the most abundant circulating steroid hormones in humans. The level of both metabolites is lower in patients with active SLE compared with patients with inactive

disease, which suggests a potential role of low levels of DHEAS in the pathogenesis of SLE.

Objectives: To evaluate serum PRL levels and DHEAS levels in patients with active SLE of recent onset vs patients with inactive chronic and healthy controls and their correlation with activity and chronicity scores

Methods: Serum PRL levels and DHEAS levels were studied, as well as their correlation with SLEDAI and SLICC scores. Group 1: 15 patients with SLE of recent onset (active SLEDAI >3) Group 2: 20 patients with inactive chronic SLE (SLEDAI<3) and Group 3: 20 healthy controls. SLEDAI and SLICC were calculated in group 1 and group 2 respectively. PRL and DHEAS was measurement by radioimmunoassay in all groups. Statistical analysis: U-Mann Whitney and Spearman correlation.

Results: Group 1: serum PRL levels were 27.82 ± 9.96 ng/dl vs group 2: 20 ± 5.02 ng/dl ($p=0.004$) and group 3: 19.58 ± 4.57 ng/dl ($p=0.004$). Group 1: serum DHEAS levels were 14.58 ± 9.26 µg/dl, group 2: 19.36 ± 7.21 µg/dl ($p=0.04$) and group 3: 154.43 ± 50.88 µg/dl ($p=0.001$). The average DHEAS was lower in patients with chronic SLE vs controls ($p=0.001$). A positive linear correlation was found between serum PRL levels and SLEDAI score (Rho 0.92, $p=0.001$). No correlation was found between PRL and SLICC score. A negative linear correlation was shown between DHEAS concentration and SLICC score (Rho-0.46, $p=0.03$).

Conclusion: PRL levels were higher in active SLE patients VS. chronic inactive SLE and healthy controls. In contrast, serum DHEAS levels were lower in patients with active SLE vs. inactive chronic SLE. We found a positive correlation between SLEDAI score and PRL serum concentrations and an inverse correlation between SLICC score and DHEAS serum levels.

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FRI0258

ANTI-RO/SSA POSITIVITY, ANTI-AQUAPORIN4 ANTIBODIES AND CENTRAL NERVOUS SYSTEM INVOLVEMENT: A RETROSPECTIVE STUDY ON A CONTROVERSIAL CORRELATION

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Background: Different neurological manifestations have been observed in 20–25% of patients affected by Sjögren's syndrome (SS). Among them, CNS demyelinating diseases, Neuromyelitis optica (NMO) and NMO spectrum disorders (NMOSD) with anti-aquaporin4 antibodies (anti-AQP4) positivity have been described.

Objectives: The aim of the present study was to assess the clinical characteristics and seroimmunological correlations in patients with Ro-SSA antibodies and Central and peripheral nervous system (CNS and PNS) involvement.

Methods: We retrospectively reviewed clinical records, laboratory and Magnetic Resonance Imaging (MRI) reports of patients followed-up at a tertiary level immunorheumatology and neuroimmunology clinic. We included patients showing an anti-SSA antibodies positivity and concomitant neurological symptoms at diagnosis. We excluded patients fulfilling SLICC criteria for SLE. We recorded clinical and laboratory and MRI data for all patients.

Results: Out of 9598 clinical records reviewed, we identified 511 patients with anti Ro/SSA positivity. 11 patients had prevalent neurological manifestations. 8 (72.7%) patients were women. The median age was 56 [IQR 31] years. CNS involvement was the main clinical feature in 7 patients (63.6%); 3 of them (27.3%) also had PNS manifestations. 4 patients showed exclusively PNS involvement.

3 subjects fulfilled criteria for SS while 8 patients were classified as undifferentiated connective tissue disease. 7 patients underwent spinal tap