the median duration of disease 2 years) selected according to 2010 ACR/EULAR diagnostic criteria were included. 30 healthy control groups were selected. Anti carP antibody Anti-carbamylated Protein Human anti-carbamylated Protein Antibody (ACP-Ab) ELISA Kit (SunRedBio, China) was used for measurement of antibodies against carbamylated proteins.

Results: The study population consisted of 133 subjects, 30 controls, 57 SLEs and 46 RAs. The mean age of SLE patients was lower than that of RA patients. (40.9±13.7 versus 54.2±12.4; $p<0.001$). The proportion of active smokers was found to be higher in RA patients compared to SLE patients (19.6% versus 5.3%, $p=0.005$). The frequency of anti carP antibody positivity was 3.3% in the healthy control group. In contrast, the frequency of anti carP antibody positivity was found as high as 17.4% in patients with RA. ($p<0.001$). And this frequency was 54.4% in the SLE patient group ($p<0.001$). Anti carP antibody predicted SLE patients with 54.4% sensitivity and 96.7% specificity compared to the healthy control group. (AUC: 0.755, $p<0.001$) Anti carP antibody predicted RA patients with 17.4% sensitivity and 96.7% specificity compared to the healthy control group (AUC: 0.570, $p=0.032$). Anti carP antibody predicted SLE patients with 54.5% sensitivity and 82.6% specificity compared to healthy RA group (AUC: 0.685, $p<0.001$). AnticarP antibodies were found to be positive in all of the SLE patient groups with anti-CCP positivity. There was no significant difference in terms of organ involvement between anti-carP antibody positive or negative SLE patients. Anti-carP antibody positivity was assessed by ROC Curve analysis for the prediction of diagnostic performance in SLE patients compared to RA patients. Accordingly, Anti carP antibody positivity, ANA positivity, were found to have similar diagnostic performance. (AUC: 0.639)

Abstract THU0345 – Table 1. Anti carbamylated protein antibody positivity distribution across groups

Variables	control n=30	SLE n=57	RA n=46	P
AnticarP antibody				
Negative	29(96.7)	26(45.6)	38(82.6)	<0.001
Positive	1(3.3)	31(54.4)	8(17.4)	

Categorical variables were expressed as number (%). (carP:carbamylated protein
SLE:systemic lupus erythematosus RA: rheumatoid arthritis)

Conclusions: Antibody positivity was found to be 54.4% in SLE patient group. It is significantly higher in SLE compared to healthy control and RA patient group. In the SLE group, it is still a more significant diagnostic prognostic than the healthy control and RA group. Both SLE and RA patients have significant sensitivity and specificity compared to the healthy control group.

Disclosure of Interest: None declared

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THU0346 DETERMINANTS OF SONOGRAPHIC GLANDULAR DAMAGE IN A LARGE COHORT OF PATIENTS WITH PRIMARY SJÖGREN'S SYNDROME AND ITS IMPACT ON SALIVARY GLAND DYSFUNCTION

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Background: Salivary gland ultrasonography (SGUS) has increasingly appeared as a valid tool to characterise major salivary glands involvement in primary Sjögren's syndrome (pSS). An international score based on the number and location of the hypoechoic areas in the gland has been proposed for diagnostic purposes. Recently, a specific interest in using SGUS to estimate major salivary gland damage has also arisen in order to individualise patients treatment.

Objectives: a) to investigate frequency and severity of salivary gland damage in a large monocentric cohort of pSS patients; b) to explore determinants that could be associated with salivary gland damage accrual.

Methods: Sonographic data from a monocentric cohort of 311 pSS patients were collected from 2012 to 2017. SGUS had been performed according to a standard protocol that evaluated the echotexture of each gland graded on a 5-point scale (0–4). Salivary gland damage was defined by the presence of hyperechoic bands in more than 50% of the glandular parenchyma and on the basis of the size of the four glands.

Results: We included in the study 311 patients. The median age of the patients was 58 years (IQR, 49–68) and the median disease duration was 3 years (IQR, 0–9). Out of the cohort, 163 (52.4%) patients underwent SGUS examination within 3 years from the diagnosis, 91 (29.3%) within 4 to 10 years and 57 (18.3%) 10 years or more after the diagnosis. At SGUS evaluation 134/311 (43.1%) pSS patients did not present any findings of damage, whereas 177/311 (56.9%) presented at least one element of damage. SGUS damage inversely correlated with USFR ($r=-0.382$, p -value=0.001). At the univariate analysis SGUS damage was associated to disease duration, number and location of the hypo-anechoic areas, focus score, ESSDAI score, hypergammaglobulinemia, and positivity for anti-Ro/SSA, anti-La/SSB, Rheumatoid Factor (RF) and cryoglobulins. In the linear

regression, duration of the follow-up, number and location of the hypo-anechoic areas and presence of cryoglobulins remained independently associated with SGUS damage. In 138/311 (44.4%) patients, SGUS was repeated prospectively at least twice during a median follow-up of 24 months (IQR, 12–36). Notably, 23/138 (16.7%) patients presented a damage progression. Presence of hyperechoic bands in the submandibular glands at the baseline evaluation was an independent risk factor for damage progression, whereas pSS low disease activity (ESSDAI <5) was protective against damage accrual.

Conclusions: Ultrasonographic damage resulted quite frequent in pSS patients and significantly associated with salivary gland dysfunction. Notably, pSS patients with normal echotexture of their glands were those less prone to develop SGUS damage during the disease course, whereas those presenting localised, diffuse or scattered hypo-anechoic areas were at higher risk of damage accrual.

Disclosure of Interest: None declared

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THU0347 AQUAPORIN-4 IMMUNOGLOBULIN G ANTIBODY POSITIVE NEUROMYELITIS OPTICA SPECTRUM DISORDER AND SYSTEMIC AUTOIMMUNE DISEASES OVERLAP SYNDROME: A SINGLE CENTRE EXPERIENCE

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Background: The coexistence of neuromyelitis optica spectrum disorder (NMOSD) with other systemic autoimmune diseases is well recognised, especially with systemic lupus erythematosus (SLE) and Sjögren syndrome (SS). However literature is scarce, limited to case reports and multicentric case series.

Objectives: To describe the clinical and radiological characteristics and outcomes of patients with AQP4-IgG seropositive NMOSD coexisting with SLE and SS in a single centre.

Methods: This was a retrospective study that included patients with concurrent diagnosis of AQP4-IgG seropositive NMOSD according to the 2015 International Consensus Diagnostic Criteria, and SLE according to the ACR revised criteria or SS according to the AECG criteria who regularly attended a tertiary referral centre in Mexico City (2003–2018). We collected demographics, clinical (neurological events, number of relapses, remission, treatment, follow-up [date of last visit to a rheumatologist and/or neurologist] and disability according to the Expanded Disability Status Scale [EDSS]), laboratory (cerebrospinal fluid (CSF) analysis) and imaging data of NMOSD, as well as clinical and serological data of the overlapping autoimmune disease. We assessed disease activity in SLE and SS using SLE-DAI-2K and ESSDAI respectively, and accrual damage with the SLICC/ACR-DI and SSSDI respectively.

Results: We included 11 patients, 10 (90.9%) women with a mean age at diagnosis of 36±15 years. Seven (63.6%) had SLE and 4 (36.6%) primary SS. Five (45.5%) patients had also another systemic or organ-specific autoimmune disease. In 8 (72.7%) patients NMOSD followed SLE/SS onset, 3 (27.3%) had a simultaneous presentation, and in 1 (9.1%) NMOSD preceded SS diagnosis. The mean time from diagnosis of SLE/SS to the first neurological event was 54.6 months. The mean SLEDAI-2K and ESSDAI at first neurological event was 3.1 (mainly hypocomplementemia and high anti-dsDNA) and 14.3 points (mainly renal and peripheral nerve involvement) respectively. During follow-up, 10 patients (90.9%) experienced myelitis, 5 (45.5%) optic neuritis, 2 (18.2%) each experienced area postrema syndrome, acute brainstem syndrome and cerebral syndrome; being the median number of neurological events 4.¹⁻⁸ Three patients (27.3%) had antiphospholipid antibodies. None of the patients had pleocytosis or low CSF glucose and 3 had high CSF proteins. All patients had longitudinally extensive transverse myelitis on MRI, 3 (27.3%) optic nerve findings and 6 (54.5%) NMOSD-typical brain lesion patterns. Nine (81.8%) patients went into either total or partial NMOSD remission at a mean follow up of 6.5±5.3 years. At last follow up the median EDSS, SLICC/ACR-DI and SSSDI was 2.5 (1–10), 2 (0–7) and 2 (0–3) points respectively; 4 (36.4%) patients had sequelae and 1 patient was death.

Conclusions: Patients with SLE or SS with clinical features of NMOSD should be tested for AQP4-IgG. In our cohort, AQP4-IgG seropositive NMOSD arose in the context of low SLE activity and in the context of SS with extraglandular features, and the disability and accrual damage at last follow up appeared to be mild.

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THU0348

TIME ON DIALYSIS ADVERSELY AFFECTS RENAL TRANSPLANT OUTCOME IN LUPUS NEPHRITIS^{1,2}E. Ntatsaki, V. Vassiliou³, A. Velo Garcia⁴, A.D. Salama⁵, D.A. Isenberg².¹Rheumatology, Ipswich Hospital NHS Trust, Ipswich; ²Rheumatology, University College London, London; ³Medical School, University of East Anglia, Norwich, UK; ⁴Internal Medicine Department, University Hospital Complex of Pontevedra, Pontevedra, Spain; ⁵Centre for Nephrology, University College London, London, UK

Background: Lupus nephritis (LN) is an important cause of morbidity and mortality in patients with systemic lupus erythematosus (SLE) often leading to end stage renal failure (ESRF) and necessitating renal transplantation. However, the optimal timing of transplantation in SLE patients with ESRF is uncertain and could potentially affect survival.

Objectives: We investigated time spent on dialysis before renal transplantation and survival following the transplantation in a cohort of SLE patients.

Methods: Retrospective analysis of all adult SLE patients undergoing renal transplantation over a 40 year period (1975–2015) in two tertiary UK centres followed up until 2017. Cox proportional hazard regression and receiver operator curves (ROC) were used to determine the risk associated with time on dialysis before the transplantation and other potential predictors.

Results: Forty patients (age 35±11 years, 34 female, 15 Caucasian, 15 Afro Caribbean and 10 South Asian) underwent transplantation. During a median follow up of 104 months (IQR 80, 145), 8 (20%) patients died and the five year survival was 95%. Univariate analysis identified time on dialysis prior to transplantation as the only potentially modifiable risk predictor of survival with a Hazard Ratio of 1.013 for each additional month spent on dialysis (95% CI=1.001–1.026, p=0.03). ROC curve demonstrated that >24 months on dialysis had an adverse effect with sensitivity of 0.875 and specificity 0.500 for death. No other modifiable predictors were significantly associated with mortality, indicating that time on dialysis had an independent effect.

Abstract THU0348 – Figure 1. Kaplan-Meier estimator plot between patients who had less than 24 months of dialysis (blue line) or more than 24 months (green line), suggesting a trend of almost threefold risk of survival in those spending longer time on dialysis, HR 2.84 log rank p=0.15.

Conclusions: Increased time on dialysis pre-transplantation is an independent modifiable risk factor of mortality in this cohort of patients with lupus nephritis and should be one of the factors considered for patient selection to transplantation.

Disclosure of Interest: None declared

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THU0349

ANTIBODIES TO PHOSPHATIDYLSENERE-PROTHROMBIN COMPLEX AND ANNEXIN V AS RISK FACTORS FOR THE DEVELOPMENT OF THROMBOTIC COMPLICATIONS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS¹E. Belolipetskaia, I. Beliaeva¹, V. Mazurov¹, S. Lapin², O. Tkachenko², V. Guseva², O. Inamova³. ¹North-Western State Medical University named after I. I. Mechnikov; ²St. Petersburg State Medical University named after I.P. Pavlov;³Clinical Rheumatological Hospital No 25, Saint-Petersburg, Russian Federation

Background: Seronegative antiphospholipid syndrome (APS) is a type of APS where the diagnostic levels of "classical" antiphospholipid antibodies (aPL) are not detected, though antibodies to the phosphatidylserine-prothrombin complex (aPS-PT) and anti-annexin V antibodies can be present. The role of these antibodies in the diagnosis of APS needs to be clarified.

Objectives: To study the prevalence of aPS-PT and anti-annexin V antibodies and their role in the development of thrombotic complications.

Methods: 79 SLE patients were enrolled in the study (M/F 7/72; mean age 11.0 years, range 18.0/78.0). The main group consisted of 38 SLE patients with thrombotic complications and/or obstetric complications (mentioned in the classificational criteria for APS), a comparison group consisted of 41 SLE patients without thrombotic/obstetric complications. The groups were comparable in age, duration and SLE activity.

ELISA was used to test for aPL: anticardiolipin (aCL) IgG and IgM, anti-β₂-glycoprotein-1 antibodies IgGAM (anti-β₂GPI), antibodies to phosphatidylserine-prothrombin complex (anti-PS/PT) IgG/M, anti-annexin V antibodies IgG/IgM. Lupus anticoagulant (LA) was evaluated using the DRVV test method.

Results: In 11 patients (29%) of the main group "classical" aPL were not detected, although one SLE patient with thrombosis had elevated levels of antibodies to annexin V IgG (>5 U/ml).

Sensitivity and specificity of aPL for the diagnosis of APS in patients with SLE were 19% and 96% for anti-PS/PT, 11% and 94% for anti-annexin V antibodies IgG, 11% and 88% for anti-annexin V antibodies IgM respectively.

When comparing two groups using rank test, significant differences were revealed for aCL IgG, anti-β₂GPI IgGAM levels (p<0.05); there were no significant differences between the main group and the comparison group (p>0.05) for levels of aCL IgM, aPS-PT and anti-annexin V antibodies. A positive correlation was revealed between the level of aPS-PT and the following aPL: LA (r=0.45, p=0.0006), aCL IgM and IgG (r=0.4 and r=0.45, p<0.001), anti-annexin V antibodies IgM and IgG (r=0.72 and r=0.47, p<0.001).

In a subgroup with elevated aPS-PT levels (>16 U/ml, 6 patients) thrombotic complications, venous thrombosis and its recurrence developed significantly more often than in a subgroup with a normal aPS-PT levels (OR=3.4, p=0.02, OR=4.1, p=0.02, OR=1.5, p=0.01, respectively).

Conclusions: 1. Anti-annexin V antibodies IgG and IgM have high specificity (94% and 88% respectively), but low sensitivity (11% and 11% respectively) for diagnosis of APS in SLE patients. 2. A level of aPS-PT has a positive correlation with both "classical" aPL and anti-annexin V antibodies, and has a sensitivity of 19% and a specificity of 96% for the diagnosis of APS in SLE patients. 3. Elevated levels of aPS-PT (>16 U/ml) increase the incidence of thrombotic complications in patients with SLE.

Disclosure of Interest: None declared

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THU0350

TIME DEPENDENT ASSOCIATION OF ACTIVE RENAL DISEASE WITH IRREVERSIBLE ORGAN DAMAGE ACCRUAL IN SYSTEMIC LUPUS ERYTHEMATOSUS¹E. Morand, R. Kandane-Rathnayake¹, W. Louthrenoo², S.-F. Luo³, Y.-J. Wu⁴, A. Lateef⁵, V. Golder¹, S. Sockalingam⁶, S. Navarra⁷, L. Zamora⁷, L. Hamijoyo⁸, Y. Katsumata⁹, M. Harigai⁹, M. Chan¹⁰, S. O'Neill¹¹, F. Goldblatt¹², C.S. Lau¹³, A. Hoi¹, M. Nikpour¹⁴. ¹School of Clinical Sciences at Monash Health, Monash University, Clayton, Australia; ²Chiang Mai University Hospital, Chiang Mai, Thailand; ³Chang Gung Memorial Hospital, Taipei; ⁴Chang Gung Memorial Hospital, Keelung, Taiwan, Province of China; ⁵National University Hospital, Singapore, Singapore; ⁶University of Malaya, Kuala Lumpur, Malaysia; ⁷University of Santo Tomas Hospital, Manila, Philippines; ⁸University of Padjadjaran, Bandung, Indonesia; ⁹Tokyo Women's Medical University, Tokyo, Japan; ¹⁰Tan Tock Seng Hospital, Tan Tong Seng, Singapore; ¹¹Liverpool Hospital, Liverpool; ¹²Royal Adelaide Hospital and Flinders Medical Centre, Adelaide, Australia; ¹³University of Hong Kong, Pok Fu Lam, Hong Kong; ¹⁴St. Vincent's Hospital, Melbourne, Australia

Background: Lupus nephritis (LN) is a common feature of systemic lupus erythematosus (SLE). While LN is considered a contributor to irreversible organ damage in SLE, the magnitude of impact of active renal disease relative to other contributors to damage accrual is unknown.

Objectives: To determine the time-dependent association of active lupus nephritis (LN) with organ damage accrual in SLE.

Methods: This study was performed on patients from the Asia Pacific Lupus Collaboration (APLC) cohort. SLE Disease Activity Index-2000 (SLEDAI-2k) is collected per-visit and SLICC-ACR Damage Index (SDI) annually. Analysis was restricted to patients with ≥2 SDI scores. Active LN was defined if patients had urinary casts, proteinuria, haematuria or pyuria as indicated in the SLEDAI-2k descriptor. Organ damage accrual was defined as a change of SDI (ΔSDI>0) between baseline and final visit. Glucocorticoid (GC) categories were defined according to cumulative GC exposure at each visit as either no GC (cum.GC=0); low GC (cum.GC ≤median) or high GC (cum.GC >median). Cox regression analyses were performed.

Results: 1735 patients and 5593 visits were included in the analysis. 93% of patients was female with a median [inter-quartile range (IQR), (range)] age of 40 years. ^{31, 51, 18, 77} Median study observation period was 853 days [621, 1094]. ^{96, 1443} 36% were Chinese; 20% Thai and 10% Caucasian ethnicity. 82% of patients were