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

DOI: 10.1136/annrheumdis-2018-eular.5249

THU0349 ANTIBODIES TO PHOSPHATIDYLSENERE-PROTHROMBIN COMPLEX AND ANNEXIN V AS RISK FACTORS FOR THE DEVELOPMENT OF THROMBOTIC COMPLICATIONS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

¹E. 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

DOI: 10.1136/annrheumdis-2018-eular.4757

THU0350 TIME DEPENDENT ASSOCIATION OF ACTIVE RENAL DISEASE WITH IRREVERSIBLE ORGAN DAMAGE ACCRUAL IN SYSTEMIC LUPUS ERYTHEMATOSUS

¹E. 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

Abstract THU0348 – Table 1. Univariate Cox proportional hazard modelling investigating the association of various parameters and mortality showing that only one modifiable risk factor associated with prognosis (time on dialysis, the longer on dialysis the worse the prognosis) and one non-modifiable (rTp taking place after 2000 associated with better survival). SLE- Systemic Lupus Erythematosus, LN- Lupus Nephritis, ESRF- End Stage Renal Failure, rTp- renal transplantation, PD- Peritoneal Dialysis, HD- Haemodialysis, APLS- Antiphospholipid syndrome, MI- Myocardial Infarction, TIA- Transient Ischaemic Attack.

Factor	P value	HR	95% CI
Time on Dialysis/per month	0.031	1.013	1.001–1.026
Gender/male	0.442	0.038	0.001–161.3
Ethnicity	0.987	0.995	0.537–1.844
Age at SLE diagnosis	0.552	1.021	0.953–1.094
Age of LN	0.941	1.003	0.920–1.092
Age at rTp	0.431	1.026	0.963–1.092
Dialysis PD (vs HD)	0.764	0.706	0.073–6.862
Time between LN and Dialysis	0.540	0.999	0.994–1.003
LN Duration before Dialysis	0.152	1.066	0.977–1.164
Type IV LN	0.398	2.533	0.294–21.82
Dialysis Decade	0.712	0.872	0.420–1.807
Diabetes Mellitus	0.561	0.038	0.001–2319
Hypertension	0.323	0.329	0.360–2.987
Dyslipidaemia	0.905	0.872	0.092–8.234
APLS	0.508	0.036	0.000–672.6
Cardiac disease (MI, stroke, TIA)	0.873	1.071	0.463–2.476
Donor source living	0.353	0.459	0.089–2.372
Graft Failure post rTp	0.314	2.073	0.501–8.567

exposed to glucocorticoids. 40% had active renal disease at least once during the study period, and active renal disease was observed in 22% of visits (n=1238 visits). 41% of patients had organ damage at baseline and 14% accrued organ damage (272 damage accrual episodes in 250 patients). Active renal disease was significantly associated with damage accrual; after adjusting for confounders, patients with active renal disease were 66% more likely to accrue organ damage compared to those without active renal disease (adjusted hazard ratio=1.66 (95% CI: 1.26, 2.19), p-value<0.01 (table 1). High cumulative GC and age were also significantly associated with damage accrual.

	Univariable Cox regression analysis			Multivariable Cox regression analysis		
	HR	(95% CI)	p-value	HR	(95% CI)	p-value
Age at baseline (years)	1.02	(1.01,1.03)	<0.01	1.02	(1.01,1.03)	<0.01
Asian ethnicity	0.74	(0.52,1.05)	0.09	0.72	(0.50,1.04)	0.08
Cumulative glucocorticoid (GC) categories						
No GC	1.00	(1.00,1.00)		1.00	(1.00,1.00)	
Low GC (≤median PNL)	1.42	(0.94,2.14)	0.1	1.47	(0.97,2.23)	0.07
High GC (>median PNL)	1.51	(1.04,2.18)	0.03	1.46	(0.99,2.16)	0.05
Baseline organ damage present	1.56	(1.22,2.00)	<0.01	1.27	(0.97,2.23)	0.09
Active lupus nephritis	1.66	(1.29,2.14)	<0.01	1.66	(1.26,2.19)	<0.01

Conclusions: Active LN is an independent risk factor for damage accrual in SLE. The concomitant independent association of GC exposure with damage accrual suggests non-GC treatments to reduce active LN are needed to reduce damage burden in SLE.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4328

THU0351

SUSCEPTIBILITY TO CEREBRAL ISCHEMIA IN EARLY LUPUS PATIENTS: A PILOT STUDY OF CO-REGISTRATION WITH CONVENTIONAL BRAIN MRI, DIFFUSION- AND PERFUSION-WEIGHTED IMAGING

¹E. Silvagni, A. Revenaz², A. Bortoluzzi¹, E. Groppo³, M. Padovan¹, M. Borrelli², S. Ceruti², C.A. Scirè¹, E. Fainardi⁴, M. Govoni¹. ¹Department of Medical Sciences, Rheumatology Unit, University of Ferrara; ²Neuroradiology Unit, Department of Neuroscience and Rehabilitation, Azienda Ospedaliero-Universitaria Sant'Anna, Cona; ³Neurorehabilitation Unit, MS Center, Foundation Don Gnocchi, Milan; ⁴Neuroradiology Unit, Department of Experimental and Clinical Biomedical Sciences, University of Florence, Florence, Italy

Background: Conventional brain Magnetic Resonance Imaging (cMRI) has a limited usefulness in patients with early diagnosis of Systemic Lupus Erythematosus (SLE), showing not specific abnormalities in up to half of the patients. No data are available about cMRI combined with advanced MRI techniques in early SLE patients.

Objectives: To evaluate differences between early SLE patients, even without overt neuropsychiatric (NP) manifestations, and healthy controls (HCs) in a mono-centric cohort, using data derived from cMRI, diffusion-weighted imaging (DWI) and perfusion-imaging (PWI).

Methods: Patients referred to a single tertiary rheumatologic centre with early diagnosis of SLE (less than 24 months), aged less than 55, were consecutively enrolled (01/05/2013–31/12/2017) and imaged with cMRI, DWI and PWI (1.5 Tesla Philips "Signa Achieva" scanner). Data were analysed with a semi-automated measuring system (Diffusion/Perfusion Project Suite, developed in Multiple Sclerosis patients) to co-register apparent diffusion coefficient (ADC), cerebral blood flow (CBF) and volume (CBV), mean transit time (MTT) in normal appearing grey (NAGM) and white matter (NAWM), deep GM (putamen, pallidus, caudate, thalamus) and lesions. Demographic, clinical, serological and treatment information were collected as well as NP events at baseline attributed to SLE according to a validated algorithm. Statistical analysis were performed by comparing median (interquartile range, IQR) values for skewed variables between SLE and HCs and with quantile regression adjusted for cardiovascular comorbidities (hypertension, diabetes, previous coronary heart disease, hyperlipidaemia, obesity).

Results: 30 patients with early SLE (mean age 37.0 years, standard deviation SD 10.7, 27 females) and 8 HCs (mean age 40.6, SD 11.2, 6 females) were enrolled. MRI was performed after a mean period of 259 days from diagnosis; mean (SD) Systemic Lupus Erythematosus Disease Activity Index 2000 (SLEDAI-2k) was 8.87 (3.85) while mean (SD) Systemic Lupus International Collaborating Clinics/American College of Rheumatology Damage Index (SDI) was 0.40 (0.72); 3 patients were classified as NPSLE at diagnosis. Median (IQR) values of ADC in NAGM and NAWM were 1.15 × 10⁻³ mm²/s (1.12–1.16) and 0.86 (0.85–0.88) in SLE, 1.28 (1.16–1.33) and 0.97 (0.87–0.98) in HCs respectively (table 1). After adjusting for comorbidities, median differences between ADC values remained significant (p<0.001). SLE patients had lower median ADC values at bilateral putamen and pallidus. No differences were found in perfusion parameters in all the regions of interest (ROI) and lesions. A trend towards lower CBV and CBF and higher MTT values for NAGM-NAWM in NPSLE compared to non-NPSLE was found.

Abstract THU0351 – Table 1. Differences in diffusion and perfusion parameters at normal appearing GM and WM level in SLE patients and HCs.

ROI	NAGM ADC	NAWM ADC	NAGM CBF	NAWM CBF	NAGM CBV	NAWM CBV	NAGM MTT	NAWM MTT
SLE (30), median (IQR)	1.15 (1.12-1.16)	0.86 (0.85-0.88)	37.09 (30.97-47.21)	29.42 (26.00-37.48)	2.43 (2.20-2.58)	1.95 (1.80-2.26)	4.31 (3.80-5.23)	4.87 (4.12-5.85)
HCs (8), median (IQR)	1.28 (1.16-1.33)	0.97 (0.87-0.98)	33.89 (25.38-47.79)	26.54 (20.16-39.79)	2.57 (2.19-3.07)	2.11 (1.77-2.54)	5.11 (4.11-6.18)	5.78 (4.58-6.72)
p	0.004	0.009	0.591	0.519	0.283	0.452	0.123	0.124

Unit of measurement: ADC (x10⁻³mm²/s); CBF (ml/100g/min); CBV (ml/100g); MTT (s).

Conclusions: Lower ADC values in normal appearing GM and WM in early SLE patients could reflect susceptibility to cerebral ischemia, partially confirmed analysing perfusional data in NPSLE patients. Further prospective studies with higher sample size are necessary to confirm these findings.

REFERENCES:

- [1] Petri, et al. J Rheum 2008.
- [2] Bortoluzzi, et al. Rheumatology (Oxford) 2015.
- [3] Revenaz, et al. BMC Med Imaging 2016.
- [4] Papadaki, et al. Ann Rheum Dis 2017.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5702