THU0339

IMPACT OF CAROTID ULTRASOUND ON THE CARDIOVASCULAR RISK STRATIFICATION OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

J.C. Quevedo Abeledo¹, ²H. Sánchez, I. Rua-Figueroa¹, B. Tejera³, A. Naranjo¹, C. Rodríguez-Lozano¹, I. Ferraz-Amaro². ¹Rheumatology Division, Hospital Universitario de Gran Canaria Dr Negrín, Las Palmas de Gran Canaria;

²Rheumatology Division, Hospital Universitario de Canarias, Tenerife;

³Rheumatology Division, Complejo Hospitalario Universitario Insular, Las Palmas de Gran Canaria, Spain

Background: Autoimmune rheumatic diseases, including systemic lupus erythematosus (SLE), are associated with a significant increase in cardiovascular morbidity and mortality. The risk stratification instruments used in the general population underestimate the true risk of events in these patients. Carotid ultrasonography, through the detection of subclinical atheromatosis, is a powerful predictor of future cardiovascular events. The available evidence, endorsed in the official Prevention Guidelines, supports the use of this technique for the adequate identification of those patients of "very high risk", candidates for preventive interventions of greater intensity.

Objectives: To analyse the cardiovascular risk profile, the prevalence of subclinical atheromatosis detected by carotid echography, and its implications in the prevention strategy in patients with SLE.

Methods: A cross-sectional study of 276 patients diagnosed with SLE. The clinical characteristics and risk profile were analysed by SCORE. The presence of plaques and intima-media thickness (cIMT) was determined by carotid ultrasound and the cIMT percentiles were calculated according to tables adjusted for age and sex. Differences in risk stratification before and after carotid ultrasonography were determined by univariate regression analysis. The therapeutic implications after reclassification were evaluated according to the 2016 European Prevention Guidelines.

Results: Risk stratification using SCORE was: low in 187 (67%), moderate in 73 (26%), and high or very high in 16 (6%). The median percentiles for cIMT were not statistically different from the p50 of healthy general population ($p=0.54$). Ultrasound showed the presence of plaque or cIMT $>p75$ or cIMT >0.90 mm in 60% (166) of the patients evaluated. The presence of this finding by risk categories was: low 102/187 (55%), moderate 55/73 (75%), high 7/9 (78%) and very high 6/7 (86%). According to the published guidelines, the detection of plaque carried out the re-stratification to a very high risk in 35% of patients. These patients where reclassification was achieved showed a higher SLICC index compared to those that did not change of category (mean difference 0.9 points, $p=0.000$). This difference remained statistically significant when the items related to cardiovascular risk that SLICC possesses were eliminated. SLEDAI and Katz were not statistically different between both groups. The SCORE of patients who were reclassified was also statistically higher (mean difference 0.7 points, $p=0.021$). Ninety percent of patients were re-classified to a very high risk had out-of-target LDL cholesterol levels for their new risk category (LDL <70 mg/dl). Similarly, only 46% of them were on statin therapy. Therefore, the indication or intensification of lipid-lowering treatment was followed only in 30% of the total evaluated.

Conclusions: The reclassification of cardiovascular risk through the use of ultrasonography in SLE occurs in one third of patients. Our data suggests that this may be consequence of the damage produced by the disease. One in three candidates needed preventive interventions of greater intensity that had not been taken.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5996

THU0340

PROLONGED REMISSION IS ASSOCIATED WITH A REDUCED RISK OF CARDIOVASCULAR DISEASE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

¹S. Fasano, D.P. Margiotta², L. Pierro¹, A. Riccardi¹, A. Afeltra², G. valentini¹.

¹Rheumatology unit, Università degli studi della Campania Luigi Vanvitelli, Naples;

²Clinical Medicine and Rheumatology Department, Campus Bio-Medico University of Rome, Rome, Italy

Background: Cardiovascular disease (CVD) has emerged as one of the most important causes of mortality in systemic lupus erythematosus (SLE)¹. In previous studies, disease activity, as assessed by SLEDAI (at the first visit or as mean annual value registered during follow-up), did not result to have any predictive role on the subsequent occurrence of CVD²⁻³.

Objectives: To investigate the relationship between prolonged remission and the occurrence of a subsequent first CV event in patients with SLE.

Methods: Out of 452 patients consecutively admitted to two tertiary Italian centres from November 1st 2000 to December 31st 2016, the 409 patients, who, at admission, had not experienced any CV event, had not received any anticoagulation therapy and had been visited at least biannually during follow-up, were considered for the present study. Prolonged remission was defined as a 5 year consecutive period of no disease activity based on SLEDAI-2K³. Patients with

prolonged remission were furtherly subdivided according to Zen et al⁴ into 3 groups: complete remission, clinical off-corticosteroids remission (offCR), clinical on-corticosteroids remission (onCR). Kaplan-Meier curves and the log-rank test were used to analyse differences in event-free survival between groups. Cox regression analysis was used to investigate disease and therapeutic features associated with the development of a first CV event.

Results: During 72 months median follow-up time, 29 (7.0%) CV events occurred (two events in patients who had undergone prolonged remission). Out of the 409 patients, 28 patients (6.8%) achieved a prolonged complete remission, 13 (3.1%) prolonged clinical offCR and 64 (15.5%) prolonged clinical onCR. Kaplan-Meier analysis revealed a greater overall CV event-free rate in patients achieving a prolonged remission compared to those in remission but for less than 5 years and patients not in remission (logrank test $\chi^2=19.82$; $p=0.0001$; figure 1). However, at Kaplan-Meier analysis, CV outcome was similar among patients in prolonged remission, irrespective of the type of remission achieved ($p>0.05$). At multivariate analysis, treatment with hydroxychloroquine for more than 5 years and prolonged remission were protective (HR 0.38; 95% CI 0.16–0.90; HR 0.08, 95% CI 0.01–0.53) while antiphospholipid syndrome increased the risk of a first CV event (HR 3.80; 95% CI 1.68–8.61). No differences were found between patients treated or not with aspirin. Nevertheless, among patients from Rome cohort, aspirin was only prescribed to patients with high traditional CV risk score.

Conclusions: A prolonged remission, whichever the subtype, is associated with a better CV outcome and should be considered as a treat-to-target goal in the CV risk management of the lupus patient.

REFERENCES:

- [1] Cervera R, et al. Medicine (Baltimore) 2003.
- [2] Iudici M, et al. Rheumatology (Oxford) 2016.
- [3] Fasano S, et al. Lupus 2017.
- [4] Zen M, et al. Ann Rheum Dis 2017.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3222

THU0341

LOW VITAMIN D IS ASSOCIATED WITH THROMBOSIS IN SYSTEMIC LUPUS ERYTHEMATOSUS

M. Petri, W. Fu, D.W. Goldman. Medicine, Johns Hopkins University School of Medicine, Baltimore, USA

Background: Low vitamin D is common in systemic lupus erythematosus (SLE). It is also found in antiphospholipid syndrome. Vitamin D has effects on tissue factor, PAI-1, thrombomodulin and platelet aggregation that suggest it has an anti-thrombotic role. We asked whether low vitamin D was associated with thrombosis in SLE, adjusting for lupus anticoagulant.

Objectives: We asked whether low vitamin D was associated with thrombosis in SLE, adjusting for lupus anticoagulant.

Methods: A total of 1,392 SLE patients were included in the analysis. At the first visit when vitamin D was measured, 76.7% had levels of 25-hydroxyvitamin D <40 ng/mL. The SLE patients were: 92% female, mean age 42.9 years, and ethnicity 50% Caucasian, 41% African American. 27% patients had a history of thrombosis; 7% stroke, 4% MI and 14% DVT.

Results: Vitamin D, measured either as a continuous variable or as "low" (<40 ng/mL) vs. normal, was associated with any thrombosis and with DVT.

Abstract THU0341 – Table 1. Associations of First Vitamin D Measurement with Thrombosis

	Positive for Thrombotic Event		No Thrombotic Event		P-value
	Mean (SD)	N (%)	Mean (SD)	N (%)	
Any Thrombotic Event					
Vitamin D (ng/ml) (Mean/SD)	27.6 (15.1)		30.6 (14.6)		0.0008
Vitamin D<40 ng/ml (N%)		299 (80.4)		759 (75.4)	0.064
Stroke					
Vitamin D (ng/ml) (Mean/SD)	28.9 (15.2)		29.9 (14.7)		0.5408
Vitamin D<40 ng/ml (N%)		79 (75.2)		988 (76.9)	0.7914
Myocardial Infarction (MI)					
Vitamin D (ng/ml) (Mean/SD)	30.2 (16.9)		29.8 (14.7)		0.883
Vitamin D<40 ng/ml (N%)		35(70)		1032(77)	0.3258
DVT					
Vitamin D (ng/ml) (Mean/SD)	25.9 (13.4)		30.4 (14.9)		<0.0001
Vitamin D<40 ng/ml (N%)		171 (87.2)		895(75)	0.0002

We next adjusted for race, age, sex and lupus anticoagulant. Low vitamin D remained associated with DVT.

Abstract THU0341 – Table 2. Summary of Adjusted Odds Ratio for Low Vitamin D (<40 ng/ml)

Dependent Variables	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Any Thrombosis	1.33 (0.99,1.79)	1.36 (0.99,1.86)
Stroke	0.91 (0.58,1.45)	0.92 (0.57,1.48)
MI	0.7 (0.38,1.29)	0.8 (0.42,1.53)
DVT	2.28 (1.47,3.54)	2.31 (1.47,3.65)

We next looked prospectively: this analysis excluded thrombotic events before the first vitamin D measurement. It allowed for vitamin D to be a time-varying variable, as replacement therapy was given if it was low. After adjustment for race, age and sex, the adjusted hazard ratio remained significant for any thrombosis: 1.75 (1.04,2.92).

Conclusions: Low vitamin D was significantly associated with any thrombosis and with DVT (even after adjustment for lupus anticoagulant). In prospective models it remained significantly associated with any thrombosis. As supplementation with vitamin D was proven to reduce thrombosis in an oncology randomised clinical trial, vitamin D replacement should become routine in SLE patients at risk for thrombosis.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1953

THU0342

THE LUPUS FOUNDATION OF AMERICA RAPID EVALUATION OF ACTIVITY IN LUPUS (LFA-REAL) PROVIDES A SIMPLE BUT RELIABLE MEASUREMENT OF SLE DISEASE ACTIVITY

¹A. Thanou, C. Arriens¹, T. Aberle¹, J.A. James¹, J.T. Merrill¹, A.D. Askanase².

¹Oklahoma Medical Research Foundation, Oklahoma City; ²Columbia University, New York, USA

Background: Clinical trial evaluations in SLE are problematic, in part due to glossary-based outcome measures with imperfect granular relevance. Visual analogue scales (VAS) allow real world scaling of disease severity, but may be inconsistent when used over time or by different raters. The SELINA SLEDAI Physician's Global Assessment (SSPGA) is a VAS with severity anchors and instructions to promote consistent, transitional scoring. The Rapid Evaluation of Activity in Lupus (LFA-REALTM) extends the SSPGA by scoring each active feature separately, allowing additive impact of each manifestation within organs, and a global score with meaningful weighting of multiple symptoms. It differs from previous constructions that combine PGA with component scoring¹ by incorporating all manifestations of lupus and refining scaling of the SSPGA².

Objectives: To compare performance of SSPGA and LFA-REALTM to accepted SLE trial outcome measures during an ongoing trial in SLE, using a strict protocol for transitional scoring.

Methods: Disease activity, SLEDAI, BILAG 2004 CLASI, SSPGA and LFA-REALTM was evaluated at monthly visits in an investigator-initiated, double-blind, placebo controlled study of abatacept (trial results pending). Validation of total scores and change in SSPGA and REAL vs SLEDAI and BILAG were examined by Spearman Correlation. ROC curve analysis compared changes in SSPGA and LFA-REALTM to the dichotomous SLE trial endpoints, SRI-4 and BICLA.

Results: 50 adult SLE patients, 47 female, were assessed at 528 visits. Changes in disease activity compared to screening were examined in 478 visit pairs. Total SSPGA and REAL scores strongly correlated to each other (r=0.932), as well as to total SLEDAI and BILAG [SSPGA: r=0.742 (SLEDAI), r=0.776 (BILAG); REAL:

r=0.776 (SLEDAI), r=0.813 (BILAG); all p<0.0001]. Changes in SSPGA and LFA-REALTM at each visit compared to screening correlated to each other (r=0.857) as well as to changes in SLEDAI and BILAG (all p<0.0001) (table 1). Changes in SSPGA and LFA-REALTM were very strongly related to the dichotomous SRI-4 and BICLA endpoints by ROC analysis (all p<0.0001) (table 2). LFA-REALTM musculoskeletal correlated to BILAG musculoskeletal, SLEDAI arthritis, and tender and swollen joint counts (r=0.842, 0.817, 0.634 and 0.784 respectively, all p<0.0001). LFA-REALTM mucocutaneous also correlated to BILAG mucocutaneous, the sum of SLEDAI mucocutaneous features as well as CLASI activity (r=0.826, 0.798 and 0.789 respectively, all p<0.0001).

Abstract THU0342 – Table 1. Change in LFA-REALTM and SSPGA in relation to change in SLEDAI and BILAG.

	ΔSLEDAI	ΔBILAG
ΔLFA-REAL TM	0.701	0.700
ΔSSPGA	0.681	0.624

Abstract THU0342 – Table 2. AUC of change in LFA-REALTM and SSPGA in relation to SRI-4 and BICLA.

	SRI-4	BICLA
ΔLFA-REAL TM	0.876	0.852
ΔSSPGA	0.895	0.913

Conclusions: Both the SSPGA and LFA-REALTM are reliable surrogates of commonly used endpoints in SLE trials. Both instruments are easy to score and understand, and could be employed as continuous or dichotomous endpoints. The LFA-REALTM allows individualised scoring at the symptom or organ level, and each symptom contributes its exact severity to a global score. The simplicity of PGA scoring is accompanied by gains in versatility.

REFERENCES:

- [1] Askanase AD, et al. Arthritis Care Res 2017 Oct 9. doi:10.1002/acr.23445
- [2] Petri M, et al. J Rheumatol 1992;19:53–9.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5613

THU0343

HOW PATIENTS ABILITY BELIEFS ABOUT MATH MATTER TO SLE PATIENTS DISEASE

¹A.S. Meara, M.K. Tompkins², K. Morris³, E. Sullivan⁴, S.P. Ardoian⁵, E. Peters⁶.

¹Division of Immunology and Rheumatology, The Ohio State University;

²Department of Psychology, the Ohio State University; ³Division Of Rheumatology,

The Ohio State University; ⁴Division of Rheumatology, The Ohio State University;

⁵Department of Medicine; ⁶Department of Psychology, The Ohio State University,

Columbus, USA

Background: Systemic lupus erythematosus (SLE) is a heterogeneous disease with high morbidity and mortality; requiring complex treatment plans which can be daunting especially to SLE patients with neuropsychiatric deficits. Numeracy is the "ability to use and understand numbers in daily life" and a key component for effective shared-decision making between physician and patient to ensure the best patient outcomes. Numeracy skills are needed for decisions about health care risk stratification when understanding treatments, understanding potential harm and benefits of therapy and for counting pills and taking medications as prescribed.

Objectives: As there is a lack of information within the lupus patient population, this proposal explores the relationship between patients' numeric ability (both actual and perceived ability) and clinical outcomes fulfilling a gap in our current knowledge of how to support physician communication with patients to ensure patient understanding.

Methods: Patients>18 recruited from IRB approved The Ohio State University Lupus, Vasculitis, Glomerulonephritis Registry. 112 patients had finished subjective numeracy (SNS) which measures patients' perception of their math ability, objective numeracy (ONS) which measures patients' actual math ability. We conducted regression analyses with ONS, SNS, and demographics as predictors of disease activity (measured by SLEDAI). We used backwards-stepwise regression, removing nonsignificant variables one at a time from the model.

Results: Logistic regression analysis revealed a significant interaction between ONS and SNS in predicting whether patients had the active disease or not (interaction b(SE)= -0.70 (0.33), p=0.03; ONS b(SE)= -0.13 (0.30), p=0.68; SNS b(SE)= -0.40 (0.32), p=0.21). Patients higher in both numeric competencies were least likely to have the active disease. Specifically, among those higher in ONS