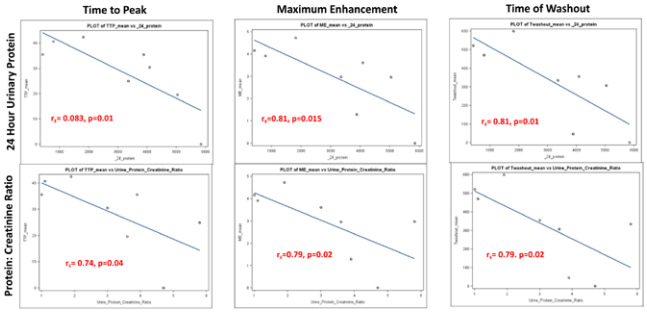
protein: creatinine ratio. In DCE-MRI, we specifically focused on mean Maximum Enhancement (ME), mean Time to Peak Enhancement (TTP) and mean Time of Washout (Twashout) as indicators of renal perfusion.

Results: Nine subjects have been evaluated to date and their imaging data assessed for quality. Evaluation of mean data from DCE-MRI has shown a significant correlation between renal perfusion and renal function. For example, as shown in the figure, the 24 hour protein concentration negatively correlated with ME (r_s=-0.81, p=0.015), TTP (r_s=-0.83, p=0.01) and Twashout (r_s=-0.81.p=0.01, Spearman rank correlation). In addition, the protein:creatinine ratio also negatively correlated with ME (r_s=-0.79, p=0.02), TTP (r_s=-0.74, p=0.04) and Twashout (r_s=-0.79, p=0.02, Spearman rank correlation).

Conclusion: These initial results have established the feasibility of multi-modality imaging as a tool to evaluate LN in a multi-center study. Moreover, changes in perfusion detected by DCE-MRI significantly correlate with proteinuria and urinary protein:creatinine ratio. These results suggest that multiparameter imaging may contribute useful data in the evaluation of subjects with LN.

Figure:

Indicators of Renal Perfusion Determined by DCE-MRI Correlate with Measures of Renal Function



Disclosure of Interests: Claire Dykas: None declared, Brad H Rovin Grant/research support from: GSK, Consultant of: GSK, Mikael Boesen Consultant of: AbbVie, AstraZeneca, Eli Lilly, Esaote, Glenmark, Novartis, Pfizer, UCB, Paid instructor for: IAG, Image Analysis Group, AbbVie, Eli Lilly, AstraZeneca, esaote, Glenmark, Novartis, Pfizer, UCB (scientific advisor)., Speakers bureau: Eli Lilly, Esaote, Novartis, Pfizer, UCB, Olga Kubassova Shareholder of: IAG, Image Analysis Group, Consultant of: Novartis, Takeda, Lilly, Employee of: IAG, Image Analysis Group, Peter Lipsky Consultant of: Horizon Therapeutics

DOI: 10.1136/annrheumdis-2020-eular.5012

FRI0178 PREDICTIVE FACTORS FOR POOR SLEEP QUALITY IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Poor sleep quality is common in systemic lupus erythematosus (SLE) and could contribute to fatigue, which is regarded as one of the most disabling symptoms in SLE. The Pittsburgh sleep quality index (PSQI) is a validated self-administered questionnaire that measures sleep quality over the previous month.[1]

Objectives: The aim of this study was to analyse the relationship of sleep quality with several variables including depression, anxiety, pain, disease activity, fatigue and functional disability in patients with SLE. A further aim was to establish the prevalence of poor sleep quality in SLE.

Methods: A cohort cross-sectional study was carried out including 92 SLE patients who fulfilled the SLICC classification criteria for SLE and who provided informed consent for participation. The patients were interviewed and they were asked to fill in questionnaires including PSQI, Fatigue Severity Scale (FSS), Hospital Anxiety and Depression Scale (HADS), visual analogue scale (VAS) for pain and modified Health Assessment Questionnaire (mHAQ). Blood and urine tests enabled the calculation of SLE disease activity index-2K (SLEDAI-2K). The study was approved by the University Research Ethics Committee.

Results: 92.4% of the cohort studied were females, and the mean age was 46.9 years (range 19-79 years). 55.4% were noted to have poor quality sleep (PSQI >5), and the median PSQI was 6 (range 0-18). Sleep quality measured by PSQI, had a significant correlation with SLEDAI-2K (R=0.254, p=0.014), VAS pain (R=0.515, p<0.001), HADS-D (R=0.605, p<0.001), HADS-A (R=0.375, p<0.001), estimated glomerular filtration rate (eGFR) (R=-0.211, p=0.044), FSS (R=0.551, p<0.001) and mHAQ (R=0.559, p<0.001). ANCOVA analysis showed that PSQI was significantly dependant on VAS pain (p<0.001), HADS-D (p<0.001) and eGFR (p=0.003).

Conclusion: Poor sleep quality is highly prevalent in SLE patients. This study has shown that the strongest predictive factors for poor sleep quality are pain, depression and impaired renal function. Since poor sleep quality is significantly related to fatigue and functional disability, its identification and management is important for patients' wellbeing.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.931

FRI0179 A STUDY ON THE ACHIEVEMENT OF LUPUS LOW DISEASE ACTIVITY STATE AND QUALITY OF LIFE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: FROM THE JUNTENDO UNIVERSITY SLE PROSPECTIVE REGISTRY STUDY

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Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease of unknown etiology that affects mostly young women. Multiorgan complications and prolonged treatment significantly cause physical and mental stress in patients. Improving patients' quality of life (QOL) in SLE treatment is essential. We examined the treatment effects on disease activity and QOL of SLE patients.

Objectives: In recent years, lupus low disease activity state (LLDAS) has been proposed as a treatment target for SLE. Patients who achieve LLDAS have a low recurrence rate for lupus and a low risk of serious complications (1). The aim of this study is to investigate whether achieving LLDAS reduces not only recurrence rate and complications of SLE but also improves patients' QOL.

Methods: A total of 104 SLE patients were enrolled in our prospective SLE registry study (Juntendo, Multi-center, Prospective cohort for investigation of clinical course and outcome in SLE: JUMP) conducted at our institution. SLE was diagnosed using the American College of Rheumatology (ACR) 1982 criteria (revised in 1997). QOL was evaluated using the standard version of the 36-item short form health survey version 2 (SF36v2). Participants were divided into the LLDAS achievement and non-achievement groups, and the characteristics of each group including results of SF36v2 were examined.

Results: This study included 104 SLE patients, 94 female and 10 male, and the average age and disease duration were 46.4±13.8 and 14.5±11.3 years, respectively. The average corticosteroid dose was 8.0±17.4 mg/day in terms of prednisolone, and anti-dsDNA antibody titer was 16.8±38.5 IU/ml. Of the 104 patients, 57 achieved LLDAS. The subscale's standard scoring using SF36v2 for role physical (RP) was 78.9±24.0 and 64.6±27.6 (P<0.01), general health (GH) was 50.0±17.0 and 42.0±19.3 (P<0.05), vitality (VT) was 55.8±15.8 and 38.0±24.1 (P<0.01), social functioning (SF) was 82.0±20.7 and 66.5±26.3 (P<0.01), role emotional (RE) was 89.0±16.1 and 73.4±28.1 (P<0.01), and mental health (MH) was 72.4±15.9 and 58.3±21.8 (P<0.01) in the LLDAS achievement and non-achievement groups, respectively. Furthermore, scoring based on the national standard value in the LLDAS achievement group showed that two categories were >50. However, in the LLDAS non-achievement group, all categories were <50. In particular, RP, GH, VT, SF, RE, and MH of the LLDAS achievement group had significantly higher scores than the LLDAS non-achievement group (RP and GH: p<0.05 and VT, SF, RE and MH: p<0.01).

Conclusion: Results of examining the association between LLDAS and QOL using SF36v2 in SLE patients showed that patients who achieved LLDAS had significantly better standard statistical scores in many subscale categories. Thus, LLDAS achievement as a treatment target for SLE patients greatly contributes to improving patients' QOL.

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