Abstract 175 Table 1 Impact of LDAS on HRQoL. Univariable and multivariable analyses

	Univariable		Multivariable	
	B (IC95%)	p value	B (IC95%)	p value
Physical health	6.48 (2.39; 10.57)	0.002	4.17 (1.20; 7.14)	0.006
Pain	7.33 (2.86; 11.81)	0.001	6.47 (3.17; 9.76)	<0.001
Planning	6.01 (1.49; 10.53)	0.009	4.97 (1.43; 8.52)	0.006
Intimate relationship	4.12 (-2.46; 10.70)	0.220	4.71 (-0.81; 10.23)	0.094
Burden to others	5.36 (0.48; 10.25)	0.032	4.12 (0.24; 8.01)	0.037
Emotional health	6.06 (1.82; 10.31)	0.005	4.50 (1.56; 7.44)	0.003
Body image	1.68 (-2.90; 6.27)	0.472	1.13 (-2.80; 5.03)	0.577
Fatigue	4.23 (-0.20; 8.67)	0.061	3.25 (0.04; 6.47)	0.048

antimalarial use on each visit and age at diagnosis, gender, socioeconomic status and the same component of the Lupus-QoL at the baseline visit.

Results Two hundred and forty-three patients were included, 225 (92.6%) were female, mean age at diagnosis was 35.44 (SD: 13.13) years. Patients had a mean of 3.94 (1.98) visits for a total of 958 visits. During the follow-up, 590 (61.6%) visits were categorized as LDAS. LDAS predicted a better HRQoL in the components of physical health [B: 4.17 (95% CI: 1.20; 7.14); p=0.006], pain [B: 6.47 (95% CI: 3.18; 9.76); p<0.001], planning [B: 4.97 (95% CI: 1.43; 8.52); p=0.006], burden to others [B: 4.12 (95% CI: 0.24; 8.01); p=0.037], emotional health [B: 4.50 (95% CI: 1.56; 7.44); p=0.003] and fatigue [B: 3.25 (95% CI: 0.04; 6.47); p=0.048], as is depicted in table 1.

Conclusions Being on LDAS predicts a better HRQoL, especially in the components of physical health, pain, planning, burden to others, emotional health and fatigue.

Funding Source(s): The Almenara Lupus Cohort is partially supported by three institutional grants from EsSalud (1483-GCGP-ESSALUD-2013, 1733-GCGP-ESSALUD-2014 and the 2015 Kaelin Prize 2015) and one from the Panamerican League of Associations for Rheumatology (PANLAR) (2015 PANLAR Prize).

176 LUPUS LOW DISEASE ACTIVITY STATE: PREDICTING ORGAN DAMAGE ACCRUAL AND CARDIOVASCULAR RISK IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

[1]Harrison Lam*, [2]Ruta Tesfamicael, [3]Oria Lu, [3]Ratushtar Kapadia, [2]Caroline Siegel, [4]Lori Sahakian, [2]Jennifer Grossman, [4]Maureen McMahon. *[1]San Francisco Department of Public Health; [2]UCLA Health; [3]UCLA CTSI Research Associates Program; [4]UCLA David Geffen School of Medicine*

10.1136/lupus-2019-lsm.176

Background Systemic Lupus Erythematosus (SLE) is a heterogeneous disease that can cause multisystem inflammation and damage. There are currently no widely agreed upon targets for determining adequate disease control. Lupus Low Disease Activity State (LLDAS) is a new clinical evaluation tool that assesses low disease activity state in lupus patients (Franklyn, et al. Ann Rheum Dis. 2016; 75: 1615–1621). Our study examines the relationship between the percentage of time patients spend in LLDAS and organ damage accrual, cardiovascular events, and death.

Abstract 176 Table 1 Effects of LLDAS on cardiovascular events or death

	LLDAS ≥ 50%	LLDAS < 50%	Total
Death or CV Events	19	34	53
Total Patients	111	108	219
% Death or CV Events	17.1%	31.4%	24.2%

* χ^2 = 0.013
* CV = cardiovascular (defined as major stroke, myocardial infarction, positive stress test, angioplasty or percutaneous coronary intervention)

Correlation Between LLDAS and Cardiovascular Events or Death. Patients in LLDAS 50% of the time suffer from significantly fewer cardiovascular events or deaths than their non-LLDAS counterparts

Methods We studied a prospective cohort of 246 patients with SLE during a 5 year follow-up period. Disease activity was measured using the SLE Disease Activity Index 2000 (SLEDAI-2K) and SELENA-SLEDAI physician global assessment (PGA). Cumulative organ damage was assessed at 1 year, 3 year, and 5 year intervals using the Systemic Lupus International Collaborating Clinics/American College of Rheumatology Damage Index (SDI). The determination of LLDAS 50% of the time for the year after cohort entry (LLDAS-50) was done retrospectively through clinical chart review. The following criteria for LLDAS included: SLEDAI-2K 4 without major organ activity, no new disease activity, PGA (0–3) 1, prednisone 7.5 mg/day and stable dose of maintenance treatments. The longitudinal presence of carotid plaque and intima-media thickness (IMT) was measured at baseline and follow-up three years later. We determined the relationships between LLDAS, SDI, IMT, carotid plaque, and PREDICTS profile using multivariate regression analysis.

Results The average age was 43.2 years for patients in LLDAS-50 and 39.5 years for those not in LLDAS-50 (p=0.03). Disease duration was 13.4 years for LLDAS 50% vs. 10.9 years for LLDAS<50% (p=0.04). Patients in LLDAS-50 or higher during the year after cohort entry had a mean SDI score of 1.5 (±1.8) at 1 year, a mean SDI of 1.6 (±1.9) at 3 years, and 1.9 (±2.1) at 5 years after cohort entry. On average, patients who were in LLDAS-50 during the first year after cohort entry had lower SDI scores at 3 years and 5 years than patients who were not, reaching significance (p=0.04) for both.

There was no significant difference in measured IMT or plaque between patients in LLDAS-50 and those not in LLDAS-50 for the first year after baseline. However, patients in LLDAS-50 were significantly less likely to have major cardiac events (major stroke, myocardial infarction, positive stress test, angioplasty or percutaneous coronary intervention) or death compared with patients who were not in LLDAS-50, 17.1% and 31.4%, respectively (p=0.01).

Conclusions With regard to damage progression, there was significantly less damage at 3 and 5 years among those in LLDAS 50% of the time during the first year after cohort entry. Interestingly, although there were no differences between IMT, presence of carotid plaque, or plaque progression at any of the three time points, there was a statistically significant difference in number of cardiovascular events or deaths in the LLDAS-50 group. This supports LLDAS as a valid predictor of lower overall and cardiovascular damage in SLE patients.

Funding Source(s): NCATS Grant No: UL1TR00188

NIH Grant No: 5R01AR063754-02

Correlation Between LLDAS and Cardiovascular Events or Death. Patients in LLDAS 50% of the time suffer from significantly fewer cardiovascular events or deaths than their non-LLDAS counterparts.

177 DECREASED EXPRESSION OF RENAL MIR-127–3P CONTRIBUTES TO THE OVERACTIVATION OF INTERFERON SIGNALING PATHWAY IN THE KIDNEY OF LUPUS NEPHRITIS

[1]Bo Qu*, [1]Lingling Wu, [1]Xiao Han, [1]Le Xiong, [1]Zhihua Yin, [2]Zhizhong Ye, [1]Nan Shen. *[1]Department of Rheumatology, Renji Hospital, Shanghai Jiao Tong University School of Medicine; [2]Shenzhen Futian Hospital for Rheumatic Diseases*

10.1136/lupus-2019-lsm.177

Background Lupus nephritis (LN) is one of the most serious manifestations of systemic lupus erythematosus (SLE). Overactivation of type I interferon (IFN) signaling pathway is associated with LN pathogenesis, since overexpression of IFN stimulated genes (ISGs) has been found in the kidney of LN and deficiency of IFN receptor alleviates nephritis in lupus prone mice. Abnormal expression of microRNAs in renal tissues is linked to the pathogenesis of LN. However, the functions of these microRNAs and mechanisms for them to participate in the development of LN are largely unknown. In this study, we aimed to investigate the role of LN-associated renal microRNAs in the overactivation of IFN signaling pathway in the kidney of LN.

Methods microRNA expression was measured by Taqman assay. Interferon-stimulated response element (ISRE)-luciferase reporter assay and western blotting were used to investigate the function of candidate microRNAs in IFN signaling pathway. mRNA expression was measured by SYBR green assay. Gene expression profile was done by microarray. Agomir and antagomir (chemical modified microRNA mimics and inhibitors) of the candidate microRNA was used to perform gain and loss of function experiments. Pristane induced lupus mouse model and NZB/NZW F1 mice were used to investigate the *in vivo* function of the candidate microRNA.

Results Among revolutionary conserved differentially expressed renal microRNAs in LN, miR-127–3 p, which was reduced in the kidney biopsies of LN patients, inhibited IFN induced ISRE mediated expression of luciferase reporter gene, as well as the phosphorylation of STAT1 and STAT2. By microarray, we revealed that most of the ISGs were inhibited by miR-127–3 p in IFN stimulated Hela cells. Consistently, loss of function of miR-127–3 p augmented IFN response in human primary renal mesangial cells, with enhanced ISRE mediated expression of reporter gene, phosphorylation of STAT2 and ISGs expression. Further, we identified JAK1, the upstream tyrosine kinase of STAT1 and STAT2, as a novel target of miR-127–3 p. *In vivo* administration of miR-127–3 p agomir reduced ISGs expression and alleviated pulmonary hemorrhage induced by pristane in B6 mice and proteinuria in NZB/NZW F1 mice.

Conclusions Our study shows miR-127–3 p can inhibit IFN signaling by targeting JAK1. Decreased expression of miR-127–3 p in the kidney contributes to the overactivated IFN response in LN. Subsequent mouse model studies indicate the therapeutic potential of miR-127–3 p in treating lupus associated organ damage.

Funding Source(s): This work was supported by the National Basic Research Program of China (973 program) grant 2014CB541902 and the National Natural Science Foundation of China (No.81401331).

178 PHASE 2 TRIAL OF INDUCTION THERAPY WITH ANTI-CD20 (RITUXIMAB) FOLLOWED BY MAINTENANCE THERAPY WITH ANTI-BAFF (BELIMUMAB) IN PATIENTS WITH ACTIVE LUPUS NEPHRITIS

[1]Cynthia Aranow*, [2]Maria C DallEra, [3]Margaret Byron, [4]Linna Ding, [5]Dawn Smilek, [1]Betty Diamond, [6]David Wofsy. *[1]Feinstein Institute for Medical Research; [2]UC San Francisco; [3]Rho Federal Systems, Inc; [4]National Institute of Allergy and Infectious Diseases, DAIT; [5]Immune Tolerance Network; [6]Russell/Engleman Rheumatology Research Center, University of California, San Francisco, CA, USA*

10.1136/lupus-2019-lsm.178

Background Despite case series suggesting efficacy, controlled trials of anti-CD20 in lupus and lupus nephritis (LN) have not meet their primary endpoints (Arthritis Rheum 2012;64:1215 and 2013;65:2368). A potential explanation is the observation that serum BAFF levels are elevated after treatment with rituximab and may lead to disease flare by facilitating maturation of and re-population with autoreactive B cells. The CALIBRATE study (NCT 02260934) was designed to test this hypothesis, to determine whether addition of anti-BAFF (belimumab) could enhance the clinical effects of anti-CD20 (rituximab), and assess safety of the combination.

Methods Forty-three patients with active LN despite conventional treatment were enrolled in a prospective randomized open-label trial that compared two therapeutic strategies. All subjects received iv rituximab (1000 mg), CTX (750 mg), and methylprednisolone (100 mg) at wks 0 and 2, followed by 40 mg/d prednisone with taper to 10 mg/d by wk 12. At wk 4, subjects were randomized to belimumab (10 mg/kg iv at wks 4, 6, 8 and then every 4 wks) plus prednisone (n=21) (RCB) or prednisone alone (RC) (n=22). Complete response (CR) was defined as: (i) urine protein:creatinine ratio (UPCR) <0.5; (ii) eGFR 120 or, if <120, eGFR >80% of screening; and (iii) prednisone dose of 10 mg/d. Partial response (PR) differed only in the UPCR criterion (>50% reduction).

Results The clinical outcome at wk 48 was similar in both groups: CR was 38% in the belimumab group (RCB) and 32% in the control group (RC). The frequency of subjects with serious infections was also similar between groups. B cell depletion occurred in both groups by wk 12, but the pace of repopulation was delayed in the RCB group. However, median IgG levels remained within the normal range in both