LSO-030 PREDICTORS OF RENAL FLARES IN SYSTEMIC LUPUS ERYTHEMATOSUS: A POST-HOC ANALYSIS OF FOUR PHASE III CLINICAL TRIALS OF BELIMUMAB

[1]Alvaro Gomez*, [2]Sandra Jägerback, [1,3]Ioannis Parodis. [1]*Medicine Solna, Division of Rheumatology, Karolinska Institutet, Sweden*; [2]*Division of Rheumatology, Danderyd University Hospital, Sweden*; [3]*Rheumatology, Faculty of Medicine and Health, Örebro University, Sweden*

10.1136/lupus-2023-KCR.71

Background Identification of patients at risk of developing renal flares is imperative to optimise management in systemic lupus erythematosus (SLE). We aimed to identify predictors of renal flares in patients receiving treatment for active extra-renal SLE.

Methods Data from BLISS-52 (NCT00424476), BLISS-76 (NCT00410384), BLISS Northeast Asia (NCT01345253), and BLISS-SC (NCT01484496) were used. The trials included patients with active, seropositive SLE and excluded active severe renal SLE. Participants were assigned to belimumab or placebo, on top of non-biologic standard therapy. We investigated baseline levels of traditional biomarkers in blood and urine as potential predictors of renal flares during a 52–76-week follow-up. We used adjusted Cox regression models to estimate hazards of renal flares.

Results Out of 3225 participants, 192 developed a renal flare after a median follow-up time of 197 days. Baseline serum albumin (HR 0.9; 95% CI: 0.9–0.9), proteinuria (HR: 1.3; 95% CI: 1.2–1.4), and low C3 levels (HR: 1.8; 95% CI: 1.3–2.5) were robust determinants of renal flares in the pooled study population, as well as in the belimumab and placebo subgroups. Furthermore, we observed an association between anti-dsDNA positivity and renal flares in univariable models, which attenuated in multivariable models (figure 1). Anti-Sm antibody positivity was associated with renal flares in the placebo, but not in the belimumab subgroup, whereas anti-ribosomal P antibodies were associated with renal flares in the belimumab subgroup only. Anti-cardiolipin antibody positivity (any isotype) predicted renal flares in the belimumab subgroup, but yielded a negative association in the placebo subgroup.

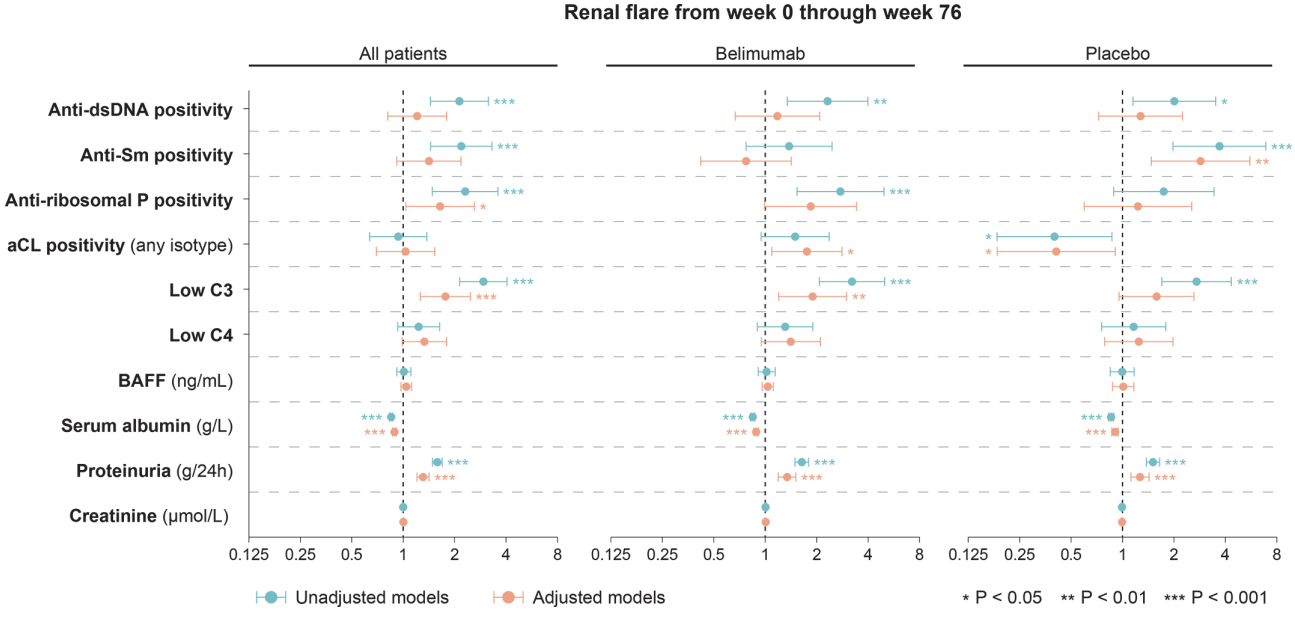
Conclusions High baseline proteinuria levels, hypoalbuminaemia, and C3 consumption were robust determinants of imminent renal flares. Beyond anti-dsDNA, anti-ribosomal P and aCL antibody positivity may prove valuable early signals of imminent renal flares in belimumab-treated patients, whereas anti-Sm antibody positivity may predict renal flares in patients treated with non-biological standard therapy.

LSO-100 DOES EARLY COMPLETE REMISSION PRECLUDE ADVERSE OUTCOMES IN LUPUS NEPHRITIS?

[1]Konstantinos Tselios, [2]Dafna Gladman*, [2]Jiandong Su, [2]Murray Urowitz. [1]*Division of Rheumatology, Department of Medicine, McMaster University, Canada*; [2]*Centre for Prognosis Studies in Rheumatic Diseases, Toronto Lupus Clinic, University Health Network, University of Toronto, Canada*

10.1136/lupus-2023-KCR.72

Background Early complete remission (within 12 months) is considered an important protective factor against development of chronic kidney disease (CKD) in lupus nephritis (LN). However, a certain proportion of such patients still develop advanced CKD. Our objective was to describe the factors associated with the development of CKD stage IV or worse in LN patients who achieved early complete remission.



Abstract LSO-030 Figure 1

Methods Patients with LN based on biopsy or abnormal proteinuria (>0.5g/day) and/or urinary sediment for two consecutive visits in the absence of other plausible explanation were retrieved from the Toronto Lupus Clinic database. Individuals with advanced CKD at baseline (eGFR≦29ml/min/1.73m2) were excluded. All patients achieved complete remission (proteinuria<0.5g/24h, inactive urinary sediment and serum creatinine ≦120% of baseline) within 12 months. Patients were followed for at least 5 years after LN diagnosis.

Results Of 273 eligible patients, 21 (7.7%) developed advanced CKD after a median of 5.8 years from the time of remission (range 0.7–31.7 years). At baseline, these patients had higher SCR (124.9±71.9 vs. 80.7±25.8μmol/L, p<0.001); other baseline characteristics were not significantly different. Multivariate survival analysis for predictors of advanced CKD is shown in table 1. The major factors for early CKD were poor compliance or insufficient therapy due to concomitant infections in 7 and moderate-to-severe interstitial fibrosis and tubular atrophy (IFTA) in 4 patients. In late progressors, compliance was poor in 2, moderate-to-severe IFTA in 3, poorly controlled hypertension in 2, thrombotic microangiopathy in one, refractory disease in one while one patient progressed very slowly over 32 years.

Abstract LSO-100 Table 1 Multivariate survival analysis for predictors of advanced CKD

Predictors	Hazard Ratio	Lower 95% CI	Upper 95%CI	*P*
Disease duration at LN onset	1.13	1.05	1.22	0.001
SCR at LN (μmol/l)	1.03	1.02	1.04	<0.0001
Low complement at LN	4.14	1.53	11.26	0.005
One or more flares in first five years after LN vs. no flare	4.53	1.47	13.92	0.008

Conclusions Patients with impaired kidney function, low complement C3 at baseline and histopathologic features of chronic irreversible damage (interstitial fibrosis/tubular atrophy), are at risk for CKD despite early remission and should be followed closely. The importance of maintenance therapy should be communicated to prevent non-compliance and subsequent flares.

Short oral presentation session 6: SLE diagnosis and manifestations

LSO-031 ASSOCIATION OF SEROLOGIC AND CLINICAL LOW DISEASE ACTIVITY STATES WITH OUTCOMES IN A LARGE MULTI-NATIONAL LUPUS COHORT

[1]Yanjie Hao*, [1,2]Shereen Oon, [3]Ning Li, [4]Worawit Louthrenoo, [5]Yi-Hsing Chen, [6]Jiacai Cho, [6]Aisha Lateef, [7]Laniyati Hamijoyo, [8]Shue Fen Luo, [8]Yeong-Jian Wu, [9]Sandra Navarra, [9]Leonid Zamora, [10]Zhanguo Li, [10]Yuan An, [11]Sargunan Sockalingam, [12]Yasuhiro Katsumata, [12]Masayoshi Harigai, [13]Zhuoli Zhang, [14]Madelynn Chan, [15]Jun Kikuchi, [15]Tsutomu Takeuchi, [16]Sang-Cheol Bae, [17]Fiona Goldblatt, [18]Sean O'Neill, [19]Kristine Ng, [20]Annie Law, [21]Duminda Basnayake, [22]Nicola Tugnet, [23]Sunil Kumar, [24]Michael Tee, [25]Cherica Tee, [26]Yoshiya Tanaka, [27]CS Lau, [3]Vera Golder, [3]Alberta Hoi, [3]Rangi Kandane-Rathnayake, [3]Eric Morand, [1,2]Mandana Nikpour. *[1]Department of Medicine at St. Vincent's Hospital Melbourne, the University of Melbourne, Australia; [2]Rheumatology Department, St. Vincent's Hospital Melbourne, Australia; [3]School of Clinical Sciences at Monash Health, Monash University, Australia; [4]Division of Rheumatology in Department of Internal Medicine, Chiang Mai University Hospital, Thailand; [5]Division of Allergy, Immunology and Rheumatology, Taichung Veterans General Hospital, Taiwan; [6]Rheumatology Division, University Medical Cluster, National University Hospital, Singapore; [7]Division of Rheumatology, Department of Internal Medicine, Padjadjaran University, Indonesia; [8]Department of Rheumatology, Allergy and Immunology, Chang Gung Memorial Hospital, Taiwan; [9]Bone and Joint Center, University of Santo Tomas Hospital, Philippines; [10]Department of Rheumatology and Immunology, People's Hospital Peking University Health Science Center, China; [11]Department of Medicine, University of Malaya, Malaysia; [12]Institute of Rheumatology, Tokyo Women's Medical University, Japan; [13]Department of Rheumatology and Immunology, Peking University First Hospital, China; [14]Department of Rheumatology, Allergy and Immunology, Tan Tock Seng Hospital, Singapore; [15]Division of Rheumatology, Department of Internal Medicine, Keio University, Japan; [16]Department of Rheumatology, Hanyang University Hospital for Rheumatic Diseases, Republic of Korea; [17]Department of Rheumatology, Flinders Medical Centre and Royal Adelaide Hospital, Australia; [18]Rheumatology Department, Liverpool Hospital, Australia; [19]Department of Medicine, North Shore Hospital, New Zealand; [20]Department of Rheumatology and Immunology, Singapore General Hospital, Singapore; [21]Division of Nephrology, Teaching Hospital, SriLanka; [22]Department of Rheumatology, Greenlane Clinical Centre, New Zealand; [23]Department of Rheumatology, Middlemore Hospital, New Zealand; [24]Department of Physiology, Philippine General Hospital, University of the Philippines, Philippines; [25]Department of Pediatrics, Philippine General Hospital, University of the Philippines, Philippines; [26]The First Department of Internal Medicine, University of Occupational and Environmental Health, Japan; [27]Division of Rheumatology and Clinical Immunology, Department of Medicine, University of Hong Kong, Hong Kong*

10.1136/lupus-2023-KCR.73

Abstract LSO-031 Table 1 Association of LLDAS subtypes with subsequent flares and damage accrual by cox regression analysis

	Flares						Damage accrual	
	Any flares		Mild/moderate flares		Severe flares			
	HR* (95% CI)	P value	HR* (95% CI)	P value	HR* (95% CI)	P value	HR* (95% CI)	P value
LLDAS with clinical activity	***Reference***		***Reference***		***Reference***		***Reference***	
LLDAS with serological activity only	0.86 (0.75-0.99)	0.039	0.82 (0.71-0.95)	<0.0001	1.14 (0.92-1.41)	0.245	0.86 (0.67-1.10)	0.236
LLDAS without clinical or serological activity	0.67 (0.56-0.80)	<0.0001	0.70 (0.55-0.79)	<0.0001	0.54 (0.39-0.74)	<0.0001	0.85 (0.64-1.14)	0.285

* Hazard ratio adjusted for age at enrolment, gender, ethnicity, GDP, smoking status, disease duration at enrolment and follow-up duration.