2.94, CI 1.1–7.87, p=0.032] and higher activity index score at renal biopsy [OR 1.12, CI 1.01–1.26, p=0.048] were independent predictors of ESRD after adjusting for age, sex, and disease duration (table 1). 31 patients died and the leading cause of death was SLE flare, followed by infection. Non-ESRD patients had better survival rate than ESRD patients in Kaplan-Meier analysis (p=0.03 in log-rank test, figure 1). Multivariate Cox regression indicated that a higher adjusted mean SLEDAI-2K (AMS) [hazard ratio (HR) 1.43, CI 1.3–1.58, p<0.001] and higher extra-renal AMS [HR 1.83, CI 1.48–2.25, p<0.001] were significantly associated with increased overall mortality.

Conclusions We identified key predictors of the worst long term outcome, ESRD and death, in patients with lupus nephritis, emphasizing the importance of strict disease activity control to prevent death in high-risk groups of ESRD progression.

LSO-028 PREDICTORS OF DE NOVO RENAL FLARES IN SYSTEMIC LUPUS ERYTHEMATOSUS – TIME TO REVISIT BELIMUMAB DOSE FOR EXTRA-RENAL DISEASE? RESULTS FROM FIVE PHASE III CLINICAL TRIALS OF BELIMUMAB

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Background Each lupus nephritis (LN) flare causes nephron loss that equals a decade or more of reduction in renal function lifespan. Identification of readily available signals of imminent flare is therefore expected to improve prognosis. In light of observed cases of de novo LN during belimumab treatment, we evaluated predictors of de novo renal flare occurrence in patients with systemic lupus erythematosus (SLE) and no prior history of renal disease undergoing standard therapy (ST) with or without add-on belimumab in clinical trial settings.

Methods Data from five clinical trials of belimumab in SLE (BLISS-52 NCT00424476; BLISS-76 NCT00410384; BLISS-NEA NCT01345253; BLISS-SC NCT01484496; EMBRACE NCT01632241) were utilised. The study population comprised 1932 patients with a baseline renal British Isles Lupus Assessment Group (BILAG) score E. De novo renal flares were defined as a change from renal BILAG E to A or B within a 52-week follow-up. Predictors of renal flare occurrence were investigated using Cox regression analysis.

Results De novo renal flares were documented in 146 (7.6%) patients. In multivariable Cox regression analysis adjusting for age, sex, ethnicity, serum creatinine, and variables that differed significantly in univariable analysis, Asian ancestry was associated with imminent de novo renal flare (HR: 1.60; 95% CI: 1.03–2.49; p=0.036). Notably, use of belimumab 1 mg/kg by intravenous (IV) infusion yielded a nearly 3 times decreased hazard of renal flare (HR: 0.37; 95% CI: 0.20–0.68; p=0.001), whereas IV belimumab 10 mg/kg and belimumab 200 mg administered subcutaneously (SC) displayed no clear protection.

Conclusions Asian patients appeared particularly susceptible to new-onset renal involvement, corroborating the substantial vulnerability of Asian SLE populations to renal affliction. Discrepant results between low and high/approved belimumab doses warrant in-depth mechanistic exploration of underlying reasons e.g., potential effects of belimumab on B cell subsets that acquire regulatory properties.

LSO-029 PREDICTORS OF RENAL RELAPSE IN KOREAN PATIENTS WITH LUPUS NEPHRITIS: OVER A 35-YEAR PERIOD AT A SINGLE CENTER

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Background Renal relapse has known to be a poor prognostic factor of renal function impairment in patients with lupus nephritis (LN). However, there was few studies that identified the risk factors of renal relapse. Therefore, we conducted a study based on 35 years of experience at a single center to find predictors of renal relapse.

Methods Among 401 patients of LN treated at Seoul St. Mary's hospital from 1985 to 2019, 296 patients who reached complete remission were enrolled. We retrospectively analyzed the clinical, laboratory, pathologic and therapeutic parameters. The timing and cumulative risk of renal relapse were identified by Kaplan-Meier methods. The independent risk factors for renal relapse were examined by Cox proportional hazards regression analyses.

Results The median follow-up time after the diagnosis of LN was 131 months. Renal relapse had occurred in 157 patients, and 139 patients maintained complete remission. Renal relapse had occurred in 38.2%, 57.6% and 69.2% of patients within 5-year, 10-year, and 20-year after achievement of complete remission, respectively. Age of onset of SLE and LN were significantly younger in patients with renal relapse (26.3 vs 29.7, p=0.006 and 28.1 vs 31.7, p=0.004, respectively), and the ratio of absence of immunosuppressive maintenance treatment was also higher (p=0.002) in patients with renal relapse. In Cox proportional hazards regression analyses, age at onset of LN (HR 0.987, p=0.016) and absence of immunosuppressive maintenance therapy (HR 1.819, p=0.004) were identified to independent risk factors of renal relapse.

Conclusions We found that LN onset at an earlier age and absence of immunosuppressive maintenance treatment independently predicted renal relapse in patients with LN who achieved complete remission.