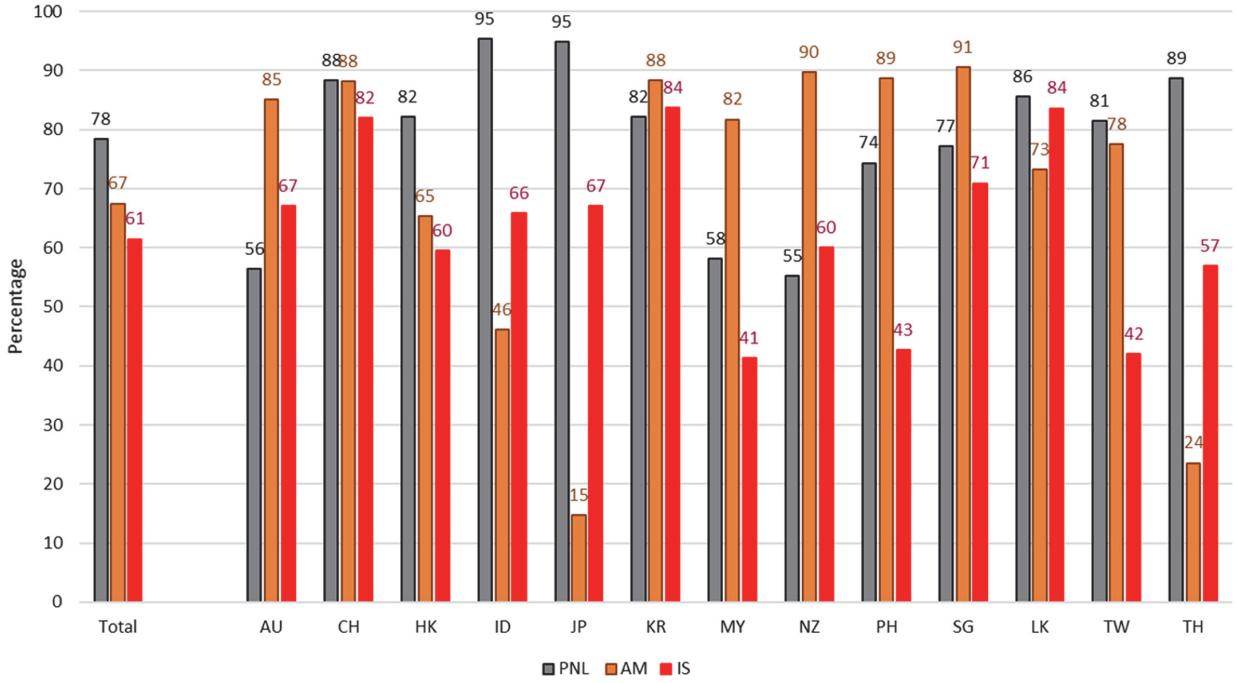

Abstract LSO-087 Figure 1 Proportions of prednisolone (PNL), anti-malarials (AM) and immunosuppressants (IS) use, stratified by the APLC-participating countries. AU = Australia, CH=China, HK=Hong Kong, ID = Indonesia, JP = Japan, KR = Republic of Korea, MY = Malaysia, NZ = New Zealand, PH = Philippines, SG = Singapore, LK = Sri Lanka, TW = Taiwan, TH = Thailand

Background The Asia-Pacific League of Associations for Rheumatology (APLAR) recently published consensus recommendations, including overarching principles, general management, and specific treatment strategies for SLE in Asia. The use of hydroxychloroquine (HCQ) in all SLE patients was recommended unless contraindicated (statement 7).[1] We evaluated the current therapeutic practice with respect to anti-malarial use in the Asia Pacific region against this recommendation.

Methods We used data from the Asia Pacific Lupus Collaboration (APLC) cohort, collected from SLE patients (meeting either ACR or SLICC criteria) between 2013 and 2020. Disease activity (SLEDAI-2K) and medication details were captured at enrolment and at routine visits. We defined medication categories based on glucocorticoid (GC), anti-malarial (AM) and immunosuppressant (IS) use at each visit and examined them in relation to clinical and serological disease activity.

Results We analysed 4,086 patients and 41,653 visits of data. Patients had no disease activity (i.e. SLEDAI-2K=0) in 25.5% of visits; clinical activity alone in 12.7% of visits; serological activity alone in 34.8% of visits, and both clinical and serological activity on 27% of visits. Regardless of disease activity, 78% of all patient visits were on GC, 67% on AM and 61% on IS. These proportions varied significantly among countries (figure 1). With regard to AM use, the majority was HCQ (62% of all visits) and a minority on chloroquine (4%).

Conclusions AM use was suboptimal and varied significantly across Asia Pacific countries There are disparities between current practice and Asia-Pacific SLE management guidelines, highlighting the need for knowledge dissemination.

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LSO-088 LD-IL2 SYNTHESIS WITH BELIMUMAB IN THE TREATMENT OF SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

Ruiling Feng*. *Department of Rheumatology and Immunology, Peking university people's hospital, China*

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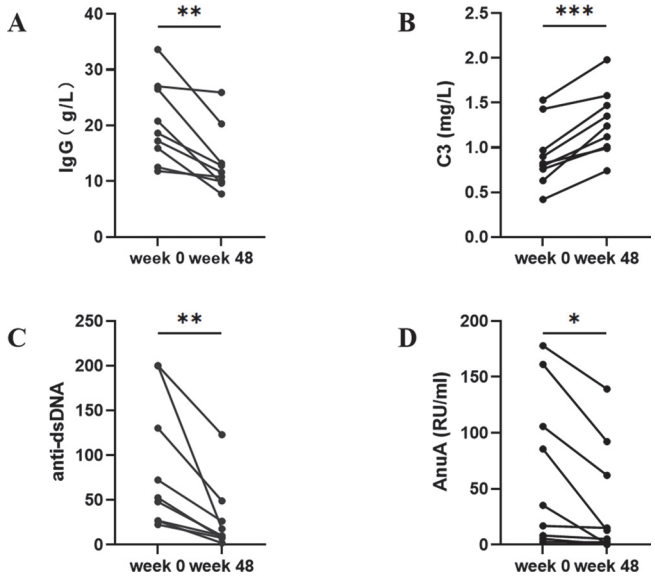
Background Belimumab and low dose IL2 (Ld-IL2) has been identified effective in the treatment of systemic lupus erythematosus (SLE). However, the application of combined therapy for SLE has not been documented in the real-life clinical setting. This study aims to determine the efficacy and safety of belimumab plus Ld-IL2 in patients with SLE.

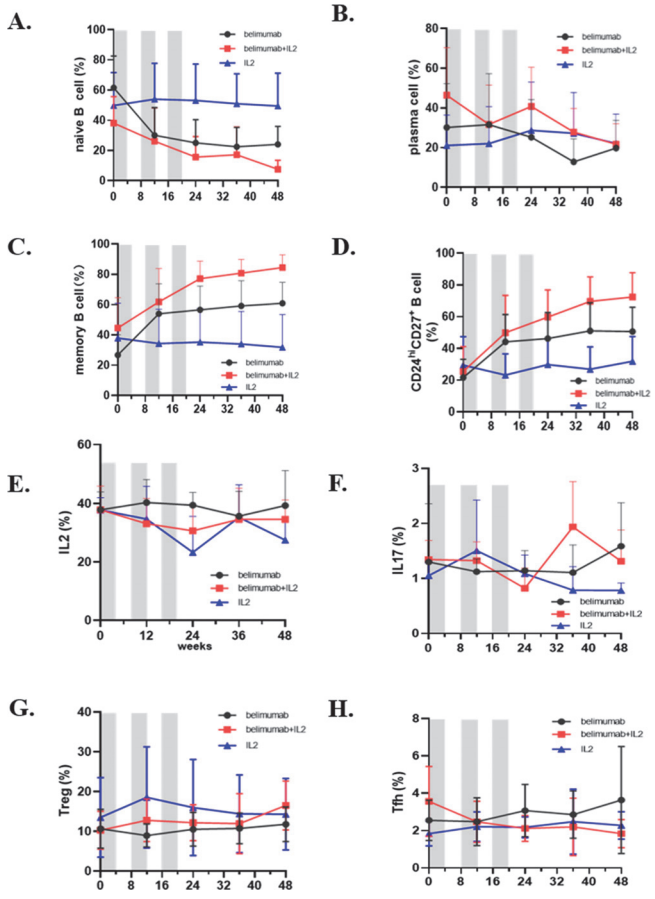
Methods A randomized clinical trial was designed as SLE patients regularly received 10 mg/kg belimumab (n=10), 1 million IU Ld-IL2 (n=10) and combined utilization (n=10). Notably, belimumab was intravenously administered once a month for 48 weeks. Ld-IL2 was injected subcutaneously every other day to week 12, subsequently once a week to week 24 as one cycle and then treated for another cycle to week 48. During the therapy, we evaluated clinical parameters every three months and detected immunological variants monthly.

Results Data showed that the serum IgG, anti-dsDNA and AnuA levels witnessed a substantial decline at week 48 after Belimumab combined with Ld-IL2 treatment (figure 1A, C and D, $P<0.05$) while C3 experienced a great improvement (figure 1B, $P<0.001$). The addition of Ld-IL2 did not increase the incidence of adverse events. As compared to control groups, taking Ld-IL2 as a supplementary strategy dramatically suppressed naïve B cells and plasma cells after T-B combined therapy (figure 2A and B, $P<0.05$). Ld-IL2 upregulated the effect of belimumab on memory B cells and regulatory B (Breg) cells (figure 2C and D, $P<0.05$). B suppression alone conferred no function to T cells as IL2 and IL17 revealed no

changes in combined therapy (figure 2E and F), while Treg cells showed an increasing trend followed by a decrease in Tfh cells (figure 2G and H).



Abstract LSO-088 Figure 1 The decline in clinical activity after combined treatment



Abstract LSO-088 Figure 2 Combined treatment improved the distribution of circulating T and B cell subsets in SLE patients

Conclusions Ld-IL2 synthesis with Belimumab regulated the immune balance in patients with SLE without increasing the risk for severe advents. We provide the novel insights into the favorable effect of the combined therapy in clinical practice.

LSO-089 EFFECTIVENESS OF BELIMUMAB IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS OF A MULTICENTER SPANISH COHORT

[1,2]Irene Altabás-González*, [1,2]José María Pego-Reigosa, [1,2]Coral Mouriño-Rodriguez, [1,2]Norman Jiménez-Otero, [3]Andrea Hernández-Martín, [4]Judit Roman-Urgelles, [4]Ivette Casafont-Sole, [5]José Andrés Roman-Ivorra, [5]Marta De la Rubia-Navarro, [6]María Galindo-Izquierdo, [7]Tarek Salman-Montes, [8]Javier Narváez, [8]Paola Vidal-Montal, [9]María Jesús García-Villanueva, [9]Sandra Garrote-Corral, [9]María Ángeles Blázquez-Cañamero, [10]Carlos Marras-Fernández, [10]María Piqueras-García, [11]Julia Martínez-Barrio, [11]Marina Sánchez-Lucas, [12]Josefina Cortés-Hernández, [12]Eleonora Penzo, [13]Jaime Calvo-Alen, [13]Juan Ramón De Dios Jiménez de Aberásturi, [13]Belén Álvarez-Rodríguez, [13]Margarida Vasques Rocha, [14]Eva Tomero, [15]Raúl Menor-Almagro, [15]Myriam Gandía-Martínez, [16]José A Gómez-Puerta, [16]Beatriz Frade-Sosa, [17]Consuelo Ramos-Giráldez, [17]Carmen Trapero-Pérez, [18]Elvira Díez-Álvarez, [18]Clara Moriano, [19]Alejandro Muñoz-Jiménez, [3]Íñigo Rúa-Figueroa. *[1]Rheumatology, Complejo Hospitalario universitario de Vigo, Spain; [2]Rheumatology, IRIDIS Group, Spain; [3]Rheumatology, Hospital Universitario de Gran Canaria Dr. Negrín, Spain; [4]Rheumatology, Hospital Universitario Germans Trias i Pujol, Spain; [5]Rheumatology, Hospital Universitario y Politécnico de la Fe, Spain; [6]Rheumatology, Hospital 12 de octubre, Spain; [7]Rheumatology, Hospital del Mar, Spain; [8]Rheumatology, Hospital Universitario de Bellvitge, Spain; [9]Rheumatology, Hospital Universitario Ramón y Cajal, Spain; [10]Rheumatology, Hospital Virgen de la Arrixaca de Murcia, Spain; [11]Rheumatology, Hospital General Universitario Gregorio Marañón, Spain; [12]Rheumatology, Hospital Universitario Valle d´ Hebrón, Spain; [13]Rheumatology, Hospital Universitario Araba, Spain; [14]Rheumatology, Hospital Universitario de La Princesa, Spain; [15]Rheumatology, Hospital Universitario de Jerez, Spain; [16]Rheumatology, Hospital Clinic de Barcelona, Spain; [17]Rheumatology, Hospital Universitario Nuestra Señora de Valme, Spain; [18]Rheumatology, Hospital Universitario de León, Spain; [19]Rheumatology, Hospital universitario Virgen del Rocío, Spain*

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Background To evaluate belimumab (BLM) effectiveness in SLE patients from a Spanish multicenter registry.

Methods A longitudinal retrospective multicenter cohort including SLE patients treated with belimumab. Data collection at baseline, 6, 12 months and in the last visit available. Changes in SLEDAI-2K; LLDAS and DORIS-2021 states and response according to physician were compared between visits; also changes in damage and glucocorticoids used. T-test was used for numerical variables and the Fisher's test for categorical variables.

Results 324 patients: 295 (91%) females with a mean (±SD) age of 42.4 (±12.9) years. Mean follow-up was 3,8 (±2.7) years and mean time with BLM was 2.7 (±2.4) years. Baseline mean SLEDAI-2K was 10.4 (±5.25). BLM was initiated with another DMARD in 67.9% of patients.

SLEDAI-2K significantly reduced in all visits. Rates of LLDAS, DORIS and clinical response according to physician criteria, significantly increased from baseline to the successive evaluations. Anti-dsDNA antibodies and inflammatory markers (ESR, CRP), significantly decreased over the time. (table 1).

107 (45,9%) patients discontinued GC. Mean (±SD) prednisone dose was significantly reduce over the visits: 12.3 (±12.16) and 4.7 (±3.7) mg/day at baseline and in the last visit, respectively (table 1). Median (IQR) SDI score at the end of the observation period did not change from baseline visit: 0 (0–1) and 0 (0–1) (p=0.97). No chanfes in the percentage of patients with damage between the beginning and the end of the study: 47.5% (n=152) and 45.6% (n=99), respectively.