

EFFICACY, SAFETY AND ADHERENCE OF SYSTEMIC LUPUS ERYTHEMATOSUS TREATMENT WITH BELIMUMAB SUPPORTED BY A MOBILE APP DEVELOPED BY HOSPITAL PHARMACY DEPARTMENT

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BACKGROUND AND IMPORTANCE

Systemic lupus erythematosus (SLE) is a rare disease with highly variable manifestations. New therapies such as belimumab appear to reduce cumulative organ damage and disease flares, improving patient's quality of life.

AIM AND OBJECTIVE

This study aimed to evaluate the effectiveness, safety and adherence of belimumab, supported by a mobile application for pharmacological follow-up.

MATERIALS AND METHODS

A descriptive, observational, retrospective, single-center study was conducted including all SLE patients treated with belimumab between 2013 and 2024, excluding clinical trials. Demographic, clinical, and biochemical data were collected, while safety and adherence information were obtained through a mobile app developed by the Pharmacy Department. Evaluations were performed at weeks 24, 52, 104, 208, and at study completion. Statistical analyses were conducted using STATA v18.0. Qualitative variables were expressed as percentages (frequency) and quantitative variables as median (interquartile range).

RESULTS

Population

	LES (n=46)
Age at belimumab initiation (years, median (IQR))	44,7 (12,1)
Sex (female, % (frequency))	94,9 (37)
Persistence (months, median (IQR))	28,9 (40,2)
Baseline SLEDAI (median (IQR))	8,4 (4,15)
Corticosteroids ≤5 mg/day (% (frequency))	32,6 (15)

SLEDAI ≤4

Group	Week 24	Week 52
LES (% (frequency))	78.6% (22)	89,3% (25)

Corticoids ≤0,5mg/día

Group	Week 24	Week 208
LES (% (frequency))	78.3% (36)	95.7% (44)

Previous treatment



Changes in biochemical parameters

	LES Sem 24	LES Sem 52
C3	9.3%	20.2%
C4	13.8%	24.5%
AntiDNA	-28.6%	-29.9%
IgM	-19.1%	-24.4%

A mobile application was used to support treatment follow-up, incorporating medication reminders, real-time reporting of adverse drug reactions, and the administration of quality-of-life (EQ-5D-5L; response rate 52.2%) and treatment adherence questionnaires (Morisky–Green; response rate 60.9%). The platform also enabled continuous, 24-hour direct communication with hospital pharmacists. Full adherence to the prescribed dosing regimen was observed in 100% of patients. The most frequently reported adverse events, all recorded through the application, were recurrent infections (47.9%), headache (26.8%), and allergic reactions (14.1%).

CONCLUSION AND RELEVANCE

Belimumab effectively reduced SLE activity, corticosteroid dependence, and biochemical markers of organ damage. The mobile app improved adherence, quality-of-life assessment, and the detection and management of adverse reactions.

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