Revista Colombiana de
REUMATOLOGÍA
www.elsevier.es/rcreuma

Original Investigation

Effects of belimumab in Colombian patients with systemic lupus erythematosus; a prospective observational study☆

Alex Echeverri[a], *Iván Posso-Osorio*[a], *Christian Figueroa*[a,b], *Juan-Pablo Suso*[a], *Andrés Hormaza*[a], *Fabio Bonilla-Abadía*[a], *Andrés Agualimpia*[a], *Carlos A. Cañas*[a], *Gabriel J. Tobón*[a,c,*]

[a] *GIRAT (Grupo de investigación en Reumatología, Autoinmunidad y Medicina traslacional), Fundación Valle del Lili y Universidad Icesi, Cali, Colombia*
[b] *Departamento de urgencias, Fundación Valle del Lili, Cali, Colombia*
[c] *Laboratorio de Inmunología, Fundación Valle del Lili, Cali, Colombia*

ARTICLE INFO

Article history:
Received 15 March 2017
Accepted 26 May 2017
Available online 18 October 2017

Keywords:
Belimumab
Systemic lupus erythematosus
Colombian patients

ABSTRACT

Introduction: Belimumab, a monoclonal type Ig G1 antibody that binds and inhibits the soluble form of the Blys (B lymphocyte stimulator) has shown to be effective in the management of systemic lupus erythematosus (SLE). However, its effectiveness is unknown in an ethnically variable population, such as in Colombia.

Methods: A prospective observational study was conducted between February 2015 and February 2016 on patients with active SLE disease despite being on standard treatment and who were treated with Belimumab.

Results: Belimumab showed a significant improvement in joint, cutaneous and hematological involvement, with an increase in complement levels, a decrease in lupus crises and hospital admissions. After 3 months there was lower activity, calculated by SLEDAI, with stability for 9 months.

Conclusions: In a real-life patient setting, it was observed that belimumab was useful in Colombian patients with SLE and refractory to standard therapy, especially in the joint, hematological, and cutaneous manifestations.

PII of original article: S0121-8123(17)30072-5

☆ Please cite this article as: Echeverri A, Posso-Osorio I, Figueroa C, Suso J-P, Hormaza A, Bonilla-Abadía F, et al. Efectos del belimumab en pacientes colombianos con lupus eritematoso sistémico, un estudio prospectivo observacional. Rev Colomb Reumatol. 2017;24:159–163.

* *Corresponding author.*
E-mail address: gtobon1@yahoo.com (G.J. Tobón).

Efectos del belimumab en pacientes colombianos con lupus eritematoso sistémico, un estudio prospectivo observacional

Palabras clave:
Belimumab
Lupus eritematoso sistémico
Colombia

R E S U M E N

Introducción: El belimumab es un anticuerpo monoclonal tipo IgG1 que se une e inhibe la forma soluble de Blys (estimulador de linfocitos B) y ha mostrado efectividad en el manejo del lupus eritematoso sistémico (LES). Sin embargo, se desconoce su efectividad en una población tan variable étnicamente como la colombiana.

Métodos: Se realizó un estudio prospectivo observacional entre febrero de 2015 y febrero de 2016, en pacientes con LES, con enfermedad activa a pesar del tratamiento estándar, quienes fueron tratados con belimumab.

Resultados: El uso de belimumab se relacionó con una mejoría significativa en los compromisos articular, cutáneo y hematológico, con aumento de los niveles de complemento, disminución de las exacerbaciones por LES y de las hospitalizaciones, además de una menor actividad calculada por SLEDAI después de 3 meses de utilización y con una estabilidad mantenida hasta los 9 meses.

Conclusiones: Se observó que el belimumab es útil en pacientes colombianos con LES que son refractarios a la terapia estándar, especialmente en manifestaciones articulares, hematológicas y cutáneas, en un entorno de pacientes de la vida real.

Introduction

Systemic lupus erythematosus (SLE) is a multisystemic disease, of autoimmune origin and unknown etiology. The main pathogenic mechanisms include the production of autoantibodies, activation of complement, production of cytokines and costimulatory molecules, activation of B cells and deposition of immune complexes.

The drug belimumab is a monoclonal type IgG1 antibody that binds and inhibits the soluble form of the Blys (B lymphocyte stimulator, also known as BAFF), which has shown effectiveness in the management of SLE.[1,2] The safety and usefulness of belimumab was demonstrated in phase II and III studies (BLISS-52 and BLISS-76).[3,4] These randomized trials demonstrated several benefits in the group treated with belimumab, such as less use of steroids, a lower disease activity (in several evaluation scores including PGA, SF-36 and Selena-SLEDAI), and a greater response in patients with higher disease activity (positive double-stranded anti-DNA antibodies and those with SELENA-SLEDAI >8). These findings were maintained in the follow-up study (BLISS-76) during 7 years in 1746 patients worldwide.[4] Taking into account the short time for which belimumab has been used in patients with SLE and the few studies conducted in the real clinical setting in different ethnic populations, we describe the effect of belimumab in Colombian patients treated during 9 months.

Methods

A prospective observational study was conducted between February 2015 and February 2016 in SLE patients with active disease despite standard treatment, who were treated with belimumab (10 mg/kg/dose, 0-2-4 and then every 4 weeks). All patients met the classification criteria for SLE[5] and were assessed in the Reference Center of Autoimmune Diseases of the Foundation Valle del Lili, Cali; the study was authorized by the institutional ethics committee and the patients who were included signed informed consent. Clinical and immunological information was collected at the beginning and every 3 months. The main variables included doses of prednisolone or its equivalent, presence of exacerbations, need for hospitalization, levels of acute phase reactants, levels of complement, anti-double stranded DNA titers, and levels of disease activity determined by the Systemic Lupus Erythematosus Disease Activity Score (SLEDAI). The results at baseline and those obtained every 3 months were compared using the Wilcoxon test for unpaired data and the *T* test for paired data according to the distribution thereof (Table 1).

Results

After an average number of 7 cycles, positive results were evidenced. Eight patients were included in the baseline, all of them women. The mean age of inclusion was 32.2±3.2 years and the mean duration of the disease was 11.25 years. Two patients had an association with antiphospholipid syndrome. The mean basal dose of prednisolone was 15.31 mg/day and the initial SLEDAI was high (7.37). The treatment with belimumab was indicated by the presence of a refractory involvement of the joints ($n=8$), cutaneous ($n=7$) and hematological ($n=3$) given by hemolytic anemia (one patient) and leukocytes <4000/μL (2 patients), despite standard therapy which included steroids, antimalarial drugs, methotrexate, mycophenolate mofetil, azathioprine or rituximab. Table 2 shows the immunosuppressive agents previously received and the time of treatment with these