



TEXAS A&M UNIVERSITY
College of Medicine

Successful Use of Belimumab in Dapsone-Resistant Bullous Lupus Erythematosus

Sheeva Shahinfar, BSA¹, Sarah Rivera De Peña, MD², Michael Wilkerson, MD²

¹Texas A&M University College of Medicine – Bryan, TX

²University of Texas Medical Branch– Galveston, TX



BACKGROUND

Bullous lupus erythematosus (BLE) is a rare autoimmune blistering disease that manifests in patients with a previous diagnosis of systemic lupus erythematosus. Typically, first line treatment for BLE is dapsone, which has been shown to have great efficacy. Second line treatment includes colchicine, hydroxychloroquine, and immunosuppressants. Our case presents a patient who failed most recommended therapies, however improved on belimumab (Benlysta®).

CASE PRESENTATION

A 59-year-old African American female with a past medical history of systemic lupus erythematosus (SLE), mixed connective tissue disease (MCTD), and rheumatoid arthritis (RA) presented to the dermatology clinic for small bumps on her arms and thighs. At that moment, she was on hydroxychloroquine 200mg daily managed by rheumatology for several months. Of note, three months prior to her dermatology visit, the patient had presented to the emergency department (ED) with recurring bullae on her extremities, which led to her dermatology referral.

On physical examination she had few small pink vesicles, one tense bullae and various hypopigmented eroded plaques with a violaceous border on her left breast, bilateral forearms and thighs. She described the rash as asymptomatic, present for 2-3 months during her SLE flares and using vaseline (Figure 1). A punch biopsy revealed subepidermal bulla with abundant neutrophils, rare eosinophils and focal interface dermatitis, suggestive of bullous lupus erythematosus. In addition, direct immunofluorescence revealed a strongly positive IgG linear staining along the dermo-epidermal junction and along dermal appendage's basement membrane as well as a mildly positive C3 linear staining along dermo-epidermal junction. These findings along with a positive serum IgG for collagen VII confirmed the diagnosis of BLE. At this time, the patient was started on triamcinolone 0.1% cream twice daily and hydroxychloroquine was increased to 300 mg daily.

CASE PRESENTATION (continued)

Her condition was well- controlled on this regimen for about one year, until she presented to the ED with large well-defined bright pink eroded plaques of bullous lesions in different stages of healing on her extremities, trunk, and oral mucosa (Figure 2). In the ED, she was started on dapsone 100 mg daily, colchicine 0.6 mg daily, and prednisone 40 mg daily. Rheumatology also increased her hydroxychloroquine to 400 mg daily. The patient had an adverse reaction to dapsone and noticed worsening of her condition on of the above-mentioned medications. With multiple failed trials of recommended therapy (Figure 3), rheumatology and dermatology agreed to start the patient on belimumab 200 mg subcutaneous (SQ) injections once a week.

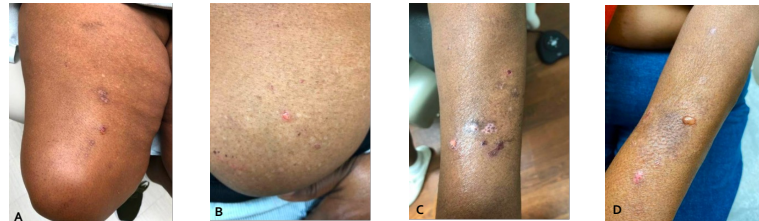


Figure 1. Patient's first presentation to the dermatology clinic. Lesions on right thigh (A), elbow (B) and forearms (C, D).



Figure 2. Photos of patient's flare on her oral mucosa (A), right posterior thigh (B), abdomen (C) and upper back (D).

The patient noticed substantial improvement in her condition (Figure 4) on the following regimen: belimumab 200mg SQ weekly, hydroxychloroquine 400 mg daily as well as triamcinolone and halobetasol ointment as needed for flares.



Figure 3. Images of the patient's posterior forearms and elbows (A) and abdomen (B) after multiple failed trials of recommended therapy.

CASE PRESENTATION (continued)



Figure 4. Several months after start of belimumab. Patient's right leg (A), posterior elbows (B,C) and abdomen (D).

DISCUSSION

Bullous lupus erythematosus occurs due to auto-antibody formation to the non-collagenous type 1 and 2 (NC1, NC2) portions of collagen seven - a key component of the anchoring fibrils of the skin's basement membrane zone. Clinically, BLE presents with a sudden onset of tense blisters and vesicles on an erythematous base. The face, trunk, extensors, and oral mucosa tend to be the primary affected sites. Diagnosis requires a punch biopsy with perilesional direct immunofluorescence.

CRITERIA FOR DIAGNOSIS OF BLE

- 1) Sudden onset of vesicles/bullae
- 2) Subepidermal blisters with a neutrophil-predominant infiltrate in the superficial dermis on histology
- 3) Linear or granular immunoglobulins along basement membrane zone with a U-serrated staining pattern on direct immunofluorescence.
- 4) Elevated ANA
- 5) Exclusion of other blistering disorders.

The first-line management of BLE is dapsone 25 - 100 mg daily, while second-line medications include colchicine 1 mg daily, hydroxychloroquine 200 mg twice daily or immunosuppressants. Belimumab is a human monoclonal antibody that inhibits B-cell activating factor. It became FDA-approved for SLE and lupus nephritis in 2011. There are currently four case reports that discuss its effectiveness in patients with BLE with this case demonstrating yet another successful patient story. Therefore, we recommend providers to consider belimumab in patients with treatment-resistant BLE after careful consideration with rheumatology.

REFERENCES



Please scan the QR code for a list of our references. All questions can be directed to Sheeva Shahinfar at sheevajamin@gmail.com