SKIN

BRIEF ARTICLE

Use of Tralokinumab in the Management of Bullous Pemphigoid

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ABSTRACT

A 78-year-old female with a history of asthma and depression presented with several months of generalized pruritus and tense blisters involving the trunk and extremities. She was previously diagnosed with bullous pemphigoid by an allergist based on clinical findings and positive indirect immunofluorescence and had been treated with prednisone and doxycycline for nearly a year. She experienced intermittent symptom improvement and developed steroid-related side effects including hypertension, prediabetes, and weight gain. At her initial visit with dermatology, she had discontinued prednisone and reported a peak pruritic numerical rating scale (PP-NRS) of 10/10 with numerous bullae on examination. Dupilumab was initiated with rapid improvement in pruritis and skin lesions, with clear skin by six months. However, by 12 months, she complained of progressive arthralgia affecting large and small joints without any identifiable cause. Due to emerging reports of dupilumab-associated inflammatory arthritis, the medication was discontinued and replaced with tralokinumab. At the 4-month follow-up, the patient remained clear and itch-free, and her arthralgia had fully resolved. She did report a mild flare of her bullous pemphigoid during the first month of treatment, which resolved quickly with continued therapy.

INTRODUCTION

Bullous pemphigoid (BP) is a prevalent autoimmune blistering disorder affecting the subepidermal layer and is characterized by tense bullae and severe pruritis.[1] BP mostly affects older adults, with incidence peaking in the seventh to eighth decades of life.[2] Diagnosis is typically established through a combination of clinical evaluation, histopathology, direct immunofluorescence showing linear deposition of immunoglobulin G (IgG) and/or complement component 3 (C3) along the basement membrane, and serum indirect immunofluorescence (IIF) to detect circulating autoantibodies.[3]

As diagnostic tools become more refined and the population continues to age, bullous pemphigoid (BP) is being diagnosed with increasing frequency.[4] With reported mortality rates ranging from 11% to 48% and increasing disease prevalence, long-term treatment and symptom management of BP remains a challenge for physicians. [1] In this case report, we describe a patient with bullous pemphigoid who experienced significant side effects with multiple treatments but achieved complete resolution and excellent tolerability with tralokinumab.

CASE REPORT

A 78-year-old female with a history of asthma and depression presented with 14 months of severe generalized pruritus and tense blisters involving the trunk and extremities. Twelve months prior, she saw evaluated by her allergist, who diagnosed her with bullous pemphigoid based on clinical exam features and positive serum IIF testing. She was treated with prednisone and doxycycline for nearly a year with intermittent resolution of symptoms but developed hypertension, prediabetes, and gained 40 pounds.

Given these side effects, she self-discontinued prednisone two weeks prior to her initial visit with dermatology, and her Pruritic Patient Numeric Rating Scale (PP-NRS) was at a 10, accompanied by numerous bullae on examination. Treatment was initiated with dupilumab at a 600 mg loading dose, followed by 300 mg biweekly for maintenance. Within a month, her PP-NRS was down to a 5/10 and about 50% of the bullae had healed. At six months, her PP-NRS was a 0/10 and her skin had completely healed. At the 12-month follow-up, she remained clear and itch-free but reported progressively worsening stiffness and tenderness in her hips, knees, and wrists, without any history of injury or identifiable trigger. She denied a prior history of arthritis and stated she first noticed mild arthralgia after the third dose of dupilumab. She thought that it was a potential coincidence at this time and never reported it; however, it continued to worsen month by month with no other changes in her life and so she felt strongly that it was drug-related.

Due to increasing reports of inflammatory arthritis associated with dupilumab, therapy was discontinued in favor of a trial with tralokinumab, using the standard atopic dermatitis dosing regimen of a 600 mg loading dose followed by 300 mg every two weeks. Four months later, she exhibited complete clearance, absence of pruritus, and resolution of arthralgia. She noted a brief, mild flare of pruritus during the first month that promptly resolved with sustained treatment.

DISCUSSION

Management of BP has historically relied on the use of topical or systemic corticosteroids as first line agents depending on disease severity, with consideration for doxycycline or methotrexate in patients unable to tolerate steroids.[5, 6] More recently, biologic immunotherapies have emerged as promising options for the management of refractory BP, with favorable safety profiles and high rates of disease remission. BP is predominated by a T helper type 2 (Th2) immune response, increasing the production of interleukin (IL) 4, 5, and 13.[7] Th2 cell activity, especially cells producing IL-13, is correlated with BP severity and response to therapy.[7]

Dupilumab, a biologic which targets IL-4 and IL-13 pathways, is the first and only FDA-approved systemic treatment for BP but may be poorly tolerated in some patients due to the development of arthralgia or inflammatory arthritis.[8] Tralokinumab, a fully human monoclonal antibody that selectively targets IL-13, may represent a novel therapeutic option for bullous pemphigoid. By specifically inhibiting IL-13, it has the potential to modulate Th2-mediated inflammation and reduce disease activity.

In this severe refractory case, Tralokinumab offered complete symptomatic control of her BP with sustained treatment. Although primarily approved for atopic dermatitis, it has

demonstrated clinical efficacy in at least one reported case of bullous pemphigoid, underscoring the potential role of IL-13 inhibition in BP management.[9, 10]

Although data on adverse effects and contraindications of tralokinumab in BP are limited, findings from atopic dermatitis (AD) trials show it is generally well tolerated, with injection-site reactions, upper respiratory infections, and conjunctivitis being the most common events.[11] The only formal contraindication to its use in AD is hypersensitivity to the drug or its components, with caution advised in immunocompromised patients or those with acute infections.[12]

CONCLUSION

This case highlights the potential of Tralokinumab as an effective and well-tolerated treatment for refractory bullous pemphigoid, particularly in patients who experience adverse effects from other therapies. As IL-13 continues to emerge as a key player in BP pathogenesis, further investigation into targeted biologics like tralokinumab may expand future therapeutic options for this challenging disease.

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