

Dupilumab in the Treatment of Dyshidrosis: A Report of Two Cases

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ABSTRACT

Dupilumab (Dupixent, Regeneron Pharmaceuticals and Sanofi Genzyme) is a novel biologic medication recently approved by the FDA for the treatment of moderate-to-severe atopic dermatitis in adults who have not achieved adequate control with topical medications. Dyshidrotic eczema is a distinct entity, often considered on the spectrum of atopic dermatitis, that primarily effects the palms and soles; it is often associated with considerable morbidity yet is frequently challenging to treat. We report two cases of recalcitrant dyshidrotic eczema treated successfully with dupilumab at standard dosing. Further studies to establish the efficacy of dupilumab in the treatment of dyshidrosis are warranted.

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INTRODUCTION

Dupilumab (Dupixent, Regeneron Pharmaceuticals and Sanofi Genzyme) is a novel agent approved by the FDA in March 2017 for the treatment of adults with moderate-to-severe atopic dermatitis (AD) not adequately controlled by topical medications.[1] Through its action as a monoclonal antibody targeting the alpha subunit of the interleukin-4 receptor (IL-4Ra), it inhibits the biologic effects of both interleukin-4 (IL-4) and interleukin-13 (IL-13), which contribute to the inflammation seen in patients with atopic dermatitis. Dyshidrotic eczema is a distinct entity, alternatively called hand eczema, dyshidrosis or pompholyx, which often affects the hands and feet and is characterized by recurrent pruritic and painful erythematous papules and vesicles followed by peeling, scaling, and fissuring of the skin. Moderate-to-severe disease is debilitating, and treatment is often challenging. We report two cases of recalcitrant dyshidrotic eczema managed successfully with dupilumab.

CASE 1

A 63-year-old male presented with severe hand dermatitis. His past medical history was significant for asthma, seasonal allergies, osteoarthritis, and hypertension, although he denied a history of childhood AD. He worked as a mechanic and his dermatitis was a significant professional hindrance. Between 2006 and 2017, he was treated with minimal success using high potency topical corticosteroids, emollients, narrow band ultraviolet B phototherapy, psoralen-ultraviolet A therapy (PUVA), excimer laser, multiple courses of systemic corticosteroids, apremilast, and both oral and subcutaneous methotrexate. Many of these treatments provided minimal or short-lived relief, while others were discontinued due to intolerable side effects. Additionally, he underwent patch-testing which failed to reveal significant sensitivity to any potential contact allergen. The patient presented to our clinic with symmetric, confluent hyperkeratotic erythematous plaques on the palms, with multiple deep fissures, worst at the fingertips. No other cutaneous surface was involved. He was started on dupilumab with an initial loading dose of 600 mg followed by 300 mg every other week, thereafter. After 8 weeks, his condition had nearly resolved. His hands were devoid of erythema and displayed only slight linear scale on the finger pads at the sites of previous fissures. Subjectively, the patient enthusiastically reported a near normalization of his quality of life.

CASE 2

A 37-year-old male with no significant past medical history presented to our clinic with uncontrolled dyshidrotic eczema. Bilaterally, his palms and soles displayed hyperkeratotic and erythematous plaques studded with many vesicles and fissures. No other cutaneous surface was involved. He related significant pruritus and pain and denied a history of childhood AD. He was initially unsuccessfully treated with PUVA, and over several years was managed without success using efalizumab, etanercept, adalimumab, apremilast, and ixekizumab (all at standard psoriasis dosing). Further, subcutaneous methotrexate up to 20 mg weekly and mycophenolate mofetil were unsuccessful. Finally, cyclosporine at 4 mg/kg per day was effective at normalizing the condition. However, as a means to discontinue cyclosporine, dupilumab was introduced with an initial dose of 600 mg followed by 300 mg every other week. After 4 months of continuous therapy and the full discontinuation of cyclosporine, the patient displayed palms and soles completely free of disease and a normal quality of life.

DISCUSSION

We report two cases of recalcitrant dyshidrotic eczema which have been successfully treated with dupilumab. Dyshidrotic eczema is a distinct cutaneous condition often considered within the spectrum of eczematous dermatitis and is often associated with significant morbidity, and is frequently very challenging to manage.[2,3] There are numerous reports in the literature of patients treated with a wide variety of modalities including topical corticosteroids or calcineurin inhibitors, photo/photochemotherapy, various systemic immunomodulators, anti-psoriasis biologics, intradermal botulinum toxin, and even radiotherapy.[2,4-5] However, none of these treatments are specific for the treatment of dyshidrosis and are often associated with partial, inadequate and/or brief response, or intolerability. With the approval of dupilumab by the FDA, a novel therapy is now available to patients with atopic dermatitis not controlled by topical therapies. In the short time since its approval, dupilumab, in our hands, also has proven useful in the management of two patients with dyshidrotic eczema. Importantly, there are current efforts to establish the efficacy of dupilumab in the treatment of asthma, nasal polyposis, eosinophilic esophagitis, and pediatric patients with atopic dermatitis.[6] Additionally, controlled clinical trials to study the efficacy of this IL-4/IL-13 biologic inhibitor in treatment of dyshidrotic eczema are also warranted.

DISCLOSURES

Bruce Strober has received honoraria as a Consultant, Advisory Board Member, and/or Principal Investigator from AbbVie, Almirall, Amgen, Boehringer Ingelheim, Celgene Corporation, Dermira, Inc., Eli Lilly and Company, Janssen-Ortho, Inc., Leo Pharma Inc., Merck & Company, Inc., Maruho Company, Ltd., Novartis Pharmaceuticals Corporation, Pfizer, Inc., Sanofi/Regeneron, Sun Pharmaceutical Industries, Ltd, and UCB Pharma. He is a Scientific Director for the Corrona Psoriasis Registry. Drs Weston and Hooper have no conflict of interest to declare.

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