Contemporary systemic treatment patterns in atopic dermatitis

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Introduction/Background: With newly emerging targeted systemic therapies for atopic dermatitis (AD) there is a need to understand the evolving real-world treatment patterns and implications on AD management. Since the FDA approval of dupilumab for adults in 2017, three additional targeted therapies – the IL-13 inhibitor tralokinumab and 2 JAK inhibitors (abrocitinib and upadacitinib) – were approved for adults with moderate-to-severe AD as of January 2022. Additional treatment options are still awaiting FDA approval, including the IL-31 inhibitor nemolizumab, or undergoing clinical trials (e.g., OX40-OX40L inhibitors). Therefore, an update on real-world contemporary targeted treatment strategies for AD is warranted.

Objectives: To characterize current systemic treatment patterns in patients with AD.

Methods: A real-world retrospective observational analysis of US medical and prescription claims data (IQVIA, Durham, NC) was assessed. Individuals with an AD diagnosis were included in analysis if they initiated a modern targeted systemic AD prescription with a dermatology provider at index (patient selection event) for their first line of therapy (LOT) between January 2022 and June 2023, but had no AD systemic treatment 24 months prior to index and were continuously enrolled a minimum of six months for follow-up (n=7006). Treatment patterns, switch rates, comedications, comorbidities, and post-index events were evaluated.
**Results:** First line targeted systemic therapies for adults included dupilumab (91.2%), upadacitinib (4.3%), tralokinumab (3.9%), and abrocitinib (0.7%). Fifty-one percent of patients initiating on one of these therapies underwent a change in treatment during the follow-up period. Switch rates for monotherapy use of each of these targeted drugs to another targeted systemic therapy were 5%, 10%, 18%, and 17%, respectively. For the second LOT, dupilumab monotherapy decreased to 11% whereas upadacitinib use increased to 42%, tralokinumab to 25%, and abrocitinib to 8% of LOT-2. On average, switches to LOT-2 occurred within 5.5 months. Switches to later LOTs occurred at quicker rates, with patients switching to a third LOT at 4.6 months and to 4th and 5th LOTs at 3.1 and 3.3 months, respectively. Of patients only treated with a targeted systemic LOT-1, over one third discontinued the drug within ~5 months and did not switch to another targeted AD therapy. These patients may have switched to other non-targeted systemic treatments, topicals, or ceased any treatment.

In addition to those who switched therapies, some patients who remained on their first LOT had evidence of persisting disease burden. For instance, over half of individuals who maintained their first targeted systemic LOT also used topical therapies. Those who persisted on dupilumab treatment despite continuing pruritus (641/6001, 11%) had 2.6x higher rates of post-index biopsy (5% vs 14%, p<.001) accompanied by increased rates of other cutaneous diagnoses such as mycosis fungoides, contact dermatitis, tinea, and seborrheic dermatitis compared to those who did not. This suggests an unclear diagnosis or multiple pruritic conditions in some patients who did not achieve a robust response to targeted treatment.

Post-index pruritus was suggestive of a higher level of overall disease burden and comorbidities as observed by increased proportions of patients using topical corticosteroids (61% vs 50%, p<.001) and antianxiety medications (33% vs 20%, p<.001), or seeing emergency medicine (35% vs 25%, p<.001) and cardiovascular specialists (25.9% vs 17.2%, p<.001) post index. As new therapies with different mechanisms of action are approved, there will be more options for patients with incomplete response to first-line AD therapy.
Conclusions: Irrespective of the index treatment for AD, >50% of patients discontinued or switched therapies. Some patients who remained on index treatment, had indicators of inadequate disease control, suggesting a need for improvement over empirical selection of therapies to support more proactive management strategies in the context of the emerging treatment landscape for AD.

Keywords: atopic dermatitis, targeted systemic therapy, comorbidities, pruritus, treatment patterns

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