ORIGINAL ARTICLE

Prescribing practices for systemic agents in the treatment of severe pediatric atopic dermatitis in the US and Canada: The PeDRA TREAT survey

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Background: There is a paucity of literature to direct physicians in the prescribing of immunomodulators for patients with severe atopic dermatitis (AD).

Objective: To survey systemic agent prescribing practices for severe childhood AD among clinicians in the United States and Canada.

Methods: The TREatment of severe Atopic dermatitis in children Taskforce (TREAT), US&CANADA, a project of the Pediatric Dermatology Research Alliance (PeDRA), developed an online multiple-response survey to assess clinical practice, gather demographic information and details of systemic agent selection, and identify barriers to their use in patients with recalcitrant pediatric AD.

Results: In total, 133 of 290 members (45.9%) of the Society for Pediatric Dermatology completed the survey, and 115 of 133 (86.5%) used systemic treatment for severe pediatric AD. First-line drugs of choice were cyclosporine (45.2%), methotrexate (29.6%), and mycophenolate mofetil (13.0%). The most commonly used second-line agents were methotrexate (31.3%) and mycophenolate mofetil (30.4%); azathioprine was the most commonly cited third-line agent. The main factors that discouraged use of systemic agents were side-effect profiles (82.6%) and perceived risks of long-term toxicity (81.7%).

Limitations: Investigation of the sequence of systemic medications or combination systemic therapy was limited. Recall bias may have affected the results.

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Drs Totri and Eichenfield contributed equally to this work.

Conflicts of interest: None.

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Conclusion: Great variation exists in prescribing practices among American and Canadian physicians using systemic agents for treatment of pediatric AD. (J Am Acad Dermatol http://dx.doi.org/10.1016/j.jaad.2016.09.021.)

Key words: atopic dermatitis; azathioprine; cyclosporine; methotrexate; mycophenolate mofetil; oral antimicrobials; oral steroids.

Atopic dermatitis (AD) affects nearly 20% of children in the United States, Europe, and Japan.[1] While the majority of pediatric patients can be treated with topical therapy alone, a small subset with refractory or severe AD requires systemic immunomodulatory therapy with medications such as cyclosporine (CSA), methotrexate (MTX), mycophenolate mofetil (MMF), and azathioprine (AZA).

CAPSULE SUMMARY

- A paucity of literature exists to direct physicians in the prescribing of systemic therapies for children with refractory atopic dermatitis.
- There is wide variation in the prescribing practice of systemic immunomodulators for pediatric atopic dermatitis.
- There is a need for comparative effectiveness studies of commonly used immunomodulators and investigation of new biologic agents.

The European TREatment of severe Atopic eczema in children Taskforce (TREAT) survey confirmed wide variation in prescribing practice of systemic immunomodulators across 8 European countries.[2] In 2014, the Pediatric Dermatology Research Alliance (PeDRA) launched the TREAT US&CANADA survey in collaboration with the European TREAT team: (i) to produce data on the current systemic agent prescribing practices of pediatric dermatologists for severe AD in the United States and Canada; (ii) to investigate factors influencing the use of specific systemic agents; and (iii) to inform the design of future intervention studies.

METHODS

The TREAT US&CANADA survey team developed an anonymous, online multiple-response survey to gather information on demographics, clinical practice data, and systemic agent selection, as well as factors impacting systemic medication use for refractory pediatric AD. The survey was modeled after the European TREAT survey and was extensively piloted among PeDRA members before going live.

From September to December 2014, the survey was distributed among select members (n = 319) of the Society for Pediatric Dermatology. Unique, anonymized survey links were delivered through email and staggered reminder emails were sent. Responders who did not prescribe systemic immunomodulating drugs were directed to the end of the survey, while those who did were presented with a clinical scenario of an adolescent patient who had failed treatment with potent topical corticosteroids, antihistamines, and phototherapy. Participating clinicians were asked to record their first-, second-, and third-line systemic drugs of choice. Preferred dosing regimens, including initiating and maximal doses, length of treatment, and discontinuation regimens were also queried. Use of treatment guidelines to direct systemic treatment in severe pediatric AD was assessed, and perceived barriers to the use of systemic agents were recorded.

RESULTS

Study population

A total of 319 invitation emails were sent to Society for Pediatric Dermatology members. Twenty-seven failed emails and two ineligible participants (ie, not practicing in the United States or Canada) were identified, leaving 290 potential respondents. The survey was completed by 133 members (45.9%) of whom 115 (86.5%) used systemic treatment for severe pediatric AD. Demographic characteristics of the participants are summarized in Table I. Of the respondents, the majority (74.4%) were dermatologists with Pediatric Dermatology Board certification. The majority (66.4%) of the cohort practiced in a pediatric dermatology setting, while 34.6% treated both children and adults.

Systemic agents and dosing schedules

The first-line systemic agents of choice were CSA (45.2%) and MTX (29.6%). The most commonly chosen second-line agents were MTX (31.3%) and MMF (30.4%). AZA was the most commonly used third-line agent (33.0%) followed by MMF (24.3%). A