

Real-World Effectiveness of Systemic Therapies for Atopic Dermatitis (AD) in the United States: Analysis of a Retrospective Claims Database

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Background: Atopic dermatitis (AD) is associated with significant epidemiologic and healthcare burden in the United States. Adults with moderate-to-severe AD who do not respond adequately to topical treatments are usually switched to systemic agents, including corticosteroids, immunosuppressants, or biologics, such as dupilumab. As systemic therapies rapidly evolve, it is necessary to evaluate the real-world effectiveness of newly initiated systemic therapies for AD.

Methods: The IQVIA Health Plan Claims data set (September 2016-December 2019) was analyzed. Data from patients (≥ 12 years of age) with AD (ICD-9/10-CM: 691.8/L20.x) who newly started a systemic immunosuppressant (methotrexate, cyclosporine, mycophenolate, and azathioprine) or dupilumab and had ≥ 6 months continuous enrollment before and after their first systemic therapy claim were included in this analysis. Treatment patterns and rates of treatment nonresponse were analyzed for each group of patients. Nonresponse was defined as adding/switching to a different systemic therapy, having an AD-related inpatient or emergency room visit, or having an incident staphylococcal or streptococcal skin infection.

Results: In total, 3249 patients were included: mean age was 40.6 years and distribution was 54.2% female and 45.8% male. During the baseline period, 50.7% of patients used systemic corticosteroids, whereas 76.1% used topical corticosteroids. The distribution of systemic index treatments was as follows: dupilumab (n=2455): 75.6%; methotrexate (n=468): 14.4%; cyclosporine (n=180): 5.5%; mycophenolate (n=94): 2.9%; and azathioprine (n=52): 1.6%. During follow-up, 45.4% of patients exhibited an indicator of nonresponse: adding/switching to another systemic therapy (44.7%) was the most common. Kaplan-Meier rates of nonresponse at 12 months varied by index therapy: dupilumab had the lowest rate (35.4%). Mycophenolate (70.9%) had the highest rate of nonresponse, followed by cyclosporine (68.7%), azathioprine (67.4%), and methotrexate (59.6%; $P < 0.01$ for all comparisons).

Conclusions: The majority of patients did not remain on therapy. The likelihood of this was substantially greater with systemic immunosuppressants than with dupilumab. These results may partially be explained by differences in safety, although healthcare resource use was similar across cohorts. This study highlights the challenges posed by treatment of patients using systemic therapy.