

Itch-dominant atopic dermatitis: a distinct phenotype of atopic dermatitis

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Background: Atopic dermatitis (AD) is a heterogeneous disorder associated with multiple clinical phenotypes. In particular, AD patients may have different combinations of lesional and symptom severity, e.g. mild-moderate lesions with mild-moderate itch (mild-moderate lesions), mild-moderate lesions with severe itch (itch-dominant), or severe lesions and severe itch (severe lesions). Yet, little is known about how commonly these different AD subsets occur and their clinical characteristics.

Objective: We sought to determine the characteristics and burden of itch-dominant AD.

Methods: We performed a prospective dermatology-practice based study using self-administered questionnaires and skin-examination in 121 adults with AD.

Results: Overall, there was only fair concordance of EASI and objective-SCORAD with NRS worst-itch and SCORAD-itch (weighted kappa 0.20-0.42). Itch-dominant AD occurred in 18.2% (mild-moderate objective-SCORAD, severe SCORAD-itch) to 24.6% (mild-moderate EASI, severe NRS worst-itch) of adults with AD. Patients with itch-dominant AD had the highest proportions of asthma (68.2%; Chi-square, $P=0.04$) and food allergy (72.7%, $P=0.004$) and youngest age of AD-onset (median age=0 years; Mann-Whitney U test, $P=0.01$) compared to those with mild-moderate or severe lesions, but similar distributions of gender, race/ethnicity, hay fever, anxiety, and depression. In propensity score weighted multivariable regression models, itch-dominant AD was associated with significantly higher patient-reported global AD severity, dermatology life quality index (DLQI), patient-reported eczema measure (POEM), sleep disturbance, and skin-pain compared to those with mild-moderate lesions. Severe lesions were associated with significantly higher DLQI, sleep-disturbance, but lower POEM scores compared to itch-dominant AD.

Conclusions: In conclusion, itch-dominant AD appears to be a distinct phenotype of AD which is both common and burdensome. Further studies are needed to confirm these findings and understand the clinical course and treatment response of itch-dominant AD.

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