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CORRESPONDENCE

Evaluation of long-term disease control with dupilumab therapy using the Atopic Dermatitis Control Tool in real-world clinical practice

Dear Editor,

As far as different indexes are used in different clinical trials, comparing the results of multiple clinical trials is impossible. For clinical trials for atopic dermatitis (AD), the core outcome set was developed to resolve this issue.[1] The Atopic Dermatitis Control Tool (ADCT) is a validated instrument for evaluating long-term disease control in AD.[2,3] However, no studies have reported on the use of ADCT in real-world clinical practice. Dupilumab, a dual inhibitor of interleukin (IL) 4 and IL-13, is approved for use in the treatment of moderate-to-severe AD. Recently, dupilumab has been reported to show a longer drug survival than oral cyclosporine and, thus, may be useful for long-term control of AD.[4] Furthermore, the skin rash in AD can remain in remission after discontinuation of dupilumab therapy.[5] In this study, we investigated the usefulness of the ADCT in daily clinical practice for evaluating long-term disease control in patients with AD treated with dupilumab.

This study was approved by the ethics review board of Hyogo College of Medicine and conducted in accordance with the guidelines of the Declaration of Helsinki. ADCT evaluation was performed in 109 patients with AD who started dupilumab therapy from April 2018 to July 2020 at our hospital (Figure 1A). Of these patients, five had not received dupilumab therapy (pre-dupilumab group), 45 were receiving dupilumab therapy (dupilumab group), 25 were in bio-free remission after discontinuation of dupilumab therapy (remission), and four had resumed dupilumab therapy after discontinuation due to a flare-up of skin rash (exacerbation group). The details of the cases at the time of the ADCT assessment are shown in Table S1. The ADCT scores significantly correlated with the scores in the other established instruments such as the Patient-Oriented Eczema Measure (POEM), Dermatology Life Quality Index (DLQI), and Eczema Area and Severity Index (EASI) in both the dupilumab and remission groups (Figure 1B). Forty-two (93.3%) of the 45 patients in the dupilumab group and 24 (96.0%) of the 25 patients in the remission group had ADCT scores <7 (good control). On the other hand, all five patients (100%) in the pre-dupilumab group and all 4 patients (100%) in the exacerbation group showed poor control, with ADCT scores ≥7 points.

This is the first report to indicate that the ADCT score correlated with the scores in other measurement instruments (POEM, DLQI, and EASI) in patients with AD during and after dupilumab treatment in real-world clinical practice. The ADCT scores were <7 in most patients who were receiving dupilumab therapy or in those in bio-free remission after discontinuation of dupilumab therapy. Our results suggest the clinical significance of the ADCT as an instrument for evaluating long-term disease control with dupilumab therapy. Thus, the ADCT may be useful for promoting the treat-to-target approach[6] in any systemic treatment for AD.

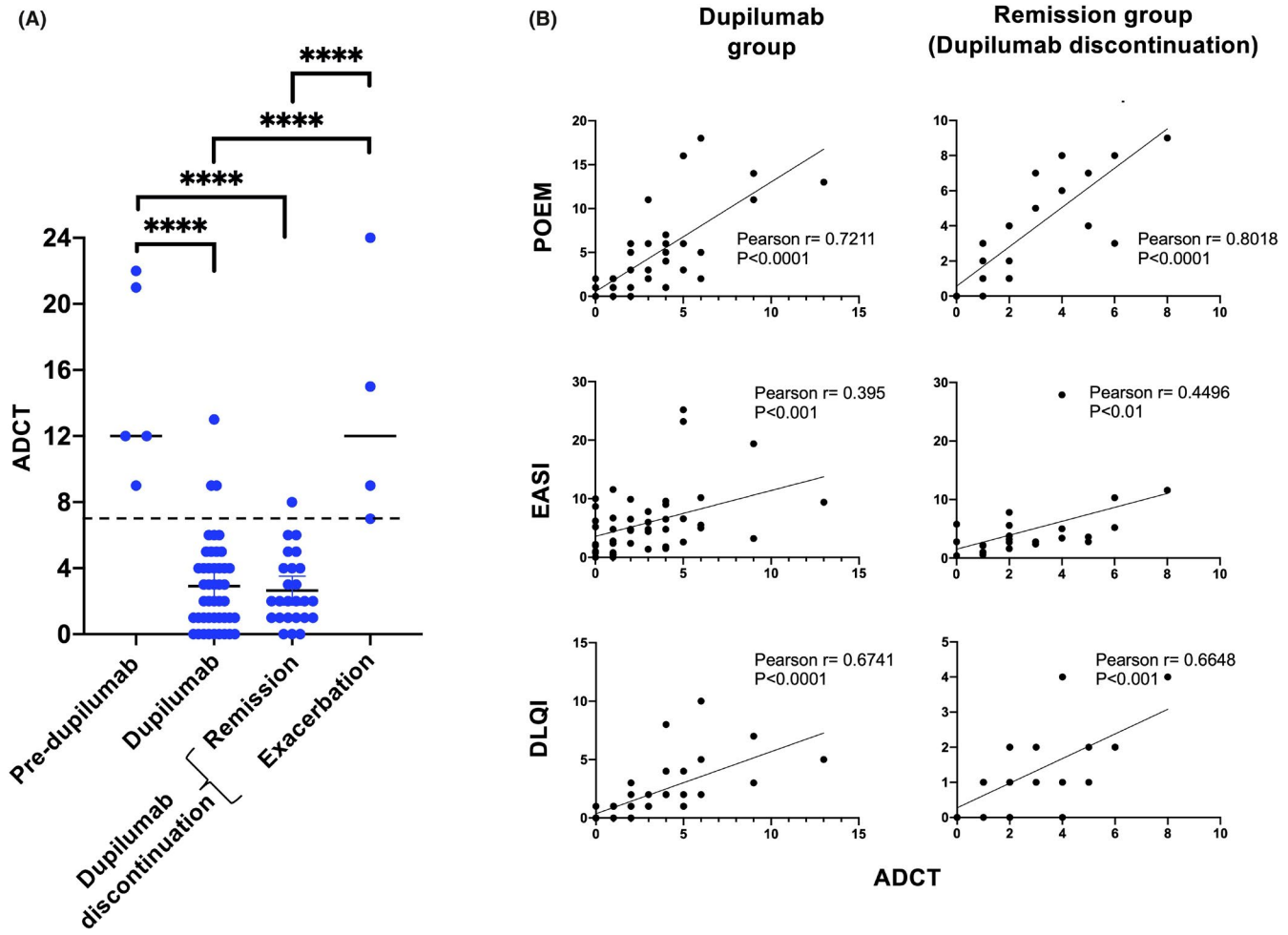

FIGURE 1 (A) Atopic Dermatitis Control Tool (ADCT) evaluation of patients with atopic dermatitis, including those who had not received dupilumab therapy (pre-dupilumab group), those currently receiving dupilumab therapy (dupilumab group), those whose skin rash remained in remission after discontinuation of dupilumab therapy (remission group), and those with flare-up of skin rash after discontinuation of dupilumab therapy (exacerbation group). (B) Correlation between the ADCT scores and scores in the other established instruments (Patient-Oriented Eczema Measure [POEM], Dermatology Life Quality Index [DLQI], and Eczema Area and Severity Index [EASI]) in both the dupilumab and remission groups. The correlation coefficient (*r*) was calculated using the Pearson test. A *p* value <.05 was considered indicative of statistical significance. Data were analyzed with the GraphPad Prism 8 software (San Diego, CA). **** *P*< 0.0001 (Bonferroni's multiple comparisons test)

DECLARATION SECTION

Approval of the research protocol: The study protocol was approved by the ethics review board of Hyogo College of Medicine and conformed to the ethical guidelines of the Declaration of Helsinki.

Informed Consent: N/A.

Registry and the Registration No. of the study/trial: 3273.

Animal Studies: N/A.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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