DOI: 10.1002/cia2.12127

LETTER TO THE EDITOR

Journal of Cutaneous Immunology and Allergy
WILEY

# Correlation of the clinical severity of atopic dermatitis with ocular comorbidities

*Dear Editor,*

It is well known that atopic dermatitis (AD) has ocular complications, including blepharitis and conjunctivitis.[1,2] However, there are few epidemiological reports on the prevalence of ocular comorbidities among patients with AD. We therefore surveyed AD patients with or without ocular comorbidities twice at our university hospital,[3,4] and found that the prevalence of various ocular comorbidities had decreased during the past 20 years. Only the prevalence of atopic keratoconjunctivitis (AKC) showed a significant increase in our latest survey of 70 patients with AD (140 eyes).[3] However, it was unclear whether the clinical severity of AD correlated with the occurrence of ocular comorbidities. To determine whether such a correlation existed in these subjects,[3] we compared the incidence of various ocular comorbidities and the clinical severity of AD using the Eczema Area and Severity Index (EASI) score. This study was approved by the Tokyo Medical University Ethics Committee (No. 2033).

Seventy patients with AD (140 eyes) were enrolled, and their blepharitis, allergic keratoconjunctivitis, lens opacity, and retinal peripheral degeneration were assessed by ophthalmologists. The unpaired Student's t test, chi-square test, and Pearson's product-moment correlation coefficient were used for statistical analysis.

The average EASI score of the 70 subjects was 19.9 for the whole body and 2.20 for the head/neck region. There was a statistically significant correlation between the EASI scores for the whole body and that for the head/neck ($P < .0001$; $r = 0.5509$; Figure 1A). The relevance of the EASI scores to the ocular comorbidities was then examined. Contrary to our expectations, blepharitis was significantly correlated with the whole-body EASI score but not with the head/neck EASI score (Figure 1B). AD patients with either of the four ocular complications had a slightly higher head/neck EASI score, but the difference was not statistically significant (Figure 1B). The incidence of atopic keratoconjunctivitis, but not lens opacity nor retinal lesions, was significantly higher in AD patients with blepharitis (Figure 1C). Although the whole-body EASI scores in our study were closely correlated with the head/neck EASI scores, the incidence of blepharitis was correlated only with the whole-body EASI score. Furthermore, the incidence of atopic keratoconjunctivitis was associated only with the incidence of blepharitis. Although it may be true that AD patients have a higher incidence of ocular comorbidities than healthy individuals,[5] our results suggest that the level of blepharitis correlates with the clinical severity of the whole body while the other, true ocular comorbidities in AD patients may be independent of the skin manifestations. AD patients with ocular comorbidities may carry independent risk factors, including a hereditary predisposition. The validity of this conclusion is limited by the small number of subjects analyzed, and a further study enrolling a larger cohort is necessary. Collaboration between dermatologists and ophthalmologists in the management and care of patients with severe AD may prevent cases of severe ocular comorbidities.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

Takafumi Numata[1]
Tomonobu Ito[1]
Kaori Yamamoto[2]
Setsuko Kawakami[2]
Yoshihiro Wakabayashi[2]
Hiroshi Goto[2]
Ryoji Tsuboi[1]
Yukari Okubo[1]

[1]*Department of Dermatology, Tokyo Medical University, Tokyo, Japan*
[2]*Department of Ophthalmology, Tokyo Medical University, Tokyo, Japan*

**Correspondence**
Tomonobu Ito, MD, PhD, Department of Dermatology, Tokyo Medical University, 6-7-1 Nishishinjuku, Shinjuku-ku, Tokyo 160-0023, Japan.
Email: tomonobu@tokyo-med.ac.jp

## ORCID

*Tomonobu Ito* https://orcid.org/0000-0003-0428-6280

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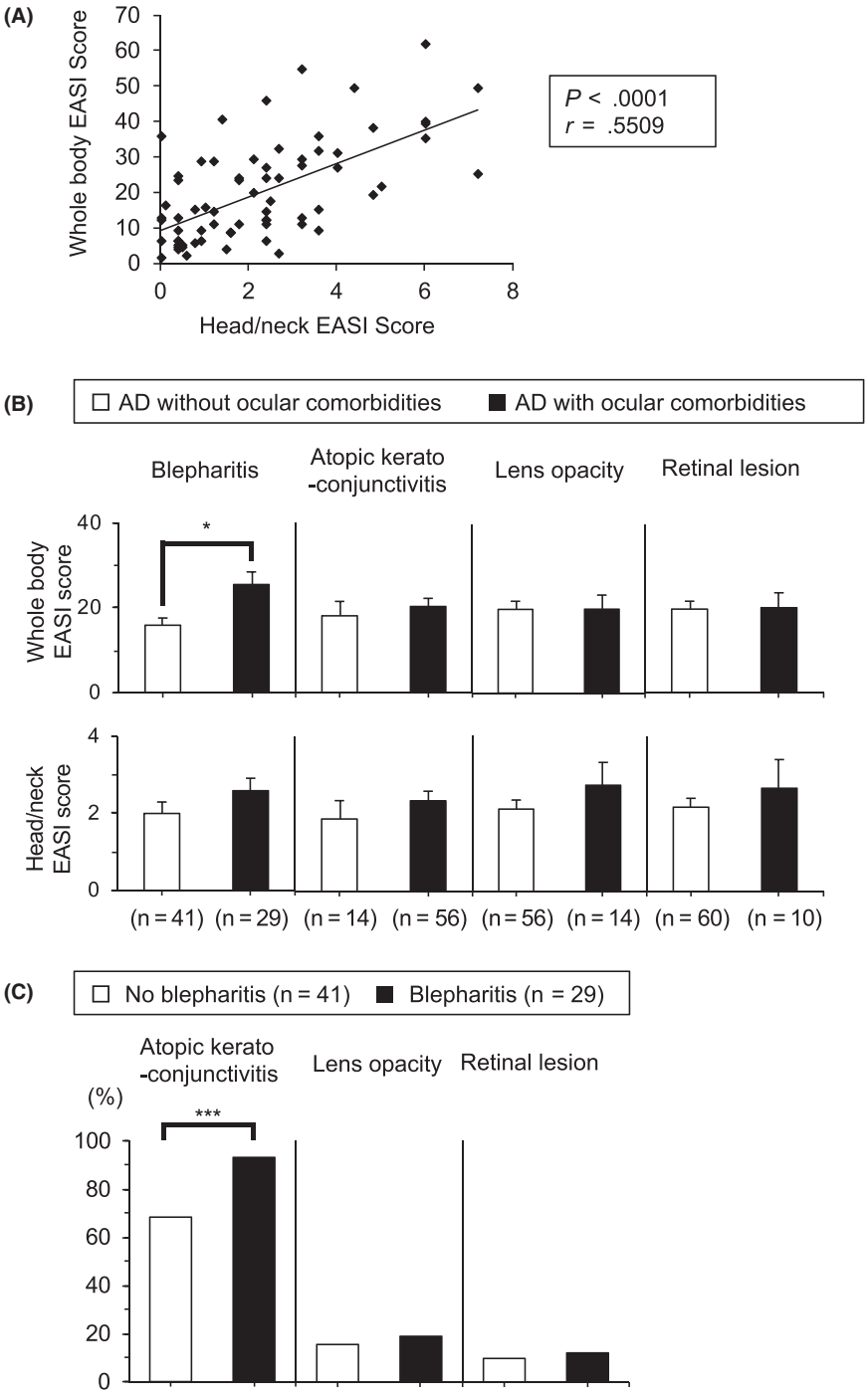


**FIGURE 1** A, Correlation of EASI scores for the whole body and the head/neck. B, Correlation of the incidence of ocular comorbidities with the EASI scores. C, Correlation of the incidence of blepharitis with other ocular comorbidities. Data are expressed as the mean ± SEM. **P* < .05 and ****P* < .001

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