BACKGROUND

- Type 2 inflammation, mediated by interleukin-4 and interleukin-13, influences keratinization, integrity of tight junction, composition of lipids, microbiome diversity, filaggrin expression, and natural moisturizing factors.

OBJECTIVE

To evaluate the effect of dupilumab on skin barrier function in adults and adolescents with moderate-to-severe AD over 16 weeks of treatment with healthy volunteers as a reference.

METHODS

- The dupilumab skin Barrier function and Lipidomics STudy in Atopic Dermatitis (BALISTAD [NCT04447417]) was an open label, exploratory study on skin barrier function in patients with AD aged 12 to 65 years.
- Adult AD patients received dupilumab 300 mg every 2 weeks (q2w); adolescent AD patient received dupilumab 200 mg q2w if baseline weight < 60 kg and 300 mg if ≥ 60 kg.
- Transepidermal Water Loss (TEWL) was assessed before and after skin tape stripping (STS) from lesional and non-lesional skin of 26 AD patients treated with dupilumab and from normal skin of 26 matched healthy volunteers over 16 weeks; TEWL data before STS procedure were analyzed for skin barrier assessment over time.

RESULTS

- Dupilumab treatment led to rapid restoration and normalization of epidermal barrier function measured by significant reduction of TEWL in lesional skin of adults and adolescents with moderate-to-severe AD, associated with significant improvement in signs, symptoms, and quality of life.

CONCLUSION

- The safety results were consistent with the known dupilumab safety profile; no patients discontinued treatment due to adverse events.

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