How much does skin barrier count for allergic dermatitis improvement?

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Introduction

Allergic dermatitis is a genetic-based skin condition affecting an increasing number of dogs (1). A more efficient treatment approach is often multimodal, including a special focus on skin barrier condition, from which many pruritic triggers depend as well as common complications (2).

Like in humans, for the development of canine atopic dermatitis (cAD), defects in the lipid and protein constitution of the skin may contribute to the reduction of the skin barrier function, favoring the in depth penetration of allergens (3) and stimulating the immune response as an outside/inside - inside/outside paradigm (4).

Results

Three patients showed evident clinical improvement (No. 2, 3, and 5) with (10, 19 and 11 respective decrease in CADESI-4 scores), 1 moderately (No. 4) with (3 in CADESI-4) and 1 (No. 1) did not (1 in CADESI-4)

IDT results did not vary from before to after treatment.

Non-keratinized epidermal layer/stratum corneum thickness ranged respectively 12/4 (N) to 330/300 μm (L) before treatment and 10/4 (N) to 120/120 μm (L) after treatment (Fig.).

Lamina cornea organization tended to increase with no clear change in collagen fibers (vG – Fig.).

Mast cell density and integrity improved in the recovered patients with a mean drop of 15.2% and an increase of 22.8%, respectively (TB – Fig.).

Conclusions

Skin barrier-directed reestablishing measures in allergic dermatitis:
1. Allow for an effective and significant clinical improvement, even as a single choice approach.
2. Should be considered as non-side-effect procedures, especially when a curative immunological approach is not possible or effective.

Conflict of interest: In relation to this presentation I declare the following, possible conflict of interest: The author Dr. Nidia Silva works for CEVA Saúde Animal, who provided part of the used medicines.