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Small particle hyaluronic acid as a new adjuvant treatment option for atopic dermatitis

Ácido hialurônico como nova opção de tratamento adjuvante para dermatite atópica

Case report

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ABSTRACT
Atopic dermatitis (AD) is a chronic skin disease whose hallmark is a deficient skin barrier. Current treatment consists of restoring this barrier using emollients, reported corticosteroids, and systemic medications in severe cases. This study aimed to evaluate the subdermal hyaluronic acid (HA) injection to treat AD. We applied HA to plaques of atopic dermatitis, and there was a global improvement in the lesions and skin elasticity after two weeks. There was no complete regression of the plaques; however, HA can be proposed as an adjuvant treatment option for key areas.
Keywords: Hyaluronic acid; Dermatitis, Atopic; Therapeutics

RESUMO
A dermatite atópica (DA) é uma doença cutânea crônica cuja marca registrada é uma barreira cutânea deficiente. O tratamento atual consiste na restauração desta barreira com uso de emolientes, corticosteroides tópicos e medicamentos sistêmicos nos casos graves. O objetivo deste trabalho foi avaliar a injeção de ácido hialurônico (AH) subdérmico como tratamento para DA. Realizou-se aplicação de AH em duas placas de dermatite atópica e após duas semanas houve melhora global das lesões e também da elasticidade da pele. Não houve regressão completa das placas, porém pode-se propor o uso do AH como uma opção de tratamento adjuvante para áreas-chave.
Palavras-chave: *Ácido hialurônico; Dermatite atópica; Terapêutica*

Atopic dermatitis (AD) is a chronically relapsing skin disease that affects 2-8% of the adult population worldwide with significant impact on quality of life. The hallmark is a deficient skin barrier due to filaggrin mutations and abnormal lipid metabolism.[1] It results in increased transepidermal water loss (TEWL), dehydration, and dry skin. Treatment consists of restoring the skin barrier with syndets, moisturizers, and management of eczema with topical corticosteroids, calcineurin inhibitors, and systemic medications in severe cases.

Small Particle Non-Animal Stabilized Hyaluronic Acid (SP-NASHA; Restylane Skinboosters Vital 20mg/mL and Vital Light 12mg/mL; Galderma Uppsala, Sweden) have been used for improving skin. Microdroplets of gel are injected into the dermis or subdermis with a needle or cannula to avoid visible or palpable products. It has been shown that treatment with SP--NASHA can improve skin hydration determined by corneometry, especially in subjects presenting with dehydrated skin at the baseline. Injections don't increase TEWL and may decrease it in areas such as the hands, retaining more moisture in the tissue. Data suggests that SP-NASHA may hydrate and also reverse a damaged skin barrier. Skin elasticity is improved after three months of treatment as measured by a cutometer. Long-term efficacy has been documented up to 24 weeks after treatment. [2,3,4]

The author reports the treatment of a 36-year-old woman with severe adult atopic dermatitis in regular use of syndet gels, moisturizers, and occasional topical corticosteroids with insufficient control. The patient had criteria for systemic treatment, but she was not inclined to it at the time. She presented recurrent eczema lesions throughout the body but complained particularly of periorbital and perioral regions, cheeks, neck, and inner proximal thigh (Figures 1 and 3). We injected The SP--NASHA subdermally in linear threads with a 25 G cannula, leaving small depots of approximately 10 μL (1 SmartClick™) per 0.5 cm in a retrograde injection. Each 1 mL syringe was dispensed throughout an area of a hand palm except fingers. The periorbital area was treated with 0.5 mL on each side. Cheeks (2 mL) and proximal inner thigh (2 mL) were treated with Restylane Vital, while periorbital area (1 mL) and neck (2 mL) received Restylane Vital Light. The patient returned after two weeks for a second session of another 1 mL in each area of the same previous product. Total amounts were 2 mL for periorbital and 3mL for cheeks, neck and thigh.

She kept the same daily routine. The patient returned two weeks after the treatment with improved lesions in all areas, especially neck and thigh (Figures 2 and 4). She referred to an episode of mild and brief worsening after exposure to

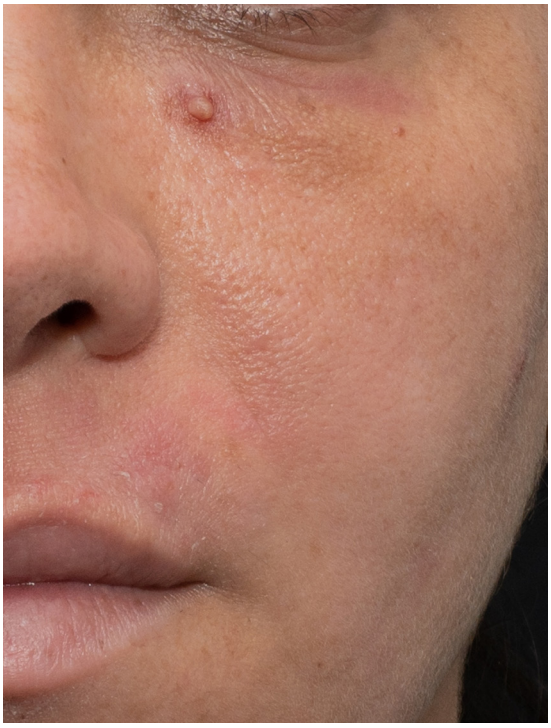

Figure 1: Before Treatment

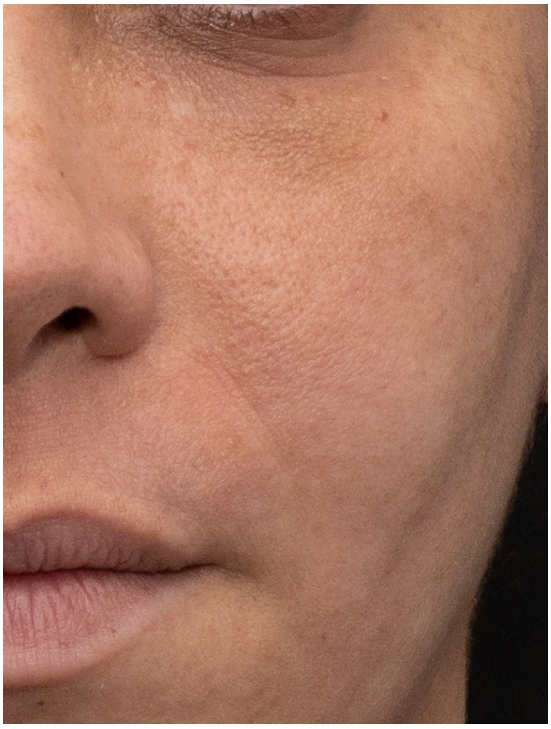

Figure 2: After treatment

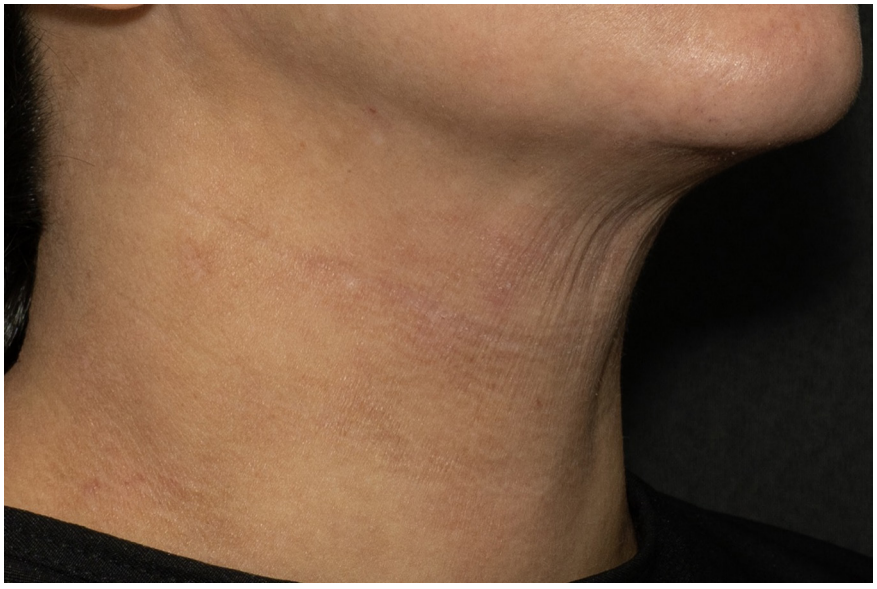

Figure 3: Neck before treatment

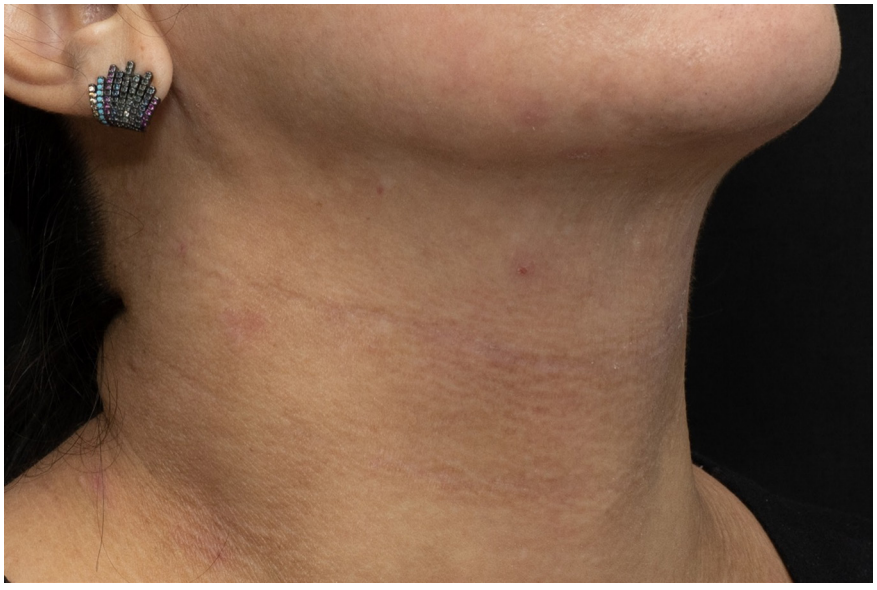

Figure 4: Neck after treatment

dust (home renewal), but much less intense than expected from personal previous experience. She reported an improvement in neck skin elasticity.

SP-NASHA will not cure adult AD. However, it may be a new option for improving quality of life and skin in localized areas. To our knowledge, this is the first published report of injectable HA as a treatment modality for adult AD. Controlled studies with longer follow-ups are required to establish treatment protocols and achieve best clinical outcomes. ●

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Approval of the final version of the manuscript; Study design and planning; Effective participation in research orientation; Critical literature review; Manuscript critical review.

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Statistical analysis; Data collection, analysis and interpretation; Preparation and writing of the manuscript; Intellectual participation in propaedeutic and/or therapeutic management of studied cases.