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Clinical Image

Impetiginized Dyshidrotic Eczema

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Keywords: hand dermatitis; superinfections; St. aureus; clobetasol; skin barrier.

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Abstract

A 16 years old female patient, affected by atopic dermatitis and rhinoconjunctivitis allergica since childhood, requested a dermatologic consultation for lesions which had appeared after 3 months of local treatment with clobethasole propionate. The histological analysis confirmed the diagnosis of dyshidrotic eczema and the microbiological smears demonstrated a significant infection with *Staphylococcus aureus*. The risk of developing corticosteroids' side-effects depends on the potency of the product, extended period of use and the volume of product applied. Clobetasol propionate is a group I- highly potent corticosteroid, which should be used for a maximum period of 2 weeks. Several authors have found that this agent has cumulative depot effect, persisting in the epidermis for 4 days after only one application. Taking together these observations, sustained by the clinical case presented above, we can conclude that the infectious risks associated with topical corticosteroid treatment must not be neglected, particularly since treated patients are fragile, and frequently have multiple well-known risk factors.

A 16 years old female patient, affected by atopic dermatitis and rhinoconjunctivitis allergica since childhood, requested a dermatologic consultation for the lesions presented in Fig. 1a, 1b, which had appeared after 3 months of local treatment with clobethasole propionate for dyshidrotic eczema. The histological analysis confirmed the diagnosis of dyshidrotic eczema and the microbiological smears demonstrated a significant infection with *Staphylococcus aureus*. The pictures show the corpus inflammation and maceration of the skin (Fig. 1a, 1b). After a 10 days treatment regimen with systemic antibiotics (Clarithromycin Retard 500 mg once daily), antihistamine tablets (Bilastine 20 mg) and topical antibacterial agents (silver sulfadiazine), the symptomatology improved significantly.

This complex case reveals a significant immune system dysregulation since the patient had been affected by atopic dermatitis and rhinoconjunctivitis allergica for a long period. As demonstrated by Ambach A et al., these pathologies can be linked to T-cell dysfunction [1].

The risk of cutaneous infections due to topical

corticosteroids is known but has never been thoroughly studied [2]. Z. Boughrara et al. noted cutaneous super-infection in nine of 30 patients receiving topical corticosteroids for bullous pemphigoid, among which there were three cases of fatal necrotizing fasciitis due to Streptococcus A [2].

The risk of developing corticosteroids' side-effects depends on the potency of the product, extended period of use and the volume of product applied [6]. Clobetasol propionate is a group I- highly potent corticosteroid, which should be used for a maximum period of 2 weeks [6]. Research has found that this agent has cumulative depot effect, persisting in the epidermis for 4 days after only one application [3]. Recently, del Rosso highlighted the fact that topical corticosteroids may disrupt the lipid synthesis in stratum corneum, interfering with epidermal barrier recovery [4].

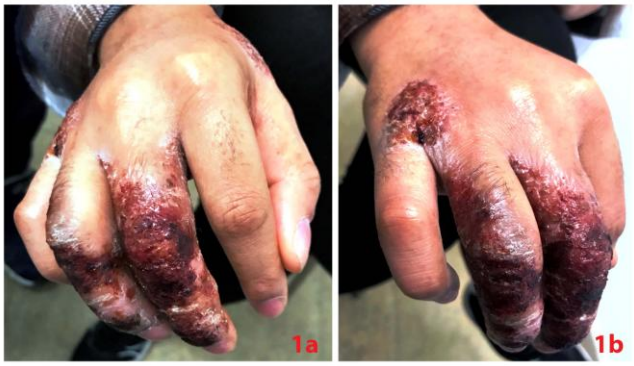

Figure 1: Clinical pictures of a female patient with macerated dyshidrotic eczema and massive superinfection with St. aureus. Yellow-brown colour of the lesions and massive edema

The biomolecular events that facilitate the infection suggest a systemic dysfunction, not limited to the skin district. Indeed, Boudhir H et al. underlined that nodular lesions of Kaposi's disease appeared during treatment of bullous pemphigoid with topical corticosteroids [5].

Taking together these observations, evoked after the analysis of the clinical case, indicate that the infectious risks associated with topical corticosteroid treatment must not be neglected, particularly since treated patients are fragile, and frequently have multiple well-known risk factors.

Taking together these observations, sustained by the clinical case presented above, we can conclude that the infectious risks associated with topical corticosteroid treatment must not be neglected, particularly since treated patients are fragile, and frequently have multiple well-known risk factors.

References

1. Ambach A, Bonnekoh B, Gollnick H. Perforin hyperreleasability and depletion in cytotoxic T cells from patients with exacerbated atopic dermatitis and asymptomatic rhinoconjunctivitis allergica. J Allergy Clin Immunol. 2001;107(5):878-86. https://doi.org/10.1067/mai.2001.114240 PMid:11344356

2. Boughrara Z, Ingen-Housz-Oro S, Legrand P, Duong TA, Roujeau JC. Cutaneous infections in bullous pemphigoid patients treated with topical corticosteroids. Ann Dermatol Venereol. 2010;137(5):345-51. https://doi.org/10.1016/j.annder.2010.03.015 PMid:20470914

3. Abidi A, Ahmad F, Singh SK, Kumar A. Study of reservoir effect of clobetasol propionate cream in an experimental animal study using histamine-induced wheal suppresion test. Indian J. Dermatol. 2010; 55:329-33. https://doi.org/10.4103/0019-5154.74531 PMid:21430883 PMCid:PMC3051290

4. Del Rosso JQ. Topical corticosteroid application and the structural and functional integrity of the epidermal barrier. J Clin Aesthet Dermatol. 2013; 6(11): 20-27.

5. Boudhir H, Mael-Ainin M, Senouci K, Hassam B, Benzekri L. Kaposi's disease: an unusual side-effect of topical corticosteroids. Ann Dermatol Venereol. 2013;140(6-7):459-61. https://doi.org/10.1016/j.annder.2013.04.078 PMid:23773746

6. Tadicherla S, Ross K, Shenefelt PD, Fenshe NA. Topical corticosteroids in dermatology. J Drugs Dermatol. 2009; 8:1093-105. PMid:20027937