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Short Report

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Treatment experience of a patient with a facial physical barrier injury

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Abstract

Facial physical barrier injury is a common and challenging condition in dermatology. We report a case of facial physical barrier injury successfully treated with bovine basic fibroblast growth factor gel (rb-bFGF), who was caused by excessive cleaning, improper medication, etc. No adverse reactions were observed during the treatment.

Keywords: rb-bFGF; Facial physical barrier injury.

Case presentation

A 35-year-old woman who had a facial at a beauty salon to get rid of acne marks on her face developed facial erythema as a result of over-cleaning. The erythema, which is dry, painful and itchy, has affected her work and life. To remove it quickly, she specifically chose a large hospital known for its dermatology department, as well as a well-known specialist in facial disorders. There she was diagnosed with acne and dermatitis, but after oral and topical administration of Levocetirizine, Clindamycin Phosphate Gel, and some Chinese patent medicine, her skin lesions were aggravated with eczema-like manifestations (Figure 1a, 1b), and the original dryness, pain, itching were worse, and she felt burning. She has never had a similar medical history or atopic condition, such as allergic rhinitis, asthma or eczema. It made her feel hopeless.

Dermatological examination: Numerous ill-defined, mildly swollen, congestive patches of varying sizes on both sides of the face, some erythema with millimeter papules, blisters and erosion, and she appeared depressed.

Therapeutic process: Given the patient's history of facial injury, recombinant bovine basic fibroblast growth factor gel (rb-bFGF) (Zhuhai Yisheng Bio-Pharmaceutical Co., LTD) was applied to the patient's face, which was topically applied to the entire face at a dosage of 42000IU once daily before bedtime for 5 consecutive days. Subsequently, a small amount of rb-bFGF was applied daily for an additional five days, resulting in a complete recovery of the skin lesion. The patient reported significant improvement in skin lesions from the second day of treatment. After all the treatments, she feels better about her face than she did before she went to the salon.

Follow-up: A month later, the patient sent photos from home. Previously red and swollen patches were no longer visible, and only a few acne marks were visible on her face. She was overjoyed at the result of the treatment, and relaxed expression in the photographs could be seen (Figure 2a, 2b).

Adverse reactions: No adverse reactions were detected during the entire treatment period and the subsequent one-month observation period.

Discussion

Excessive cleansing is a cause of damage to the physical barrier of the skin [1], which is one of the central events that further causes various skin changes and diseases [2]. Skin is known to become sensitive after injury. In fact, topical treatments, including glucocorticoid ointments, often cause the damaged skin to further irritate and aggravate the damage, and doctors are often confused [3]. In such cases, nonirritating topical agents are urgently needed.

Figure 1: Clinical image.

Figure 2: Clinical image.

Rb-bFGF is a suitable drug for wound healing and does not irritate the wound. It has demonstrated its potential in stimulating proliferation, repair, and regeneration of cells derived from ectoderm, neuroectoderm, and mesoderm (e.g., epithelial cells, vascular endothelial cells, dermal cells, and fibroblasts). It facilitates capillary regeneration, enhances local circulation and accelerates wound healing [4]. Moreover, rb-bFGF exhibits properties that ameliorate intercellular edema between spindle cells while reducing inflammatory cell production. Previous reports have suggested the potential use of rb-bFGF in the treatment of eczema [5]. In addition, one study has reported the successful treatment of facial dermatitis with a combination therapy involving rb-bFGF and the compound betamethasone [6]. The efficacy observed in this case highlights the standalone effectiveness of rb-bFGF. Furthermore, no significant toxic or adverse reactions have been observed in the skin and mucosa following the use of rb-bFGF [5].

Therefore, based on the success of this case and the studies described above, simple and effective rb-bFGF should be considered as a treatment for cases of facial physical barrier injury.

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