Facial Papulopustules after Topical Treatment with Pimecrolimus
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CASE REPORT
A 24-year-old girl had atopic diathesis with allergic rhinitis and sinusitis. Several erythematous, pigeon egg-sized, ill-defined itching scaly patches were found on the cheeks and chin since more than 1 year ago. She visited a local clinic and some topical agents with unknown contents were applied on the lesions. However, the condition aggravated and the lesions extended to her nose, forehead and eyelids. Half a year later, she visited the other dermatologist and rosacea was diagnosed, and metronidazole (Efucor®) gel was prescribed. The skin lesions responded to the treatment in the first two weeks, but the condition worsened since the third week.

About half a year later, she visited our department for persistent lesions despite treatment at the local clinic. The diagnosis in our department was atopic dermatitis or psoriasis. Then the topical agent was shifted to pimecrolimus (Elidel®) cream. However, after initial improvement, new eruptions on both cheeks developed in one month. There are numerous tiny follicular papulopustules on the face (Fig.1). Skin scrapings were examined under the microscope (Fig. 2). After discontinuing pimecrolimus cream and receiving topical treatment with crotamiton (Ulex®) cream for four weeks, the eruptions gradually subsided (Fig. 3), and no more specific findings were disclosed in the examination of skin scrapings.

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DIAGNOSIS: Demodicidosis after treatment with pimecrolimus cream

DISCUSSION

Pimecrolimus cream is a non-steroid anti-inflammatory macrolactam that can selectively inhibit T-cell activation via the calcineurin pathway. Pimecrolimus cream is generally well-tolerated with rare adverse effects of ephemeral burning sensation and eczema herpeticum. One case of rosaceiform dermatitis with follicular Demodex after treatment of facial atopic dermatitis with pimecrolimus 1% cream has been reported. A rosacea-like granulomatous eruption in a patient using tacrolimus ointment for atopic dermatitis was also noted. Immunosuppression is thought as an important etiologic factor because patients with immunocompromised condition are found more vulnerable to demodicidosis. Immunosuppression might increase the number of mites, favoring an inflammatory reaction, or there could exist an impaired cutaneous immunologic response to the parasites.

Demodex mites can be found in pilosebaceous units in mammals and they are normal saprophytes in most individuals. In animals, Demodex is a well-known cause of mange. In humans, only two species (Demodex folliculorum and D. brevis) were recognized. D. folliculorum is a 0.3-mm long, obligate, hair follicle parasite which is thought to have a pathogenic role in various dermatologic conditions.

Human Demodex infestation has been implicated in the cause of at least three clinical manifestation: pityriasis folliculorum, rosacea-like demodicidosis, and demodicidosis gravis.

Demodex mites may also be found in rosacea as an aggravating factor. The cutaneous manifestation of demodicidosis depends on the degree of Demodex infestation, the duration of the disease, and the patient’s age and general health. Several drugs with or without antiparasitic activity have been used to treat demodicidosis, such as salicylic acid, metronidazole, crotamiton, lindane, permethrin cream, and oral or topical retinoids, but no definite first choice of treatment has been concluded.

Skin scrapings from our patient revealed many demodex mites under the microscope. Demodex mites could be found in normal facial skin, but are significantly higher, on the cheeks of patients with rosacea. The mean mite densities on the cheeks in the rosacea were 4.937/cm² and 2.026/cm² in the control groups. The eruptions of our patient subsided after discontinuing pimecrolimus cream and topical treatment with crotamiton cream, and no demodex mites were found in the skin scrapings thereafter. It remained to be determined if simple discontinuation of topical pimecrolimus can lead to spontaneous resolution in our case.

New topical immunomodulator has emerged as an important steroid-sparing agent nowadays for different skin diseases, including atopic dermatitis and rosacea. While prescribing such agents, the clinicians should consider and recognize the dermatologic adverse effects early.

REFERENCES