Case Letter

Successful treatment with apremilast for palmar, yet not plantar, plaque psoriasis in a pediatric patient

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Sir,

Pediatric psoriasis is rare in Japan [1]. Herein, we report a pediatric case of plaque-type psoriasis with predominant palmoplantar involvement, in which apremilast created a rapid, favorable effect on palmar lesions.

A fourteen-year-old boy developed itchy eruptions on the trunk and extremities at the age of four years. He had been treated with topical corticosteroid ointment under the suspicion of atopic dermatitis. Because the control was insufficient, the patient was referred to our hospital. Physical examination revealed diffuse, coalesced, keratotic erythemas on the palms and soles (Figs. 1a and 1b), as well as on the anterior aspects of the lower legs. The PASI score was 6.0. A biopsy was taken from the outer edge of the right foot, revealing acanthosis of the epidermal corneal layers with parakeratosis, regular epidermal proliferation, and infiltration of mononuclear cells below the epidermis (Fig. 2). Oral apremilast was administered with a standard regimen: an initial dose of 10 mg once daily, and daily escalated to 30 mg twice daily, thereafter maintaining the dose. The administration of 30 mg apremilast twice daily was tolerable. One month later, the palmar lesions much improved (Fig. 3), whereas the improvement of plantar lesions was insufficient.

The present case developed keratotic plaques on the palms and soles, as well as the lower extremities. He developed psoriasis at the age of four years yet had been misdiagnosed as a case of atopic dermatitis at the nearby dermatology clinic. Because treatment with a topical corticosteroid was insufficient, we introduced

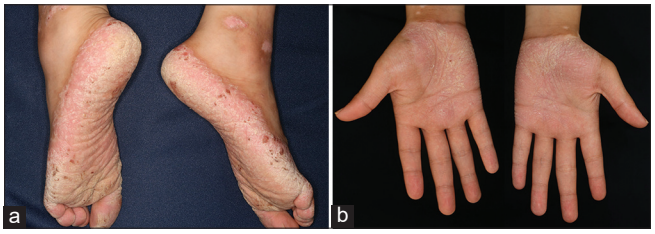

Figure 1: Clinical appearance of the plantar (a) and palmar (b) keratotic lesions.

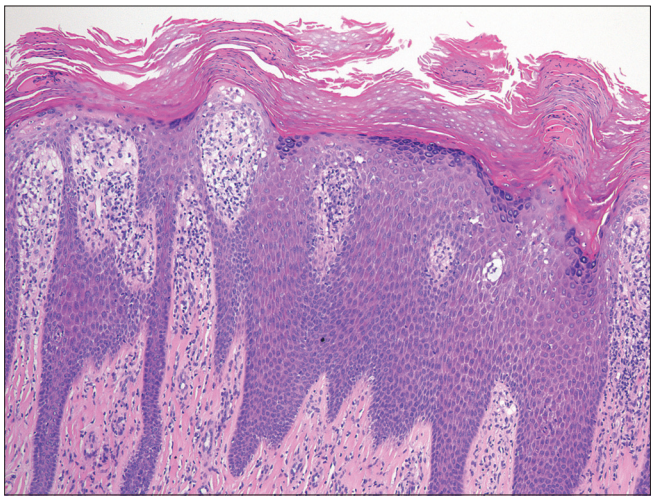

Figure 2: Histopathological features revealing regular proliferation in the epidermis with parakeratosis, epidermal infiltration of mononuclear cells and neutrophils, and perivascular mononuclear cell infiltration in the papillary dermis.

apremilast, an oral small molecule phosphodiesterase-4 inhibitor. The palmar lesions improved as early as after four weeks of intake, while the plantar lesions did not. His body weight was 80 kg (BMI: 29), and, as we speculated due to the burden of the body weight, the plantar lesions did not sufficiently improve. In a previous review of 1262 cases of childhood psoriasis,

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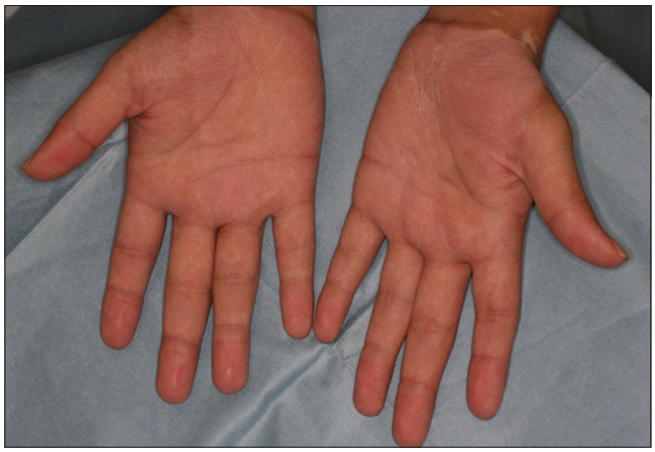

Figure 3: Marked improvement of the palmar lesions after four weeks.

palmoplantar psoriasis was observed in 3.9% [2]. The palms and soles are one of the refractory sites that do not respond to topical therapies. Recent studies have shown that apremilast is effective for palmoplantar psoriasis [3-5]. Another study revealed that apremilast showed a comparative efficacy and safety profile to methotrexate in the treatment of palmoplantar psoriasis [6]. These results suggest that apremilast is effective for palmoplantar psoriasis, which is refractory to conventional topical therapy. The safety profile of apremilast in children is similar to that in adults, yet the incidence of common adverse events, such as diarrhea, nausea, abdominal pain, viral upper respiratory tract infection, headache, and vomiting, was frequent [7].

This was the report of a pediatric case of plaque-type palmoplantar psoriasis. Although pediatric cases of psoriasis are not severe in the majority of cases, apremilast may be one of the useful options for pediatric psoriasis with palmoplantar involvement.

Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

The authors certify that they have obtained all appropriate patient consent forms, in which the patient gave their consent for images and other clinical information to be included in the journal. The patient understands that his name and initial will not be published and due effort will be made to conceal his identity, but that anonymity cannot be guaranteed.

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