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CASE REPORT

Childhood Lichen Planus with Palmoplantar Involvement

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Lichen planus (LP) commonly involves the flexor aspects of the wrists, legs, and oral and genital mucous membranes. But it rarely occurs on the palms and/or soles. It mainly affects people in the age range 30～60 years. Childhood LP is reported to constitute only 1～4% of total cases of LP. In the literature, a few cases of LP on the palms and soles of pediatric patients have been reported. Here we report an interesting case of childhood LP with palmoplantar involvement. The patient was a 7-year-old boy who for 6 months had variously sized and shaped, pruritic, violaceous, polygonal papules and plaques on the whole body. The skin biopsy specimens taken from four sites of the patient (dorsum of the hand and foot, sole and chest) showed typical features of LP on histopathology. A diagnosis of generalized LP with palmoplantar involvement was made. **(Ann Dermatol 22(1) 51～53, 2010)**

-Keywords-
Child, Lichen planus, Palmoplantar

INTRODUCTION

Lichen planus (LP) is a unique inflammatory disorder of unknown etiology that affects the skin, mucous membranes, nails and hair. It is characterized by violaceous, scaly, flat-topped, polygonal papules commonly involving the flexural areas of the wrists, legs, and oral and genital mucous membranes of those 30～60 years old, but it is uncommon in children[1-3]. According to the literature, LP on the palms and/or soles occurs rarely and does not usually have classical clinical features[4]. Only a few cases of LP on the palms and soles in pediatric patients have been reported in the literature[3]. Here we report an interesting case of childhood LP with palmoplantar involvement.

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CASE REPORT

The patient was a 7-year-old boy who had various sized and shaped, flat-topped, erythematous to violaceous, grouped and confluent polygonal papules with white-grayish striae on the whole body for 6 months. In addition, he complained of intense itching. The lesions started as pruritic papules on the right knee and gradually spread to the whole body including the palms and soles (Fig. 1). These lesions were bilateral but asymmetrical. The palmoplantar lesions were erythematous scaly plaques and the surfaces were not shiny, Wickham's striae were not observed. The scalp, mucous membranes and nails were not involved. Koebner's phenomenon occurred on the traumatized skin. He had no history of concomitant drug intake, infection, vaccination, or other putative trigger factors, and there was no family history of similar skin disease. Routine laboratory tests including complete blood count, blood chemistry analysis, and urinalysis were normal. The results of screening for hepatitis B and C viruses were negative. The skin biopsy specimens were taken from four sites of the patient (dorsum of the hand, dorsum of the foot, sole and chest). On histopathological examination, the specimen showed basal cell degeneration with a band-like lymphocytic infiltrate in the upper dermis along with focal hypergranulosis and irregular acanthosis (Fig. 2). A diagnosis of generalized lichen planus with palmoplantar involvement was made based

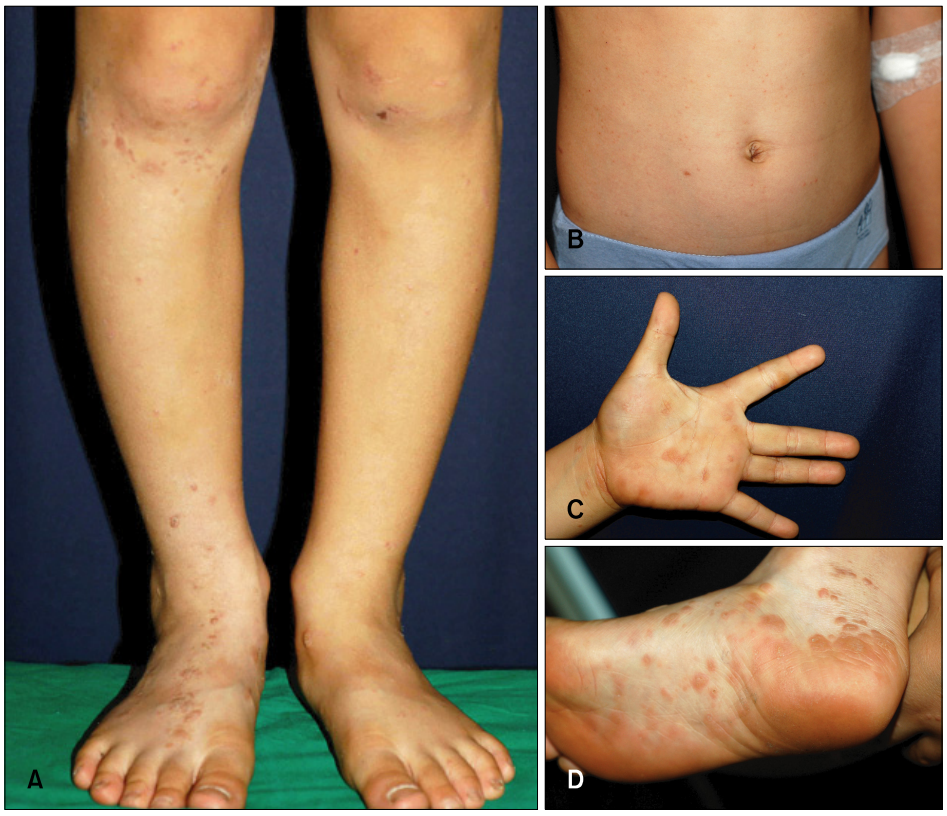

Fig. 1. Various sized and shaped, erythematous to violaceous, polygonal papules and plaques on the lower leg (A), trunk (B), and palms and soles (C, D).

on clinical and histological features. We started treatment with oral anti-histamines, topical steroids and 1% pimecrolimus cream. After 2 months, the skin lesions were in complete remission. After one year follow up, there was no evidence of recurrence.

DISCUSSION

LP is a relatively common disease in adults. The overall prevalence is believed to be somewhat less than 1 percent of the general adult population. It is less common in children[1]. Population-based epidemiologic data on the prevalence of LP in children are not available and only a few groups have published series of childhood LP cases that include more than 15 patients[2,3,5,6]. As in the adult population, the classical variant of LP with a localized cutaneous lesion was the most common clinical type (58 ~70%) in pediatric LP patients as well, whereas mucosal and nail involvement was detected to a far lesser extent[2,4]. According to the literature, involvement of the palms and/or soles in LP is uncommon, and mainly appears between the third and fifth decade[1,7]. The involvement of the palms and/or soles in LP is even more uncommon in the pediatric age group. Recently, Handa and Sahoo[3] found 2 cases (2.3%) of LP with palmoplantar involvement in their study of 87 children with LP. Our patient showed generalized LP with palmoplantar involvement, a less frequent clinical subtype with only a few reports of affected children published to date.

The palmoplantar lesions do not usually have the classically described clinical morphology, making it difficult to diagnose. Several morphological patterns of palmoplantar lesions in LP have been described: erythematous plaques, punctate keratosis, diffuse keratoderma and ulcerative lesions. The apparent absence of Wickham's striae may be because the thickness of the horny layer obscures observation of the localized thickening of the granular layer, which is the histopathological correlate of these structures. The palmoplantar LP showed a characteristic histopathology, very similar to that described for other sites. As the clinical features may not suggest LP, a biopsy is extremely useful[7].

Various precipitating factors are known to play an important role in the pathogenesis of LP. These include drugs, vaccinations and viral infections. A possible role of infection and vaccination in triggering LP has been repeatedly suggested over the years, in particular chronic active hepatitis C infection and immunization against hepatitis B virus[1,2,4]. However, no obvious precipitating factors could be elicited in our patient.

To date, due to a lack of controlled clinical trials, no consensus exists regarding standardized therapy regimens

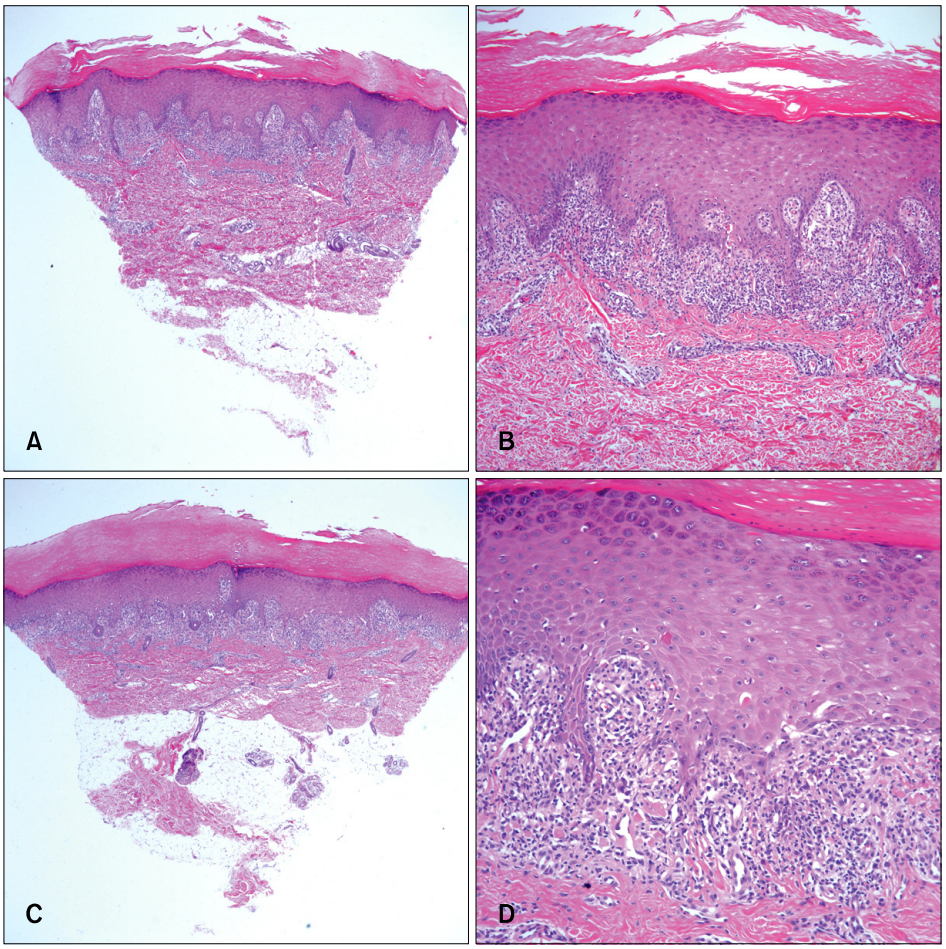

Fig. 2. (A, B) Histologic findings on the sole show dense band-like infiltration in the papillary dermis that extends to the epidermis, where there is vacuolar alteration of the basal layer, necrotic keratinocytes, irregular acanthosis, wedge shaped hypergranulosis, and compact orthokeratosis (A: H&E, ×40, B: H&E, ×100). (C) Histologic findings on the dorsum of the foot also show typical features of LP (H&E, ×40). (D) A closer view shows vacuolar alteration of the basal layer and pink-staining necrotic keratinocytes (Civatte bodies) (H&E, ×200).

for generalized LP in childhood. Still, effective treatment of this highly pruritic skin condition is mandatory to effectively suppress pruritus and to quickly restore quality of life. A short course of systemic steroids has been used in children to control eruptive, widespread disease. Psoralen and ultraviolet A (PUVA) light photochemotherapy and narrowband UVB have been successfully used in adult LP patients[1,4]. A recent clinical report indicates that topical tacrolimus might be an effective treatment alternative in the management of patients with generalized lichen planus[8].

To the best of our knowledge, ours is the first report of a case of childhood LP with palmoplantar involvement in Korea. LP should be considered in the differential diagnosis of polygonal papules and plaques on the whole body including palms and/or soles. Considering the great number of LP variants, clinicians should distinguish childhood LP from other papulosquamous skin diseases such as lichen nitidus, lichen striatus, childhood papular acrodermatitis, and pityriasis lichenoides.

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