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SHORT COMMUNICATION

Oral Lichen Planus with Severe Nail Involvement in a 10-year-old Boy

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Lichen planus (LP) is a pruritic inflammatory disorder of unknown etiology that affects skin, mucous membranes, nails and hair. Drugs, exposure to stress, hepatitis B virus (HBV) infection and vaccination against hepatitis B are possible initiating factors. The disorder is rare in children. According to data in literature, 1–4% of all LP cases are diagnosed in childhood (1, 2). The nails are involved in 19% of LP cases in children (3–5).

CASE REPORT

A 10-year-old boy was referred to our department because of abnormal nails. The first nail changes had appeared 18 months earlier. Nine fingernails (all except the left second finger) showed thinning and crumbling (Fig. 1). Both big toenails were affected with subungual hyperkeratosis, onycholysis and yellow discoloration. Additionally we found fine white streaks on buccal mucosa. Despite several negative mycological examinations (both KOH examination and culture), the boy had been treated with terbinafine and antimycotic nail lacquers for 12 weeks with no benefit. There was no history of drug use or stressful events before the onset of the lesions. Family history for LP or other chronic skin diseases was negative. There were no significant abnormalities in routine laboratory tests. Hepatitis B and C were excluded, and mycological examination of both fingernails and toenails was once again negative. To confirm the diagnosis of lichen planus we performed a biopsy from oral mucosa that revealed the typical band-like lymphocytic infiltration associated with LP. Direct immunofluorescence displayed granular deposits of C3c in the dermo-epithelial junction. The diagnosis of lichen planus was established and patient was treated with intramuscular depot injections of methylprednisolone 0.8 mg/kg every 4 weeks for 12 weeks with a good clinical response. The last follow-up visit occurred 10 months after the end of the treatment, showing normal nails.

DISCUSSION

Data in the literature on LP in children is very scarce. Most of the published studies on LP in children have been reported from India (2, 4, 6). Of all LP cases, 1–4% are diagnosed in childhood with the earliest case reported in a 3-month-old infant (3). In the study performed by Kanwar et al. (4) LP was diagnosed in 5% of the outpatient paediatric population and the nails were involved in 19% of the children. Only one patient had isolated nail changes, but classic LP lesions evolved later.

Isolated nail lichen planus (NLP) is most common in adults, however, it may affect children as well (7). Around 11% of NLP cases are observed in childhood (5, 6). Several authors have pointed out the underestimation of NLP in children (4–7). Studies show that prevalence of NLP in childhood is higher than of mucocutaneous LP (4). Taking into consideration the reluctance of both physicians and parents to perform nail biopsies in children, many cases of NLP may be misdiagnosed as onychomycosis.

In addition, NLP in children may be associated with autoimmune diseases. There are reports of LP cases associated with vitiligo or alopecia areata (6). Such correlation has not been observed in adults.

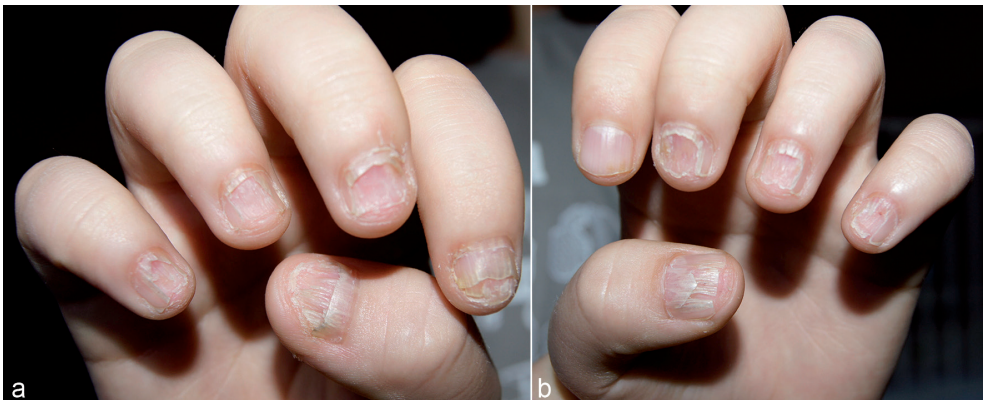

Fig. 1. Fingernail lesions of the (a) right and (b) left hand. The nail plates are thinned, crumbled and show longitudinal ridging. The second fingernail of the (b) left hand is unchanged.

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Nail abnormalities in LP may affect both nail bed and nail matrix. NLP may be limited to one nail (12% of NLP cases) or affect all fingernails and toenails (10% of NLP cases). The involvement of toenails only is a rarity (6% of NLP cases) (5).

Tosti et al. (7) pointed out that NLP might present as 3 different clinical images: typical nail lichen planus, trachyonychia (20-nail dystrophy) and idiopathic atrophy of the nails. In the study by Tosti et al. (7) spontaneous improvement after 4–6 years was observed in 2 children with NLP presenting as trachyonychia. NLP manifesting as 20-nail dystrophy or idiopathic atrophy of the nails is observed more often in children than in adults.

There is controversy among physicians on the necessity of nail biopsy in children. Kanwar & De (4) consider the biopsy unnecessary in cases with typical plate thinning and longitudinal ridging and fissuring. Goettmann et al. (5) suggest performing several 3-mm punch biopsies during one procedure to increase the possibility of finding a typical histopathological image for LP. There is little data in literature concerning the significance of dermatoscopy in diagnosing NLP. Recently, a study by Nakamura et al. (10) analysed the dermoscopic abnormalities observed in NLP and their diagnostic relevance. Dermoscopy, as a noninvasive tool, may become very useful in the future to establish diagnosis, especially when histopathology is inconclusive. In our case, we performed biopsy solely from the white linear lesions located on the buccal mucous membrane. We decided not to perform the nail biopsy because the nail changes were typical for NLP and we wanted to avoid unnecessary trauma for the young patient.

NLP is a very difficult condition to treat (11). The treatment consists of systemic or local options. The most popular and efficient systemic treatment is corticosteroids: oral prednisone 0.5mg/kg or intramuscular triamcinolone acetonide 0.5–1 mg/kg/month. Sixty-five per cent of patients respond to a 5–7 month course of systemic corticosteroids (9). An effective alternative for corticosteroids may be dapsone (6). Local treatment may be used alone, but it is not very effective. Usually it has to be combined with systemic options to achieve satisfactory improvement. Local treatment options include intralesional injections of triamcinolone acetonide or topical steroids. Prevost & English (11) reported a case that responded well to topical therapy with clobetasol gel and tazarotene gel. Pinter et al. (12) described a good clinical response to topical alitretinoin in NLP. Sole local therapy should be restricted to patients who have lesions on a few nails. According to Goettmann et al. (5) relapses occur in 55% of cases and are usually observed in the first year after finishing the treatment. Therapy with lower doses of corticosteroids for several months after achieving satisfying improvement is recommended to avoid relapses.

Many papers highlight the problem of NLP as an underdiagnosed or even undiagnosed disease (5, 8–10). Early diagnosis and treatment are essential to avoid permanent scarring. Our patient had been treated with oral and topical antimycotic drugs for several months before we established the diagnosis of LP. It is crucial to consider LP in the differential diagnosis of nail abnormalities with negative mycological examinations; a complete physical examination including the oral mucosa may prove quite valuable.

The authors declare no conflict of interest.

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