

Lichen striatus in a child after immunization. A case report

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SUMMARY

Lichen striatus is a self-limited, lichenoid eruption particularly common in children. The lesions are located on extremities and less commonly on the trunk, and they follow the developmental lines of Blaschko. The etiology of lichen striatus is as yet unknown. It has been observed after infection or immunization in atopic patients and in siblings.

The authors report on a 15-month-old girl that developed lichen striatus along the Blaschko lines on the trunk and one extremity after receiving the combined vaccine against measles, mumps, and rubella. Six months later, complete resolution of the skin lesions occurred without any treatment, leaving only slightly hypopigmented macules on the extremity.

Introduction

Lichen striatus (LS) is a self-limited lichenoid eruption particularly common in children. It may frequently go undiagnosed. Its most characteristic feature is the linear arrangement of slightly raised, lichenoid, pink-red papules. They may coalesce into small plaques and into a continuous or interrupted linear band. Most commonly the lesions are located on a proximal extremity and less commonly on the trunk, and they follow the developmental lines of Blaschko (1). The delineation and naming of lichen striatus were proposed by Senear and Caro (2). Gianotti and Frugis were the first to propose that viral disease may trigger it (3). Recently it has been suggested that the disease be renamed something

like "blaschkitis," "blaschko dermatitis," or even "Blaschko linear inflammatory skin eruption (BLAISE)" in order to emphasize the distribution of this disorder (4).

Case report

A 15-month-old girl presented at our clinic with linearly arranged pink papules of one month's duration along the dorsomedial aspect of her upper right leg and the right side of the trunk. The skin lesions followed the lines of Blaschko (Figures 1 and 2).

KEY WORDS

lichen striatus,
child,
immunization



Figure 1. Lichenoid eruption along the Blaschko line on the leg.



Figure 2. Lichenoid eruption along the Blaschko line on the trunk.

The child was asymptomatic and otherwise completely healthy. No symptoms of atopy were found, and no infection was reported during the weeks preceding the eruption. The vaccine against measles, mumps, and rubella had been administered one week before the eruption.

The diagnosis was determined by the typical clinical presentation; her parents denied permission for a skin biopsy. However, the following clinical characteristics allowed a satisfactory differentiation from psoriasis and lichen planus: the pink papules were not covered with silvery scales; the lesions were atypically localized, and there was no nail involvement (pitting, onycholysis, oil spots, crumbling). In addition, the history and course of the disease did not support the diagnosis of psoriasis. The type of skin lesions, lack of involvement of oral mucosa, and the absence of pruritus were at variance with the diagnosis of lichen planus.

The girl was treated with emollients only, without any other topical therapy. Complete regression of the papules on the trunk occurred 4 months later, and the complete regression of the other lesions took place 2 months later, leaving only slightly hypopigmented macules on the right leg.

Discussion

LS is found mostly in young children and it is rare in adults. The linear eruption of inflammatory lesions such as erythematous papules, sometimes vesicles, and even eczematous lesions appears over 2 to 3 weeks. Often the papules have a lichenoid appearance without Wickham's striae. They may appear in a single line or in a group. One-sided forms with multiple streaks are exceptional, and facial involvement is rare. Nail dystrophy sometimes precedes the typical cutaneous lesions (5).

The eruption is distributed on the trunk in 33% of cases, on an upper limb in 48%, and on a lower limb in 19% (6). A sex ratio of 1:1 has been observed (4), but some authors report that girls are affected twice as frequently as boys (7). The mean duration of this self-limited disease is 9 months. Residual hypopigmentation may last longer and constitute a cosmetic problem (7).

The etiology of LS is as yet unknown. It has been observed in atopic patients (6), siblings (8), or following immunization (9) or infection (6).

Lichenoid spongiotic dermatitis is the main histopathologic pattern. It is characterized by epidermal psor-

riasiform acanthosis, slight spongiosis with exocytosis of inflammatory cells. The dermal infiltrate is usually superficial and deep perivascular, and patchy lichenoid, involving a number of adjacent dermal papillae. The infiltrate is composed mostly of lymphocytes and many histiocytes, some of them are multinucleated. An eccrine and follicular extension of the infiltrate is often present (10,11).

Several immune or autoimmune skin disorders, such as linear fixed drug eruption, lichen planus, lichen planopilaris, lupus erythematosus, vitiligo, pemphigus vulgaris, psoriasis, lichen nitidus, porokeratosis, and probably scleroderma, may follow the lines of Blaschko (12).

The role of Blaschko lines is evident in this disease. Current embryological theory (7) suggests that the lines correspond to the growth direction of clones of the cutaneous epidermal and dermal cells derived from precursor cells. The single cutaneous streak noted in most cases of lichen striatus corresponds to a post-zygotic genomic event in skin cells, most likely somatic mutation. The most probable explanation is that an

acute event causes an aberrant clone to express a novel membrane antigen, as has been hypothesized in autoimmune disease (3). A viral infection might be such an event in children, and immunization has been suspected of being one as well (9). The abnormal immunology usually associated with atopy might contribute to the development of LS in up to 84.6% of children with a positive history of atopic disorders (3, 13).

Conclusion

LS is a benign disease, and spontaneous resolution occurs in the months following its appearance. No treatment is required, but the nature of the disease should be explained to parents. Our case was unusual because the lichenoid papules were expressed along the Blaschko lines on the lower extremity as well as on the trunk. The administration of the vaccine against measles, rubella, and mumps a week earlier possibly acted as a trigger factor.

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