CASE REPORT

Case Report of A Rare Case of Adult-Onset Multi-site Lichen Striatus in an Adult

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Summary

Lichen striatus (LS) is a rare self-limiting inflammatory dermatosis characterized by Blaschkoid distribution. We report a 34-year-old woman with a 1-year history of asymptomatic unilateral rashes on her left trunk and limbs. Physical examination revealed light to dark brown papules, macules, patches and plaques with some erythematous areas in a Blaschkoid pattern with proven skin biopsy as well. Patient received potent topical corticosteroid therapy which resulted in the resolution of the lesion. This case report highlights two rare aspect of lichen striatus; involvement of multiple sites and late adult-onset. It is also a reminder that lichen striatus should be included in the differentials of acquired linear dermatoses.

Key words: *Lichen striatus, adult onset, linear dermatoses*

Introduction

Lichen striatus is a self-limiting, localised blaschkolinear inflammatory condition. There are three clinical patterns; typical LS, LS albus and nail LS.[1] Typical LS is as in present case discussion whereas LS albus, is characterized by hypopigmented lesions at the onset of the eruption and nail LS with longitudinal ridging, splitting.

The pathophysiology of LS remains to be elucidated, interaction of environmental stimuli in a genetically predisposed individual has been postulated.[2] The Blaschkoid distribution suggests a form of cutaneous mosaicism. Somatic mutation during early embryogenesis results in abnormal epithelial cell clones, leading to LS formation upon exposure to environmental stimuli.[2] Environmental factors that may trigger LS include viral infection, vaccination, drugs and cutaneous injury.[3-4] Familial occurrences support the theory that genetic factor contributes to LS development.[3,5]

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Multiple adult-onset LS is uncommon. LS typically presents as a single lesion in children between the age of 3 to 15 years old.[1] In adults, the mean age of onset is 30.3 years. Females are approximately four times more commonly affected than males.[6] We present a case of multi-site lichen striatus in an adult female, successfully treated with potent topical corticosteroid.

Figure 1. Linear hyperpigmented and erythematous papules, macules and plaques with minimal fine scales on the left side of her trunk (a) and posterior left leg (b)

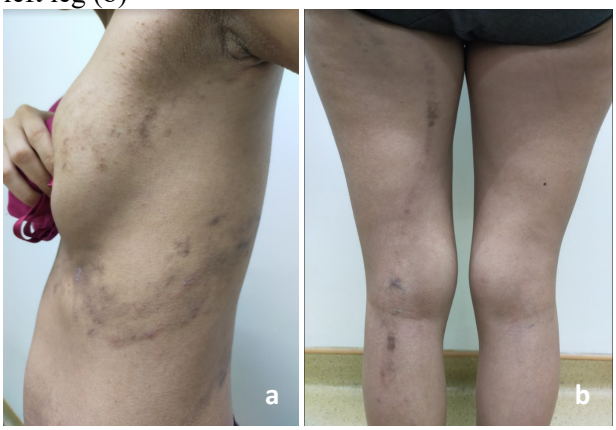
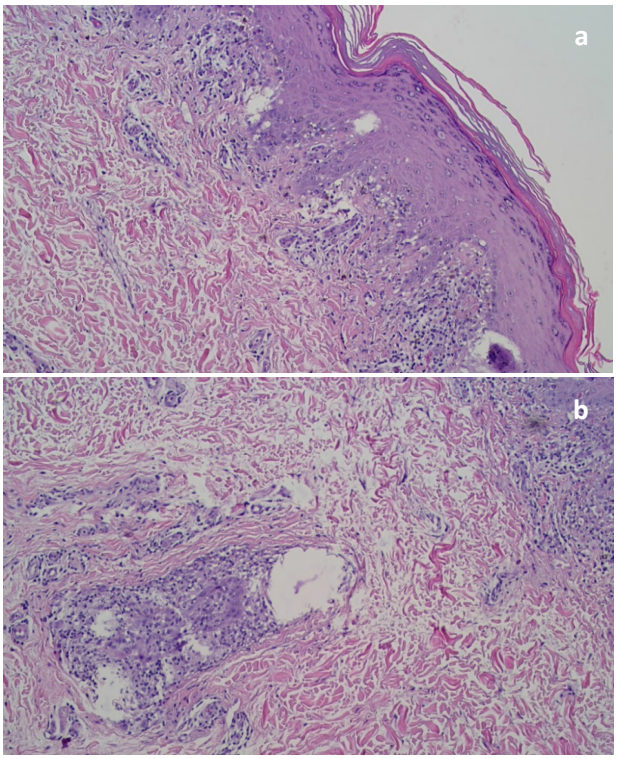


Figure 2. a) Band like infiltration of lymphohistiocytes at superficial dermis with basal layer vacuolar degeneration; b) Lymphohistiocyte infiltrates at superficial perifollicular and peri-eccrine areas



Case Report

A 34-year-old woman with bronchial asthma presented with relapsing and remitting asymptomatic rashes affecting her left side for one year. Physical examination revealed hyperpigmented papules, macules and plaques interspersed with a few erythematous papules and plaques with minimal fine scales arranged in a linear pattern on the left side of her trunk and posterior left leg (Figure 1). There were no nail, hair or mucosal abnormalities. There was no any aggravating relieving factors for the rashes.

The differential diagnoses include lichen striatus, linear lichen planus, inflammatory linear verrucous epidermal nevus, incontinentia pigmenti and linear porokeratosis. A skin biopsy was performed and histopathology features include dense bandlike infiltration of lymphohistiocytes at superficial dermis with vacuolar alteration of the basal layer (Figure 2a). Similar infiltrates were observed at superficial perivascular, perifollicular and around the eccrine glands (Figure 2b). A diagnosis of lichen striatus was made. The patient was treated with a potent topical corticosteroid (TCS) which resulted in complete resolution of the rash.

Discussion

LS most commonly present as asymptomatic erythematous or skin-coloured, flat-topped papules that coalesce to form a continuous or interrupted linear plaque. About 11% of cases complained of pruritis, almost all of these patients had atopy.[3] And that's when patient usually comes for consultation. Typical LS occurs on the lower limbs. Other less common sites include the trunk, upper limbs and face.[3-4]

LS is diagnosed clinically. However, a skin biopsy is helpful to differentiate it from other Blashkoid dermatoses. The histopathological finding of LS is often confused with linear lichen planus.[8] A characteristic feature of LS is lymphohistiocytic infiltrate seen around eccrine glands and hair follicles.[6-7] Other non-specific findings include exocytosis, hyperkeratosis,

spongiosis, necrotic keratinocytes, parakeratosis and perineural infiltrate.[7]

The options for treatment usually includes topical corticosteroids or intralesional cortiocosteroid, salicylic acid or coal tar. However, many studies on Vitamin D analgoues and cryotherapy are also emerging now. Lichen striatus has been successfully treated with other topical (pimecrolimus) or oral (acitretin, cyclosporin, or corticosteroids) agents

As for topical steroid, there are conflicting reports about whether topical steroids shorten the duration of the lesions. In a retrospective study of 115 children with LS, Patrizi et al[3] did not conclude in any shortening of the duration of either the inflammatory stage of LS or the duration of the post-inflammatory hypopigmentation in patients treated with topical steroids as compared to those who were not treated.

On the other hand, combination topical corticosteroid with vitamin D analogue or retinoid has been used with success.[8] Complete resolution of lesions with 2 sessions of cryotherapy 2 weeks apart was reported in a patient.[9]

As the cause of LS is uncertain, and recent studies has hypothesised that LS is a T-cell mediated inflammatory skin disease associated with autoimmune response to mutated keratinocyte cloning.[10-11] Accordingly there is a role of topical tacrolimus[13] and pimecrolimus[14] as the new choice treatment for LS. Korean literature has reported the effects of this treatment whereby 1% pimecrolimus cream is found to be beneficial and efficacious treatment option for lichen striatus in children because it carries no risk for skin atrophy compared with topical corticosteroid application.[12]

This case report highlights the need to consider LS in the differential diagnosis of Blashkoid and linear rash despite its rarity in adult population and its distribution. Although in some circumstances, very few potent TCS alone or in combination with topical retinoids, TCI monotherapy and cryotherapy are one of the many treatments options that may be considered.

Conclusion

This case report has demonstrated the efficacy and tolerability of corticosteroid treatment of LS in the adult population for the first time. Our patient's clinical presentation was not uniformly pathognomonic for either blaschkitis or lichen striatus. The involvement of the chest and her adult age matched the classic clinical presentation of blaschkitis; however, the involvement of the right upper extremity was more characteristic of lichen striatus. The pathology features of her skin biopsies - an inflammatory band-like infiltrate of lymphocytes and histiocytes along with the presence of necrotic keratinocytes which was consistent with lichen striatus. Lichen striatus typically resolves spontaneously within six to 12 months and does not recur as it did for our patient. Topical corticosteroids may be used for the treatment of lichen striatus especially if it's associated pruritus. However, they usually do not reduce the duration of the disease or the occurrence of post-inflammatory dyspigmentation. Lichen striatus has been successfully treated with other topical (pimecrolimus) or oral (acitretin, cyclosporin, or corticosteroids) agents. Ideally, a placebo-controlled, randomized study would be helpful to confirm the superior efficacy of the combination treatment as delineated in this study.

Conflict of Interest Declaration

The authors have no conflict of interest to declare.

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