

Zosteriform lichen planus-like eruption

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SUMMARY

Lichen planus (LP) is a relatively common papulosquamous skin disease of unknown etiology, it is believed to be a T-cell mediated disorder. In addition to the cutaneous eruptions it may also affect mucous membranes, nails or cause scarring alopecia. Lichen planus appears in various clinical variants which are categorized according to the morphology and configuration of lesions.

We present a 34-year-old man who developed a papular eruption localized unilaterally on the right side of the body in a linear-zosteriform pattern within the L5-S1 nerve segments. The skin lesions clinically and histologically mimicked LP. Topical treatment with betamethason ointment for one month led to remarkable improvement, but a zosteriform hiperpigmentation persisted.

According to the clinical findings in our patient and a review of the literature, we believe that *lichenoid-zosteriform eruption* is a variant of lichen planus or a herpes zoster infection.

Introduction

Lichen planus (LP) is a clinically and histopathologically typical, relatively common pruritic papulosquamous skin disease characterized by violaceous, flat-topped, polygonal papules preferentially involving the distal parts of the extremities and the lower back. In addition to the cutaneous eruptions it may also affect mucous membranes, nails, or cause scarring alopecia (1). Although its exact etiology is unknown, it is believed to be T cell-mediated disorder expressing altered self-antigens on the surface of basal keratinocytes modified

by viruses or by drugs (2).

Many skin disorders may show a similar distribution of lesions in a linear or "zosteriform" pattern. Their appearance may be related to anatomical structures (nerves, blood or lymph vessels), and triggered by trauma or by other provocative factors. Certain acquired and congenital diseases also manifest linear or zosteriform distribution following the embryonic Blaschko lines. The linear-zosteriform arrangement of those skin disorders may be explained as a Köbner phenomenon or as a

KEY WORDS

linear lichen planus, lichen planus-like, zosteriform cutaneous eruption



Figure 1. Zosteriform lichen planus-like eruption: unilateral hyperpigmented zosteriform distributed lichenoid papules on the right side of the back.



Figure 2. Zosteriform lichen planus-like eruption: unilaterally distributed lichenoid papules on the right side of the flank.

cutaneous reaction possibly triggered by still unrecognized agents.

Case report

A 34-year-old man presented with a history of pruritic cutaneous papules distributed in a zosteriform pattern, which reportedly had appeared two months prior



Figure 3. Zosteriform lichen planus-like eruption: erosions and papules on the glans of penis and prepuce.

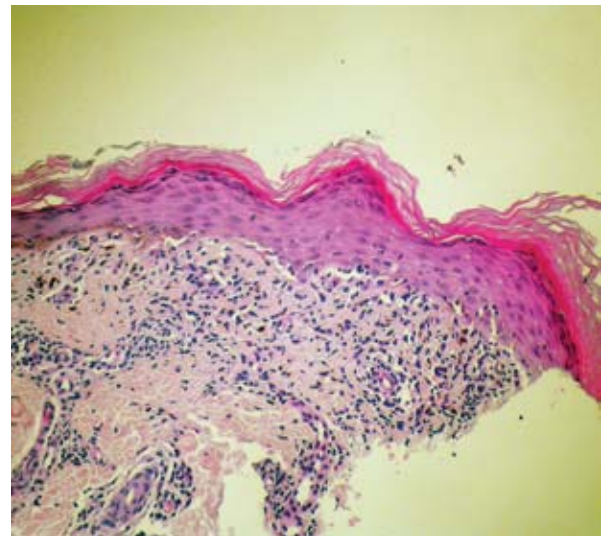


Figure 4. Zosteriform lichen planus-like eruption; histopathology: orthokeratosis, lichenoid epidermal pattern with focal hypergranulosis, hydropic degeneration in the basal layer and band-like lymphohistiocytic inflammatory infiltrate beneath epidermis (hematoxylin-eosin, x200).

to his first visit to our department. The skin lesions were initially located unilaterally on the right side of his back, and on the flank and later spread to the penis. He had a history of cholecystectomy at 28 years, but could not recall past herpes zoster, hepatitis B or C infections. He also denied trauma at the site of the involved skin or use of medications. On examination there were mul-

tiple, flat-topped, shiny, partly hyperpigmented papules, ranging in size from 1 to 3 mm on an erythematous base within the L5 - S1 nerve segments on the right side and erosions on glans penis and prepuce (Figures 1-3).

A skin biopsy taken from a typical lesion revealed an orthokeratotic, slightly broadened stratum corneum, an irregular acanthosis with focal hypergranulosis, hydropic degeneration in the cells of basal layer as well as a band-like lymphocytic infiltrate beneath epidermis (Figure 4). Laboratory tests, including sedimentation rate, complete blood count, and liver function tests were within normal limits. The radiography of the chest and vertebral column, as well as the abdominal sonography was normal.

Formalin-fixed and paraffin embedded sections were deparaffinized and examined for the presence of *Varicella-zoster virus* (VZV) intracellular antigen and for VZV DNA. The VZV antigen was not found, but the presence of the VZV DNA was proven.

Topical treatment with betamethason ointment for one month led to remarkable improvement, but zosteriform hyperpigmentations persisted.

Discussion

Many skin disorders show linear or zosteriform distribution, following the course of spinal nerves, or blood and lymph vessels. The differential diagnosis included LP, lichen striatus, inflammatory linear verrucous epidermal nevus and nevus unius lateris. Various infections, drug eruptions, dermatitis herpetiformis, segmental neurofibromatosis, or scleroderma may also display a zosteriform pattern (3).

LP usually appears as a clinically and histopathologically well recognized entity. Linear LP virtually never shows a dermatomal arrangement, but follows the lines of Blaschko (4, 5). Cases of true zosteriform LP-like eruptions are extremely rare and may be explained as a Köbner phenomenon induced by a preceding herpes

zoster infection. Some authors prefer the term zosteriform lichen planus considering it a separate entity (6-11). The question was to which of the above mentioned categories our case should be assigned.

In 1973, Pinkus discussed the term regional lichenoid syndromes characterized by lichenoid tissue reaction in which epidermal basal cell damage produces lichenoid pattern including LP, lupus erythematoses, lichen planus-like keratosis, incontinentia pigmenti, lichenoid drug eruptions, poikilodermas, erythema dyschromicum perstans, which all display a similar clinical spectrum, differing only in the degree of histopathologic changes (13).

In our patient a unilateral, linear, zosteriform and papular eruption within the L5 - S1 nerve segments, similar to LP was expressed but without any data of a previous VZV infection. Such a manifestation can be explained either by a subclinical VZV infection or by a VZV reactivation, which is more probable. Since there were no serological tests performed, according to the microbiologist's opinion the dilemma of an acute infection or reactivation remains. A diagnostic possibility was lichen striatus (LS), however histopathology in LS is not reliable enough.

Characterizations like zosteriform, linear zosteriform, hyperpigmented linear zosteriform, zoniformis, segmentalis, radicularis, pigmented LP in zosteriform pattern, invisible pigmented LP, lichen tropicus, lichen actinicus and others, are purely descriptive and do not explain the pathogenesis (14 -19). Such a multitude of expressions is rather confusing and supports our hypothesis that the so called "lichenoid-zosteriform" arrangement of LP-like cutaneous eruptions is just variants of lichen planus. Cutaneous eruptions clinically and histopathologically similar to LP may be explained as id-reaction triggered by different, yet unrecognized agents.

We suggest that the term *linear-zosteriform lichen planus-like eruption* should be used in cases in which the etiopathogenesis was not cleared, like in the case presented.

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