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Original article

Zosteriform lichen planus: a new variant of a common disorder

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Abstract

Background Lichen planus (LP) is generally easily recognizable but sometimes it comes in disguise. It has been reported to occur in the scars of previous herpes zoster lesions. Zosteriform pattern in LP, without evidence of herpes zoster, is an extremely rare occurrence. We describe a series of nine patients seen with this peculiar pattern.

Materials and methods Nine patients of varied ages presenting during Jan, 2002 to Dec, 2003, with grouped lichenoid lesions on various regions of the body. There was no previous or concomitant history of herpes zoster on the involved site or elsewhere on the body. Lesions were clinically assessed and laboratory investigations including blood counts, blood sugar, serum liver function tests, serology for hepatitis B and C, serum urea and creatinine were carried out. Skin biopsies were also performed for histopathological studies in all cases.

Results Most patients were young to middle aged males. No associated systemic clinical illness was seen in any patient. Skin lesions were suggestive of LP. Laboratory investigations were within normal limits in all patients except one, who was positive for hepatitis C. Skin biopsies revealed classical changes of lichen planus in most cases.

Discussion Linear lesions following lines of Blaschko have not been so uncommon, but zonal or zosteriform distribution of LP lesions without koebnerization is a very rare occurrence. Exact etiology of this unusual pattern could not be ascertained. The possible cause could be an unknown drug, food or a form of blaschkitis.

Conclusion. Zosteriform LP is an emerging new variant, which should be looked for in clinical practice.

Key words
Lichen planus, zosteriform, herpes zoster, Blaschko lines

Introduction

Lichen planus (LP) is a pruritic, papular eruption characterized by its violaceous color, polygonal shape and sometimes fine scales. It is most commonly found on the flexor surfaces of the upper extremities, on the genitalia, and on the mucous membranes. LP is most likely a cell-mediated immune response of unknown origin and it may be found with other diseases of altered immunity; these conditions include ulcerative colitis, alopecia areata, vitiligo, dermatomyositis, morphea, lichen sclerosis, and myasthenia gravis.[1-3] An association is noted between LP and hepatitis C infection, chronic active hepatitis, and primary biliary cirrhosis.[4] Incidence is about 1% with no significant geographical variation and no racial predispositions. Male and female ratio is almost equal. LP can occur at any age but most of the patients have the disease between 30-60 years of age. Most

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cases are insidious and the initial lesion is usually located on the flexor surface of the limbs, such as the wrists. The clinical presentation of LP has several forms: actinic, annular, atrophic, erosive, follicular, guttate, hypertrophic, linear, and vesicular. Some cases of zonal or zosteriform LP have also been described in literature. In classical cases of LP, the papules are violaceous, shiny, and polygonal; varying in size from 1 mm to greater than 1 cm in diameter. They can be discrete or arranged in groups of lines or circles. Pruritus is common but varies in severity. Hypertrophic lesions are extremely pruritic. Oral lesions may be asymptomatic or have a burning sensation. In more than 50% of patients with cutaneous disease, the lesions resolve within 6 months, and 85% of cases subside within 18 months.[1-3] On the other hand, oral LP had been reported to have a mean duration of 5 years. Large annular, hypertrophic lesions and mucous membrane involvement are more likely to become chronic. In addition to skin and mucous membranes, LP can involve the genitalia,[5] the nails, and the scalp. The histopathologic features include; irregular acanthosis, colloid bodies in the epidermis with liquefactive degeneration and linear fibrin deposition in the basal layer. The upper dermis has a bandlike infiltrate of lymphocytes and histiocytes. Direct immunofluorescence study reveals globular deposits of immunoglobulin M (IgM) and complement mixed with apoptotic keratinocytes.[1-4] Cutaneous LP does not have a higher risk of skin cancer, but ulcerative lesions in the mouth, particularly in men, have a higher incidence of malignant transformation. Vulvar lesions[5] in women may also be associated with squamous cell carcinoma. Mild cases can be treated symptomatically with antihistamines and fluorinated topical steroids. More severe cases, especially those with scalp, nail, and mucous membrane involvement may need more intensive therapy, e.g. systemic steroids, topical and systemic cyclosporine, oral or topical retinoids.[6-7] Even with these effective treatments, relapses are common. The prognosis for LP is generally good, as most cases regress within 18 months. In the present study, we describe clinicopathological aspects of this uncommon disorder in a series of patients.

Materials and methods

Patients of varying ages and both sexes presenting with grouped lichenoid lesions on various regions of the body with no previous or concomitant history of herpes zoster on the involved site or elsewhere on the body were included in the study. They were not taking any particular drugs, e.g. antimalarials, antihypertensive or anti tuberculosis prior to eruption. Individuals with any past or current history of herpes zoster on the involved site or elsewhere on the body or patients having grouped lichenoid lesions (suggestive of lichen planus) but developing in some existing scar (due to any disease) were excluded. During the period of two years (Jan 2002 to Dec 2003) a total of nine patients were selected, who were fulfilling the inclusion criteria. All patients were clinically examined thoroughly to see any other evidence of LP in mouth, nails and scalp. Laboratory investigations including blood counts, blood sugar, serum liver function tests, serology for hepatitis B and C, serum urea and creatinine were carried out. Skin biopsies were also performed for histopathological studies in all cases and they were treated with potent topical corticosteroids (betamethasone dipropionate) after confirmation of histological diagnosis.

Results

All patients were young adults to elderly (18-56 years). They were eight males and one female. There was no recordable history of any particular drug intake like antimalarials, anti hypertensive and antituberculous. Duration of eruption was 1 to 8 weeks and pruritus was not marked in all cases. No associated systemic clinical disease was seen in any patient. Skin lesions were clinically diagnostic of LP. Laboratory investigations were within normal limits. Serology for hepatitis B was negative in all patients and only one patient was positive for hepatitis C. Skin biopsies revealed classical changes of lichen planus in six cases. Histology was suggestive of lichenoid drug reaction in two cases and of lichen planus pigmentosus in another. These results are summarized in **Table 1**. Clinical photographs of four of the patients have also been shown as **Figures 1**, **2**, **3** and **4**.

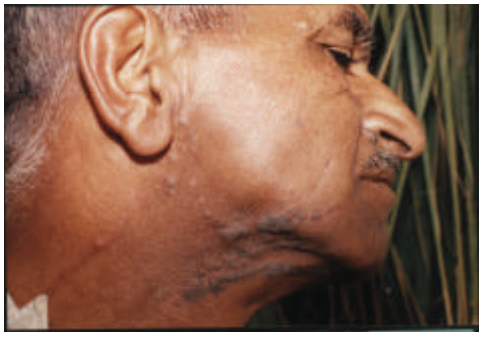

Figure 1 Lichenoid grouped papules on one side of the neck (histopathology revealed classical picture of lichen planus).

Discussion

Some congenital or acquired dermatoses, either inherited or sporadic, have a linear distribution following the embryonic lines described in 1901 by Blaschko. Most of them are nevoid skin lesions presenting at birth or having a later onset: epidermal nevi (nevus unius lateris, linear porokeratosis), adnexal nevi (linear

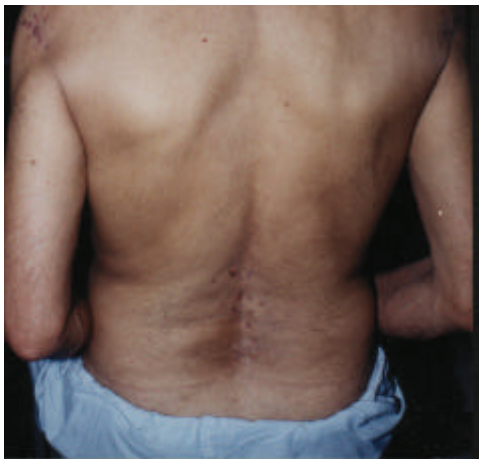

Figure 2 Grouped lichenoid lesions over back of an elderly person (histopathology suggested a lichenoid drug rash)

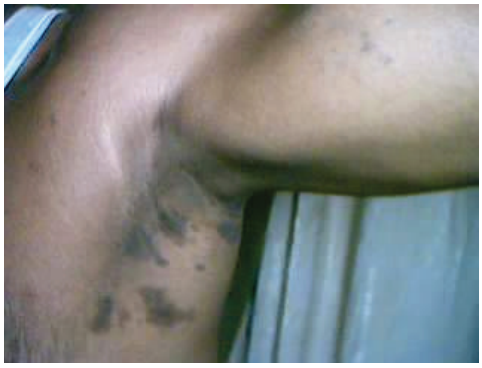

Figure 3 Lichenoid macules and patches in left axilla of a young male (histopathology was suggestive of lichen planus pigmentosus)

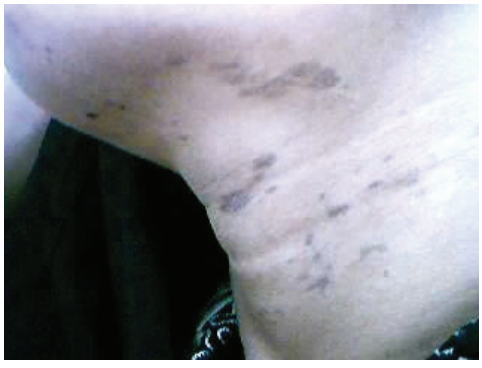

Figure 4 Lichenoid zosteriform rash on the side of neck of a young girl (histological picture was of lichen planus).

sebaceous nevus, linear basal cell nevus), pigmented lesions (systematized linear achromic nevus) or intricated nevi of the connective tissue (angiolipomatous nevus). Rarely, genodermatoses with X-chromosomal mosaicism, that occurs in females only such as incontinentia pigmenti, focal dermal hypoplasia, etc., also exhibit a linear arrangement following Blaschko's lines. This pattern is obvious in some cases of common inflammatory skin diseases like, lichen planus, lichen nitidus, scleroderma, vitiligo, fixed drug eruption and chronic lupus erythematosus.[8] In lichen planus, linear lesions are frequently seen but cases of zonal or zosteriform LP have rarely been described in the literature.[9] Zosteriform lichen planus has so far been considered, either a blaschkitis without koebnerization or a result of Wolf's isotopic response (Koebner phenomenon).[8,10] The cases described in literature with zosteriform distribution of LP have mostly occurred in the healed lesions of herpes zoster as an isotopic response.[10-12] There have also been occasional reports of lichenoid drug eruption and lichen planus pigmentosus occurring in Blaschko's lines.[9,13] To the best of our knowledge such cluster of cases has never been described in local or international literature. The cases previously described in literature under this heading mostly occurred as an isotopic response in connection with herpes zoster. The exact cause of this relatively new pattern could not be ascertained. The patients neither belonged to a particular geographical area, nor reported in any particular season of the year and more over, they did not have any associated symptoms, so infective cause was unlikely. Lesions did not occur on any previous site of trauma or disease and there were no specific triggering factors, so the Koebner phenomenon (Wolf's isotopic response) can also be ruled out. We are left with two possibilities; i.e. either a new drug or food is causing this peculiar pattern or it can be some kind of blaschkitis. We hope that as we see more and more such cases in future, we will be able to explain the etiology with some certainty.

Conclusion

Zosteriform pattern in LP, without evidence of herpes zoster, is an extremely rare occurrence. This pattern may be taken as an emerging new variant, which should be looked for in clinical practice.

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