International Journal of Community Medicine and Public Health
Puri N et al. Int J Community Med Public Health. 2023 Apr;10(4):1585-1588
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20230946

Case Series

Linear and zosteriform lichen planus in a tertiary care centre: a case series

Neerja Puri[1]*, Neetu Verma[1], Sukhmani Kaur Brar[2]

[1]Department of Dermatology, G. G. S. Medical College, Faridkot, Punjab, India
[2]Fortis Clinic, Mohali, Punjab, India

Received: 22 January 2023
Revised: 08 March 2023
Accepted: 09 March 2023

***Correspondence:**
Dr. Neerja Puri,
E-mail: neerjaashu@rediffmail.com

ABSTRACT

Lichen planus (LP) is a common mucocutaneous condition, but its distribution in a zosteriform and linear pattern is rare. Zosteriform LP is a rare variant with dermatomal distribution and can occur at trauma prone sites. Linear distribution of the disease has been described in less than 1% of patients. Treatment options are topical corticosteroids and systemic antihistamines. We hereby present a case series of four cases with linear and zosteriform patterns in which the biopsy findings were corroborative of lichen planus. In the first case report of a 25-year-old female presented to dermatology OPD of tertiary health Centre with hyperpigmented patches confined to left half of trunk, left arm and left leg for 6 months. Brownish black macules involving left breast and adjoining back and abdomen were seen in zosteriform pattern. In the second case report, a 25-year-old male presented for evaluation of hyperpigmented raised and pruritic lesion over the right axilla of 5 months' duration Third case was of a 26-year-old female patient who presented with pruritic violaceous macules on left leg extending from mid part of leg to medial aspect of knee and medial side of thigh in a discontinuous pattern for last 3 years. A 34-year-old female presented with history of pruritic rash over the left side of trunk in the fourth case report. The case series is rare and hence being reported.

Keywords: Lichen planus, Blashko, Zosteriform, Linear, Hyperpigmented

INTRODUCTION

Linear and zosteriform lichen planus is a rare variant of lichen planus (LP) appears as dark brown macules on sun exposed areas and flexural folds. We herein report four cases of lichen planus with lesions following the lines of Blaschko in a linear and zosteriform pattern. It is very difficult to explain the occurrence of an acquired disorder such as LP along the Blaschko's lines, which are normally followed by the inherited/genetic disorders and that too limited to one half of the body.[1] A genetic predisposition to LP and exposure to an appropriate environmental or endogenous trigger leads to its development. There is a definite distinction between linear and zosteriform type of LP, to which there has not been strict adherence. In the former condition, the papular lesions appear as narrow lines about 1 or 2 cm wide, which may follow the course of a nerve, of a vein or a lymphatic vessel or one of Voigt's lines. In the latter, the lesions form a band several centimeters wide that follows the course of a peripheral cutaneous nerve and its branches or appears over areas of radicular nerve distribution following the dermatomal distribution.

CASE SERIES

Case 1

A 25-year-old female presented to dermatology OPD of tertiary health Centre with hyperpigmented patches

confined to left half of trunk, left arm and left leg for 6 months. Brownish black macules involving left breast and adjoining back and abdomen in zosteriform pattern (Figure 1). The macules were also present on left arm and left leg in linear pattern. The pigmentation was confined to left half of body in discontinuous pattern. The lesions first appeared on chest and gradually progressed to their present extent in 6 months. There was no history of trauma, inflammation and topical applications prior to eruption. There was no relevant past medical and family history. The following differential diagnosis were kept: Progressive cribriform and zosteriform hyperpigmentation, non hypertrichotic variant of Becker's nevus and Zosteriform lichen planus.

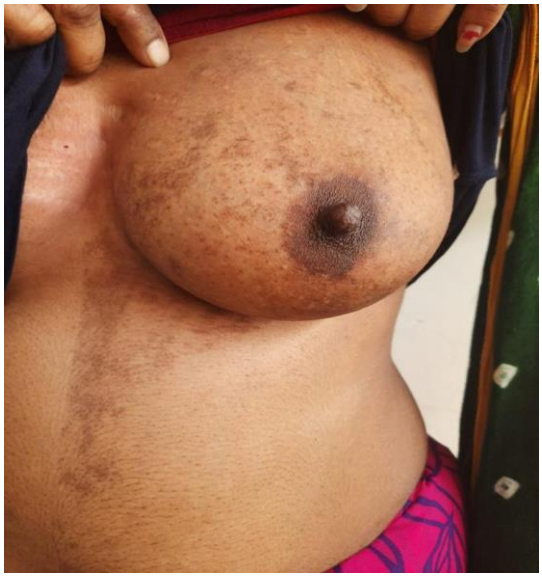

Figure 1: Zosteriform involvement of breast and abdomen.

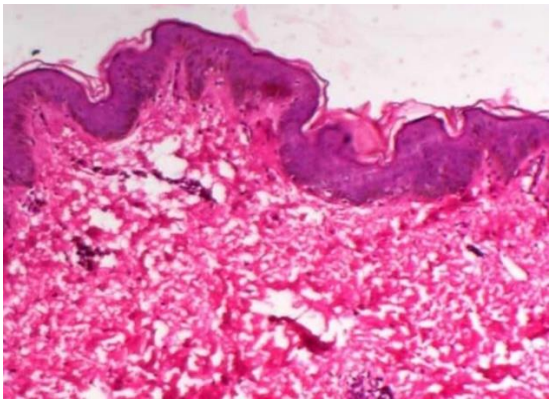

Figure 2: Perivascular lymphocytic infiltrate and melanophages within papillary dermis with focal vacuolar change in basal layer of epidermis (H and E,×40).

The skin biopsy showed sparse superficial perivascular lymphocytic infiltrate with numerous melanophages within the papillary dermis. The papillary dermis was slightly thickened and showed delicate fibroplasia and mucin. Overlying epidermis showed focal vacuolar change in the basal layer. The epidermis was flattened at places (Figure 2). Based on clinicopathological correlation, diagnosis of Zosteriform Lichen planus was made.

Case 2

A 25-year-old male presented for evaluation of hyperpigmented raised and pruritic lesion over the right axilla of 5 months' duration. There was no history of pain or discharge. The patient denied the history of drug intake, recent immunization or trauma.

Examination showed violaceous to hyperpigmented macules involving axilla of right side (Figure 3). Nail, mucosa and scalp examination were normal. All routine investigations were within normal limits. Punch biopsy from the lesion found basket weave hyperkeratosis, cluster of colloid bodies, prominent melanin incontinence and features of interface dermatitis (Figure 4). The features were consistent with findings of Zosteriform lichen planus.

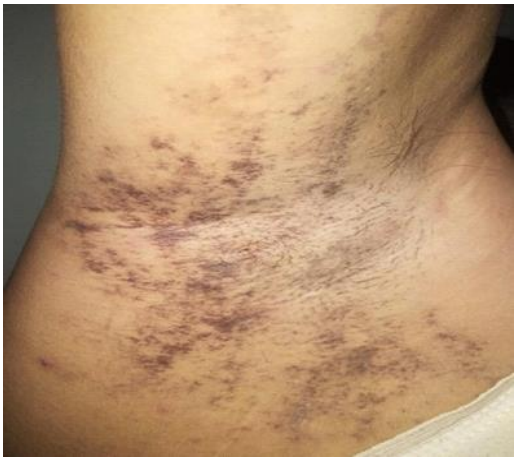

Figure 3: Violaceous to hypopigmented macules in the axilla.

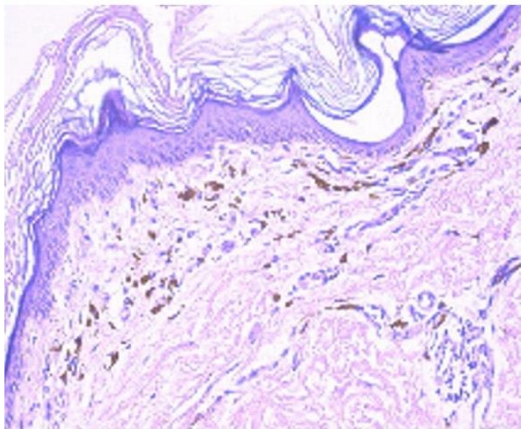

Figure 4: Prominent melanin incontinence and features of interface dermatitis (H and E,×40)P.

Case 3

This case is of 26-year-old female patient who presented with pruritic violaceous macules on left leg extending from mid part of leg to medial aspect of knee and medial side of thigh in a discontinuous pattern for last 3 years (Figure 5).

Oral mucosa showed reticulate pattern of lichen planus. Nail examination showed nail plate thinning, increase in longitudinal grooves and ridges, melanonychia and irregular cuticle (Figure 6). The results of laboratory examination including complete blood cell count, liver functions, and renal functions were within normal limits. Serologies for hepatitis B and C viruses were negative. Histopathological examination showed basket weave stratum corneum covering epidermis, sparse lymphocytic infiltrates with numerous melanophages. A diagnosis of linear lichen planus was made. The patient was treated with potent topical corticosteroids and showed favourable response.

Figure 5: Pruritic violaceous macules on leg.

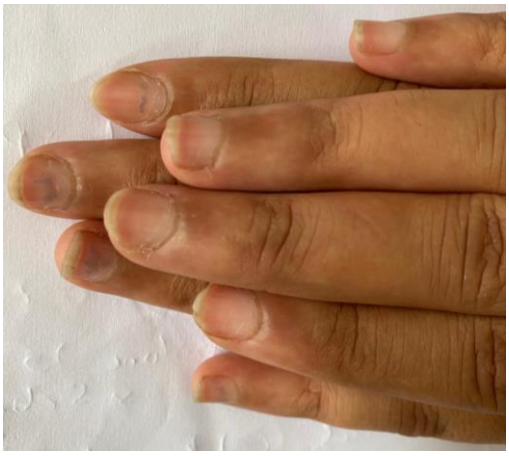

Figure 6: Nail plate thinning, increase in longitudinal grooves and ridges, melanonychia and irregular cuticle.

Case 4

A 34-year-old female presented with history of pruritic rash over the left side of trunk. The patient did not give any history of trauma, topical medications or any recent medical or surgical illness prior to eruption.

On examination, violaceous flat topped 2-3 mm papules along the blaschko's lines observed over left trunk (Figure 7). Nail examination revealed thinning of nails, longitudinal striations, onychoschizia and melanonychia (Figure 8). Histopathological examination revealed parakeratosis, basal layer showing vacuolization, squamatization and occasional apoptotic keratinocytes. In lamina propria, lymphoplasmocytic infiltrates were also seen. The features were consistent with findings of lichen planus and the final diagnosis of Zosteriform lichen planus was made.

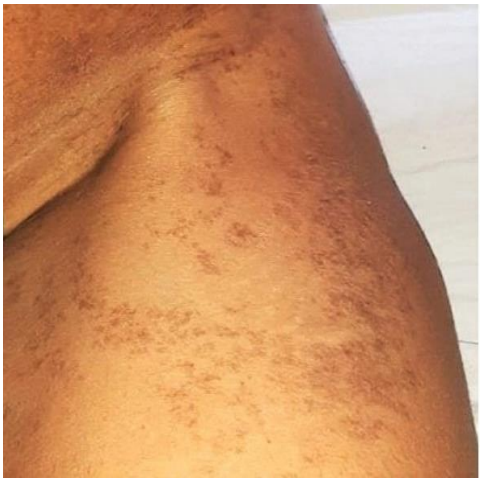

Figure 7: Blaschkoid lichen planus lesions on left upper trunk.

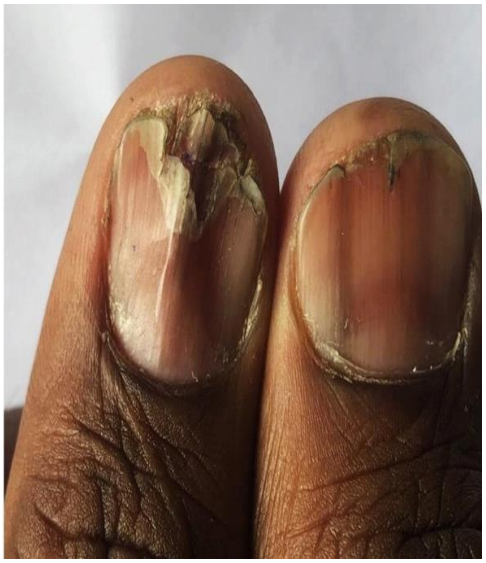

Figure 8: Onychoschizia, prominent longitudinal striations, thinning and melanonychia.

All the investigations and levels of G6PD were within normal limits. After treatment with dapsone 100 mg daily along with topical corticosteroids improvement over 2 months was seen.

DISCUSSION

Lichen planus is a common mucocutaneous condition but its blaschkoid distribution is a rare. Blaschko lines are arcs on upper chest, S shaped on the abdomen, V-shaped on the posterior midline, linear pattern on the lower trunk and limbs, and whorls on the scalp.[3] The clinicopathologic spectrum of skin lesions that follow Blaschko lines is explained by cutaneous mosaicism.[4,5] Apart from blaschkoid lichen planus, linear lesions have also been reported in other variants of lichen planus like lichen planopilaris and lichen planus pigmentosus.[6,7]

Progressive cribriform and zosteriform hyperpigmentation is its potential differential diagnosis described by Rower et al as tan cribriform macular pigmentation in a zosteriform distribution with no history of rash, injury or inflammation and histologic pattern of increase in melanin pigment in basal layer and complete absence of nevus cells.[8,9]

Although the exact underlying cause is still unknown, viral infections, sunlight, mustard oil, amla oil, hair dye and perfumes are found to be triggering factor in lichenoid reaction.[10] The reccurance of blaschkoid lichen planus can be related to pregnancy.[11] Various treatments like tacrolimus, glycolic acid, hydroquinone have been tried in literature.[12] Tacrolimus is found to decrease pigmentation in LPP.[13] Antiviral therapy in HCV positive patients showed response.[14] A variety of treatment modalities has been used to relieve pruritus and induce remission of lichen planus. These modalities included topical and systemic steroids, dapsone, cyclosporine, retinoids, methotrexate, azathioprine, narrow-band ultraviolet-B phototherapy and psoralen plus ultraviolet A (PUVA).[15] In our case since the involvement was limited in all the reports topical steroids were given.

CONCLUSION

The case series is rare of its kind and hence reported.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Happle, R. 'Zosteriform' lichen planus: is it zosteriform? Dermatology. 1996;192:385-6.
2. Long CC, Finlay AY. Multiple linear lichen planus in the lines of Blaschko. Br J Dermatol. 1996;135:275-6.
3. Bolognia JL, Orlow SJ, Glick SA. Lines of Blaschko. J Am Acad Dermatol. 1994;31:157-90.
4. Akagi A, Ohnishi Y, Tajima S. Linear hyperpigmentation with extensive epidermal apoptosis: a variant of linear lichen planus pigmentosus? J Am Acad Dermatol. 2004;50:S78–S80.
5. Vineet R, Sumit S, K GV, Nita K. Lichen planus pigmentosus in linear and zosteriform pattern along the lines of Blaschko. Dermatol Online J. 2015; 21.
6. Dhar S, Kaur S. Linear lichen planus follicularis. Indian J Dermatol Venereo Leprol. 1993;59:216-7.
7. Lakshmi C, Divakaran J, Sivaraman A, Srinivas CR. Painful linearatrophic lichen planus along lines of blaschko. Indian J Dermatol 2006;51:42-6.
8. Das A, Mishra V, Podder l, Kumar P, Das D, Das NK. Linear lichen planus pigmentosus: A rare entity with an illustory presentation. Pigment Int. 2014;1:100-2.
9. Rower JM, Carr RD, Lowney ED. Progressive cribriform and zosteriform hyperpigmentation. Arch Dermatol. 1978;114:98–9.
10. Das A, Bandyopadhyay D, Mishra V, Gharami RC. Progressive cribriform and zosteriform hyperpigmentation. Indian J Dermatol Venereol Leprol. 2015;81:321-3
11. Mendiratta V, Sanke S, Chander R. Lichen planus pigmentosus: A clinicoetiological study. Indian Dermatol Online J. 2019;10:288-92.
12. Kumar S, Okade R, Rahman YA. Unilateral Blaschkoid lichen planus in successive pregnancies. Dermatol Rep. 2011;3:35.
13. Vani VK, Grezzana CS, Da Broi LG, Amorim G, Bastos JC, Amorim GM. Linear Zosteriform Lichen Planus Pigmentosus: A Single Case Report. Clin Res Dermatol Open Access. 2018;5:1-4.
14. Al-Mutairi N, El-Khalawany M. Clinicopathological characteristics of lichen planus pigmentosus and its response to tacrolimus ointment: an open label, non-randomized, prospective study. J Eur Acad Dermatol Venereol. 2010;24:535-40.
15. Harder MK, Kasha EE. Pruritic zosteriform eruption. Zosteriform lichen planus. Arch Dermatol. 1990;126(5):665-8.

Cite this article as: Puri N, Verma N, Brar SK. Linear and zosteriform lichen planus in a tertiary care centre: a case series. Int J Community Med Public Health 2023;10:1585-8.