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Case report

A PRODIGIOUS LICHEN PLANUS PIGMENTOSUS: THE WOLF'S ISOTOPIC RESPONSE

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ABSTRACT

Lichen planus is a pruritic, benign, papulosquamous, inflammatory dermatosis of unknown etiology that affects either or all of the skin, mucous membrane, hair and nail. In its classic form, it presents with violaceous, scaly, flat-topped, polygonal papules. A female patient aged 43 years with a history of pruritic eruptions for a period of one month over the right armpit and back of the right chest (C_8, T_1, T_2, T_3 Dermatomes). She had a history of herpes zoster in the same localization, which had been treated with topical and oral acyclovir two months prior to this visit. This variant may represent as an example of the Wolf's isotopic response. We presented our case because of its rarity as a Dermatomal distribution of lichen planus pigmentosus (LPP) and its appearance in the area of healed herpes zoster as an isotopic response. The case well highlights this unusual condition and represents the first case reported in Indian dermatology literature to our best of knowledge. The clinical and histological features of this case are described here.

Keywords: Herpes, Koebner phenomenon, Lichen planus pigmentosus, Unilateral, Wolf's isotope response, Zosteriform

INTRODUCTION

The term 'lichenoid' is used by clinicians to describe a flat-topped, shiny, papular eruption resembling lichen planus or by histopathologists to describe a type of tissue reaction consisting principally of basal cell liquefaction and a band-like inflammatory cell infiltrate in the papillary dermis.[1]

The term, lichen' is derived from the Greek verb, to lick[2]'. However, the use of the term is adapted to a noun in both Greek and Latin for a symbiotic form of plant life. The dermatosis, lichen planus was first described by Erasmus Wilson in 1869.[3]

Lichen planus pigmentosus (LPP) variant of Lichen Planus, it is a chronic pigmentary disorder that shows diffuse or reticulated hyper pigmented, dark brown macules on the sun-exposed areas such as the face, neck and other flexural folds.[4] Clinically, it is different from classical lichen planus by the presence of dark brown macules.

LPP was first described by Bhutani et al.[5] The Wolf's isotopic response, as defined by Wolf et al., describes the occurrence of a new skin disorder exactly at the site of another, unrelated, and already healed skin disease. Several types of cutaneous lesions have been described occurring within cleared cutaneous herpes zoster, or, less frequently, herpes simplex lesions.[6] A viral origin, an immunologic origin, a vascular origin and a neural origin are possible pathogenetic mechanism of isotopic response. The isotopic response induce Koebner phenomenon.

It is not a type of cancer. It has been recognized that there is an association between LP and cancer, although the association is rare. One case of LPP has been reported in association with Bazex syndrome, head and neck cancer.[7]

CASE REPORT

A 43 year old female, House wife reported to our department with a one month history of pruritic eruptions over the back of the chest. She also gave history of two months duration of herpes zoster, had been received topical and oral acyclovir. Following it, she developed multiple pruritic skin eruptions over same localization.

No history of similar skin lesion in the past or in family members. She had no history of systemic complaints. The physical examinations were within normal limits. Laboratory investigations revealed normal values.

On cutaneous examination, there were multiple unilaterally distributed dark brown, flat macules of variable sizes distributed diffusely over Right Dermatomes C_8, T_1, T_2, T_3. It was distributed from the right armpit to back of the chest, but it never crossed midline of the body. Few were Violaceous. (Fig 1, 2) Hair, nail and oral mucosa were not involved.

A differential diagnosis of post inflammatory hyperpigmentation, Erythema dyschromicum perstans, fixed drug eruptions and LPP were considered. Advised full thickness Punch biopsy.

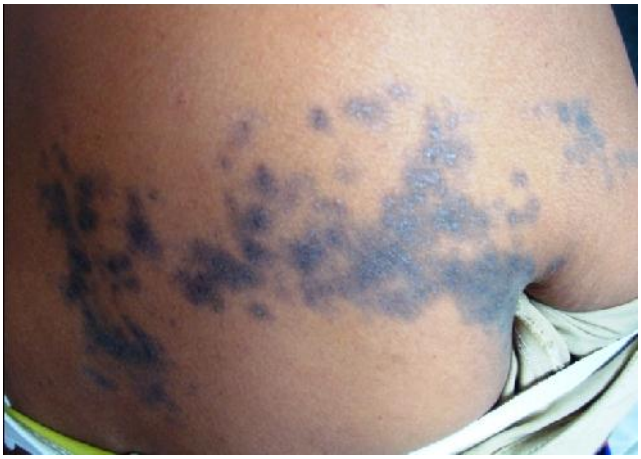

Fig 1: Dark brown, flat macules of variable sizes over back of chest (right side)

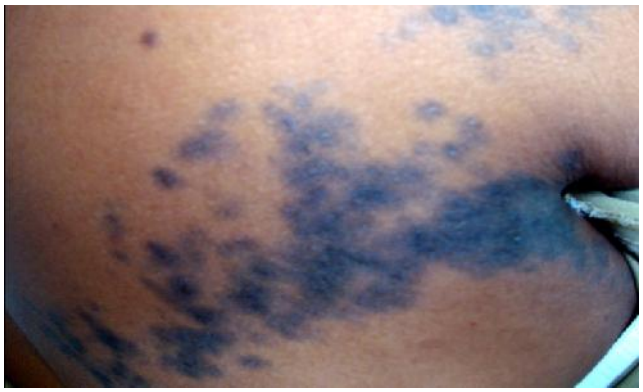

Fig 2: Pigmentary eruptions over Right Dermatomes C 8,T 1,T 2,T 3.

Histopathological examination from one of the papules on skin under hematoxylin and eosin staining (H & E) showed epidermal atrophy, lamellar keratinisation and local basal cell vacuolization. Superficial dermis shows Pigment incontinency, mononuclear and lymphocyte cell infiltrate. Civatte bodies also identified (Fig: 3, 4, 5). Histology confirmed diagnosis of LPP.

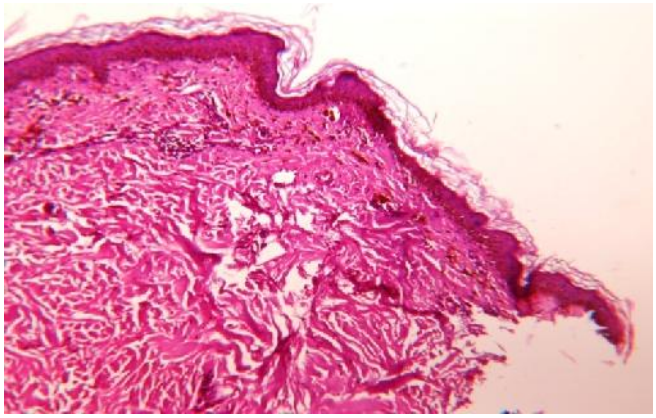

Fig 3: Atrophic Epidermis with mild keratinisation. Blunting of Rete Ridges, Melanin pigment and few perivascular lymphocytes in superficial dermis. (H&E Low Power)

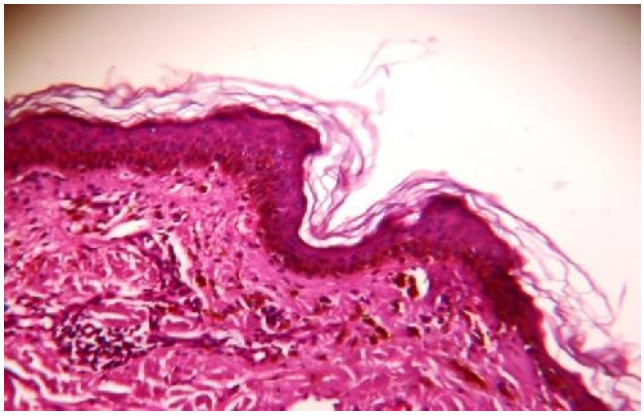

Fig 4: Atrophic Epidermis with absence of Rete Ridges and presence of Melanin Pigment. (H&E stain, ×200)

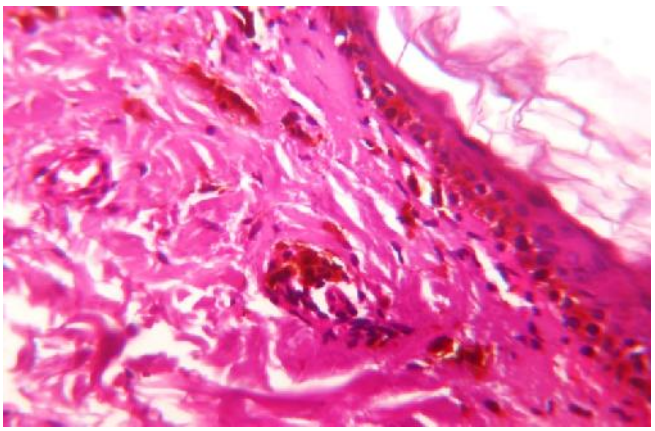

Fig 5: Basal cell vacuolar degeneration,Pigment incontinence, Perivascular Lymphohistiocytic infiltrate and Civatte bodies at DEJ. (H&E stain ×200)

DISCUSSION

Lichen planus is an idiopathic inflammatory disease of the skin and mucous membrane. It is characterized by "6 Ps": planar (flat-topped), purple, polygonal, pruritic, papules, and plaques. In addition to the classical appearance, about 20 different variants are described.

LPP is characterized by mottled or reticulated hyper pigmented, dark brown macules on the sun exposure skin areas, varies from slate grey to brownish black, it is mostly diffuse. The macular hyper pigmentation involves chiefly the face, neck and upper limbs. Striking predominance of pigmentary lesions at intertriginous sites, especially the axillae.[1] The mucous membranes, palms and soles are usually not involved. The duration at presentation ranged from 2 months to 21 years in one series.[8]

The cause of LPP is unknown, but an immunologic mechanism mediates its development, as well as that of lichen planus. Based on the distinctive lymphocytic inflammatory response of the lichenoid reactions, cell mediated immunity seems to play a pivotal role in triggering the clinical expression of the disease.[9] In our case it was induced Koebner phenomenon by Preceding Herpes infection.

Histopathology of LPP shows atrophic epidermis, basal hydropic degeneration, hypergranulosis, Perivascular Lymphohistiocytic infiltration, pigment incontinence, irregular elongation of rete ridges appeared saw tooth pattern and multiple apoptotic cells i.e. Civatte bodies present in dermoepidermal junction. Few melanophages are also seen.

Our case showed lamellar keratinisation, local basal cell vacuolization. Superficial dermis shows Pigment incontinence, mononuclear and lymphocyte cell infiltrate. Civatte bodies also identified.

No effective treatment is available. In the references, Tacrolimus ointment could have a beneficial role in the treatment of LPP.[10] Topical agents include hydroquinone, which is the most commonly used agents, often in combination with retinoic acid, corticosteroids, azelaic acid, Kojic acid, and glycolic acid in case facial LPP along with photoprotection. Other drugs used with inconsistent results are griseofulvin, Prednisolone, etretinate and chloroquine. [11] Our patient advised betamethasone ointment along with sun protection.

There have been only a few reports in the dermatology literature. Lutz et al also described a zosteriform pattern of lichen planus developing at the site of healed herpes zoster.[12] Shemer et al reported a case of zosteriform lichen planus at the site of healed herpes zoster.[13] Cho s reported a case of LPP presenting in zosteriform pattern.[14] Laskaris G.C et al reported a case of LPP of the Oral Mucosa.[15]

CONCLUSION

LPP is an uncommon variant of lichen planus, for which no definite etiology, no precipitating factors are known and no effective treatment is available. Many cases go away within two years. About 1 in 5 will have a Second outbreak.

We describe a case of a rare variant of LPP with a past history of herpes zoster; this abnormal presentation can be mistaken for other common inflammatory dermatosis. To the best of our knowledge, is the first case report of LPP with a past history of Herpes zoster in Indian Literature. So we suggest that the title name Bizarre or Unusual or Zosteriform or Prodigious Lichen Planus Pigmentosus because of variable etiology or presentation or treatment.

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Conflict of interest: Nil

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