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Case Report
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Zosteriform Lichen Planus Without the Presence of Isomorphic or Isotopic Response: de novo Eruption

Aslı Küçükünal,[1] MD, İlknur Kıvanç Altunay,[1] MD, Sezgi Sarıkaya,[1] MD, Damlanur Sakız,[2] MD

Address: [1]Department of Dermatology, [2]Department of Pathology, Sisli Hamidiye Etfal Training and Research Hospital, Istanbul, Turkey

E-mail: aslikucukunal@hotmail.com

** Corresponding Author:* Asli Kucukunal, Sisli Hamidiye Etfal Training And Research Hospital, Department of Dermatology, İstanbul, Turkey

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Abstract

Observation: Lichen planus (LP) is a condition of unknown etiology which has many clinical variants. We report a case of zosteriform LP, on the left head and neck region of a 32-year-old man, without any data of a previous history of trauma or healed herpes zoster lesions on the involved site.

Introduction

Lichen Planus (LP) is a papulosquamous inflammmatory skin disease, with an immunological basis, which appears in various clinical variants. Typical lichenoid papules in a strict dermatomal arrangement rarely occurs as a result of isotopic or isomorphic response and lead to the diagnosis of zosteriform LP. We here, present a case of zosteriform LP within the C2-C6 nerve segments, in the absence of isotopic or isomorphic response.

Case Report

A 32 year-old man presented with mildly pruritic skin lesions on the hairy area over his left ear, left side of his chin, neck and shoulder which appeared 4 months prior to admission. He did not have any history of trauma or skin disorder previously localized to the lesional area. He was not under any medication. He had a history of varicella zoster infection during childhood which he could not remember its localization. Dermatological examination revealed multiple, violaceous brown, flatt-topped papules within the left C2-C6 nerve segments (**Figure 1**). There was no mucous membrane or nail involvement. A skin biopsy of a livid papul showed an epidermis with hypergranulosis overlying hyperkeratosis and a band-like lymphocytic infiltrate associated with hydropic degeneration of the epidermal basal cell layer (**Figure 2**). The deposition of Ig M within globular Civatte bodies in the upper dermis on direct immunofluorescence testing was consistent with LP (**Figure 3**).

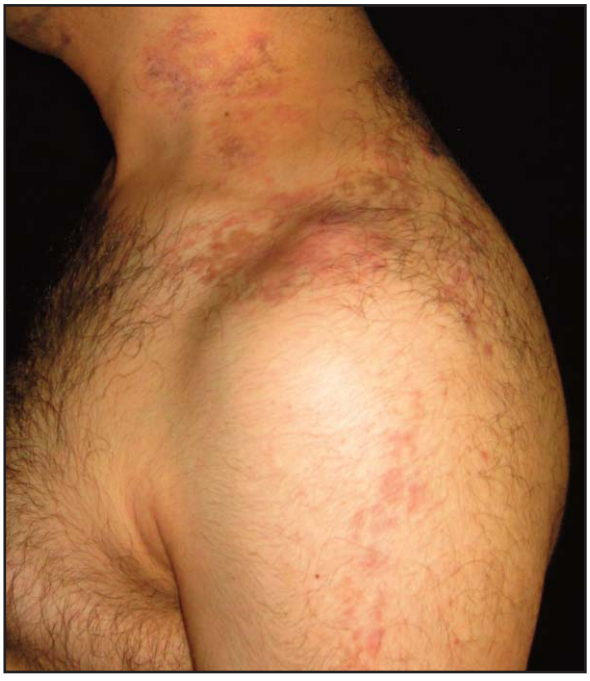

Figure 1. Lichen papules within the left C2-C6 nerve segments

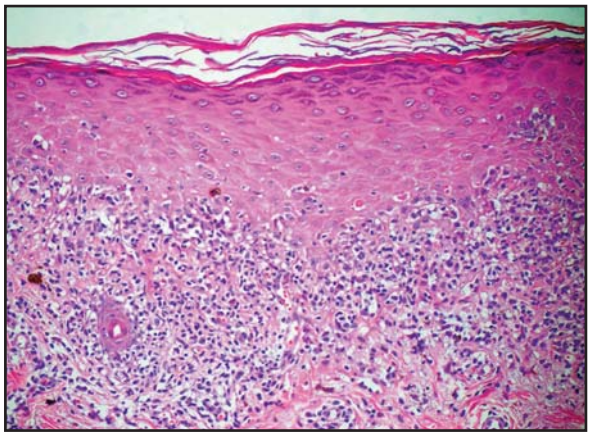

Figure 2. Hypergranulosis overlying hyperkeratosis and hydropic degeneration of the epidermal basal cell layer (H and E stainX40)

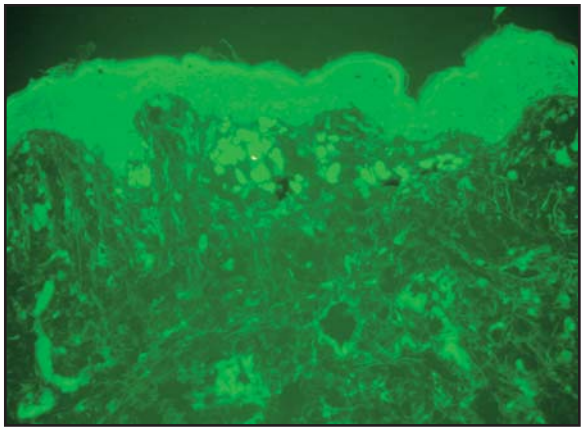

Figure 3. Ig M deposition within globular Civatte bodies in the upper dermis (IgMX200)

Table 1. Lichen Planus Subtypes and Associated Clinical Findings [7]

Lesion distribution	Clinical features
Blaschkoid LP	Lesions of LP following the lines of Blaschko
Zosteriform LP	Lesions of LP following dermatomal lines
Inverse LP	Lesions of LP confined to intertriginous regions; scale may be absent
Mucosal LP	Lacy, white, reticulated patches or plaques with or without erosion or ulceration
Lichen planopilaris	Follicular involvement of the scalp, resulting in scarring alopecia

The result of laboratory examination including complete blood count, liver function tests, sedimentation rate were within normal limits. Screening for hepatitis B or C infections was negatively resulted and history of any vaccination was not present in our patient. Concentration of VZV IgG was raised (474 mIU/ml; normal<80) and VZV IgM was within normal limits. The patient was put on twice daily topical application of mometasone furoate cream. Remarkable improvement was observed in three weeks time.

Discussion

Lichen planus is a papulosqamous inflammmatory skin disease which is believed to be T cell mediated autoimmune disorder [**1,2,3,4**]. It can involve the mucocutaneous surfaces, nails, or hair by causing cicatricial alopecia [**1, 2,4**]. Classical lesions are characterized by erythematous violaceous, flat-topped papules, which tend to be pruritic, sometimes covered with sticky scales [**1,5**]. LP appears in various clinical variants including actinic, annular, atrophic, hypertrophic, erosive, vesicular, follicular and linear, which are categorized according to the morphology, configuration and distribution of lesions [**1,3,4,5,6,7**]. In very rare instances linear LP presents in a segmental fashion corresponding to a dermatome and is termed zosteriform LP which is interpreted as a cutaneous reaction possibly triggered by some neural factor [**8,9**]. As described in **Table 1**, the cervical dermatomal distribution seen in our patient refers to zosteriform LP. Cases of zosteriform LP have been well described in the literature before, as they appeared secondary to a blaschkitis or the koebnerization of LP into the site of a previous herpes zoster infection (Wolf's isotopic response) [**5,6, 10,11,12**]. This is in contrast to an isomorphic response (Koebner phenomenon), which refers to the recurrence of a pre-existing disorder along the site of trauma [**12**]. Lack of history of trauma or healed lesions of some pre-existing disease like herpes zoster estrange us either from the idea of Wolf's isotopic response or Koebner phenomenon. However, serological analyses with an elevated VZV IgG concentration in serum supports the assump-

tion of previous herpes zoster infection in our case, but the patient did not have a history of herpes zoster in the same localization. Despite the fact that zosteriform LP cases have been many times reported to occur as a result of isotopic or isomorphic responses, our case is interesting because of de novo eruption and spontaneus arrangement of lichen lesions in a zosteriform pattern and its extremely rare occurence over head and neck region.

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