International Journal of Research in Dermatology
Tyagi P et al. Int J Res Dermatol. 2026 Jul;12(4):355-359
https://www.ijord.com

DOI: https://dx.doi.org/10.18203/issn.2455-4529.IntJResDermatol20261937

Case Report

Zosteriform lichen planus preceding ipsilateral breast carcinoma: a possible paraneoplastic association

Priyanshi Tyagi, Anisha Biswal*, Debasmita Behera, Chinmoy Raj

Department of Dermatology, Venereology and Leprosy, KIMS Hospital, Bhubaneswar, Odisha, India

Received: 10 April 2026
Accepted: 16 May 2026

***Correspondence:**
Dr. Anisha Biswal,
E-mail: anishabiswal@yahoo.com

ABSTRACT

Lichen planus (LP) is a chronic, T-cell-mediated inflammatory dermatosis involving the skin and mucous membranes, with multiple clinical variants. Zosteriform lichen planus (ZLP) is a rare variant characterized by a unilateral, dermatomal or band-like distribution that may mimic herpes zoster. While mucosal LP, particularly oral lichen planus, has been associated with malignancy, the role of cutaneous LP, especially ZLP as a paraneoplastic manifestation remains unclear. A 54-year-old woman presented with a one-year history of asymptomatic violaceous papules and plaques arranged in a unilateral, band like pattern over the left chest extending to the neck, without crossing the midline. The distribution corresponded to C3-T2 dermatomes. Mucosa, scalp, and nails were uninvolved. Clinical findings suggested zosteriform lichen planus, which was confirmed on histopathology. During follow-up, six months after the onset of cutaneous lesions, the patient developed a palpable lump in the left breast. Imaging revealed a suspicious lesion, and histopathology examination confirmed invasive ductal carcinoma. Notably, the malignancy was ipsilateral to the cutaneous eruption. The temporal sequence, strict dermatomal localization, and absence of known triggers raised suspicion of a paraneoplastic association. The association between LP and malignancy is controversial, with stronger evidence for oral LP and lichen planus pemphigoides. In this case, a neuro-immunologic mechanism may be implicated, wherein tumour related immune activation selectively affects contiguous dermatomes, leading to a localized lichenoid eruption. To our knowledge, ZLP has not previously been reported as a paraneoplastic manifestation. This case highlights a rare presentation of ZLP potentially associated with underlying breast carcinoma and suggests a possible paraneoplastic role.

Keywords: Lichen planus, Zosteriform lichen planus, Carcinoma breast, Paraneoplastic

INTRODUCTION

Lichen planus (LP) is a chronic T-cell-mediated inflammatory dermatosis characterized by pruritic, polygonal, flat-topped, violaceous papules and plaques that may involve the skin, hair, nails, and mucous membranes.[1] The estimated prevalence of LP ranges from 0.1% to 0.5% in the general population, with a female predominance and peak incidence in middle age.[2] The pathogenesis is complex and primarily driven by cell-mediated immunity, involving antigen-specific activation of CD4+ T lymphocytes and natural killer cells, followed by cytotoxic CD8+ lymphocyte-mediated apoptosis of basal keratinocytes at the dermo epidermal junction.[3] Genetic susceptibility and environmental triggers, including infections and drugs, are believed to contribute to disease onset and progression.[4]

Clinically, LP exhibits several variants based on morphology and distribution, which may pose diagnostic challenges. Management depends on disease severity and extent, with topical corticosteroids forming the mainstay of treatment in localized disease, while systemic agents such as corticosteroids, retinoids, and immuno-suppressants are reserved for extensive or refractory cases.[5] Despite available therapies, LP often follows a

chronic relapsing course, with variable response to treatment and a significant impact on quality of life.

Zosteriform lichen planus (ZLP) is a rare clinical variant characterized by lesions arranged in a dermatomal or band-like distribution, often mimicking herpes zoster.[6] Although mucosal LP has been associated with malignant transformation, cutaneous LP is not typically considered a paraneoplastic condition. We report a rare case of ZLP involving the left shoulder and chest in a 54-year-old woman who was subsequently diagnosed with ipsilateral invasive ductal carcinoma of the breast, highlighting a potential previously unrecognized paraneoplastic association and emphasizing the importance of careful systemic evaluation in atypical presentations.

CASE REPORT

A 54-year-old woman presented to the dermatology outpatient department with a one-year history of asymptomatic violaceous papules and plaques arranged in a band-like configuration over the left side of the chest, extending vertically to the left aspect of the neck. The eruption was strictly unilateral and did not cross the midline, demonstrating a dermatomal distribution corresponding predominantly to the C3-T6 segments (Figures 1 and 2).

Figure 1: Violaceous papules and plaques arranged unilaterally in a band-like configuration over the left side back corresponding to the C7–T5 dermatome.

There was no preceding history of herpes zoster, trauma, recent vaccination, drug exposure, radiotherapy, or systemic illness prior to the onset of the eruption. The patient denied symptoms suggestive of chronic viral infections, including hepatitis C. There was no personal history of autoimmune disease or prior malignancy. Oral, scalp, and nails were uninvolved.

Figure 2: Violaceous papules and plaques arranged unilaterally over the left lateral aspect of neck and chest correlating with C3–C5 dermatome.

Based on the clinical morphology and dermatomal distribution, a diagnosis of zosteriform lichen planus was made. At the time of dermatologic evaluation, the patient had not received any chemotherapy or radiotherapy.

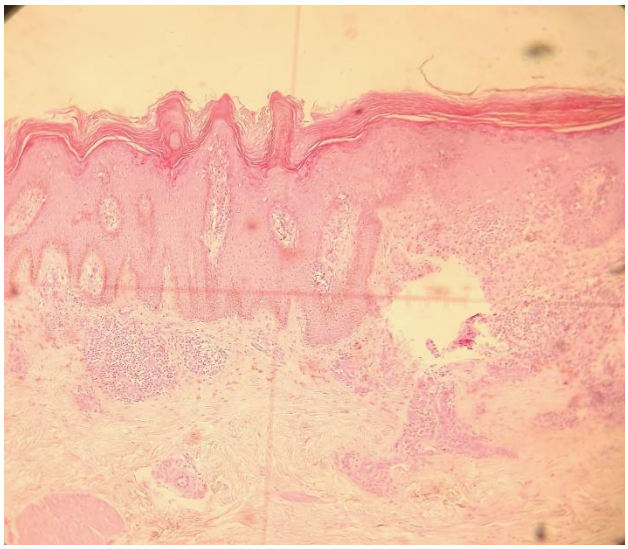

Figure 3: Histopathological examination using light microscope at 10X magnification showing hyperkeratosis, wedge-shaped hypergranulosis, and irregular acanthosis and a dense band-like lymphocytic infiltrate in the upper dermis.

A skin biopsy was obtained from a lesion on the back. Histopathological examination revealed hyperkeratosis, wedge-shaped hypergranulosis, and irregular acanthosis. In addition, a dense band-like lymphocytic infiltrate was

present in the upper dermis, associated with vacuolar degeneration of the basal layer (Figure 3).

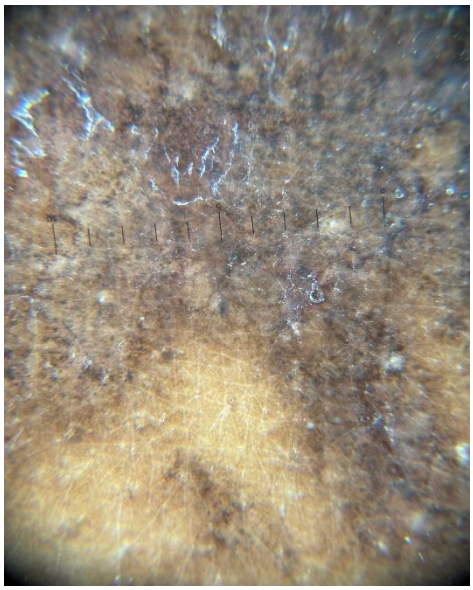

Figure 4: Polarised light dermoscopy using Dermlite 5 showing diffuse brownish pigmentation with reticulate wickham striae.

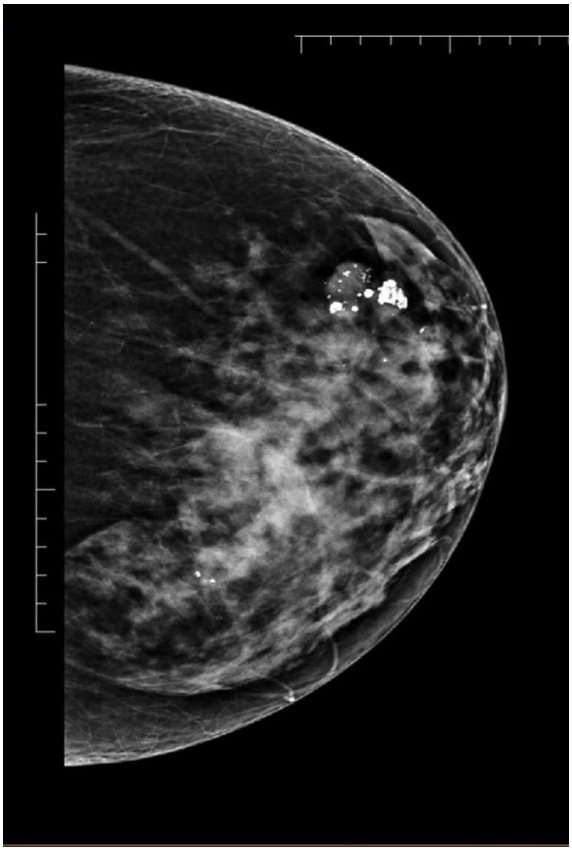

Figure 5: Mammography of left breast showing irregular shaped hypoechoeic irregular shaped masses with few clusters of fine pleomorphic microcalcification measuring 1.9×1.3 cm and 8.0×0.6 cm (BIRADS IV/ V).

These findings were consistent with lichen planus. Dermoscopy performed using DermLite 5 under polarized light demonstrated black-brown dots with diffuse brown pigmentation (Figure 4). During follow-up, approximately six months after the onset of cutaneous lesions, the patient reported a lump in the left breast. Clinical examination revealed a palpable mass in the left breast.

Further evaluation with mammography and ultrasonography demonstrated a suspicious lesion (BI-RADS IV/V) (Figure 5).

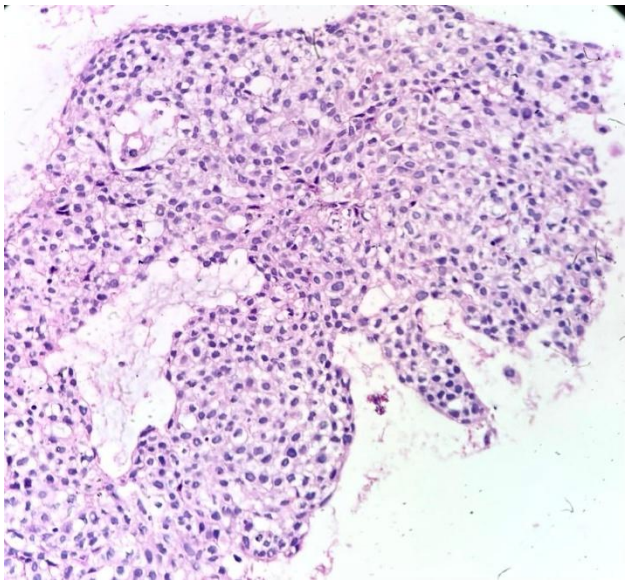

Figure 6: Histopathological examination of modified racial mastectomy (MRM) specimen under light microscopy at 10x magnification showing ductal carcinoma in situ.

The malignancy was located ipsilateral to the cutaneous lesions. The patient was subsequently referred to the oncology department for further management. Histopathological examination confirmed the diagnosis of invasive ductal carcinoma of the left breast (Figure 6).

Considering the temporal relationship between the onset of cutaneous lesions and subsequent diagnosis of ipsilateral breast carcinoma, along with the strict unilateral distribution and absence of identifiable triggers, a possible paraneoplastic association was considered.

DISCUSSION

ZLP is a rare clinical variant of lichen planus characterized by a unilateral, dermatomal, band-like distribution typically confined to one or two contiguous dermatomes.[7] This distinguishes it from Blaschkoid lichen planus, which follows the lines of Blaschko and reflects cutaneous mosaicism rather than dermatomal innervation.[8]

The association between lichen planus and malignancy remains a topic of controversy. Well-documented

associations include oral lichen planus (OLP) and lichen planus pemphigoides in patients with underlying malignancies. García-Pola et al reported a higher frequency of malignancy, particularly breast cancer, among patients with OLP compared to controls.[9] Similarly, González-Moles et al, in a systematic review and meta-analysis, identified an association between OLP and hepatocellular carcinoma, with a reported prevalence of 7.14%.[10] Lichen planus pemphigoides has also been described in association with various malignancies, including gastric carcinoma, lymphosarcoma, neuroblastoma, and craniopharyngioma.

In addition to malignancy, LP has been associated with several immunologic and environmental triggers. A modest increase in oral lichenoid lesions has been reported following hepatitis B vaccination.[11] A stronger association has been demonstrated with hepatitis C virus infection, suggesting a potential pathogenetic link.[12] Furthermore, drug-induced and paradoxical lichenoid eruptions have been increasingly recognized, particularly with biologic agents such as secukinumab, dupilumab, risankizumab, ustekinumab, and ixekizumab.[13]

The mechanisms linking LP and malignancy are not fully understood but are thought to involve tumour-driven immune dysregulation. A pre-existing lichenoid reaction pattern may predispose to humoral autoimmunity against basement membrane components. Alternatively, tumour-associated antigens may trigger a T-cell-mediated lichenoid interface dermatitis, leading to exposure of concealed basement membrane epitopes and subsequent B-cell activation, a phenomenon described as epitope spreading.[14] Additionally, tumour-promoting inflammation and altered immune surveillance may contribute to this process.

To our knowledge, cutaneous ZLP has not previously been described as a paraneoplastic cutaneous marker. In the present case, the sudden onset of a strictly unilateral dermatomal eruption in an older patient, localized to the same side as the subsequently diagnosed breast carcinoma, and occurring in the absence of known triggers including prior herpes zoster, drug exposure, radiotherapy, hepatitis C infection, or Koebnerization raises suspicion of a paraneoplastic association.

A neuro-immunologic mechanism may also be considered, wherein tumour-associated immune activation influences adjacent dermatomes through segmental immune modulation, resulting in a localized lichenoid eruption. We hypothesize that the underlying breast carcinoma may have induced regional T-cell activation or altered neuro-immune signalling, manifesting clinically as ZLP.

CONCLUSION

This case expands the existing literature by suggesting a possible paraneoplastic role of ZLP and highlights the importance of considering underlying malignancy in patients presenting with atypical or unusual patterns of lichen planus, particularly in older individuals without identifiable triggers.

However, this observation is limited by the single-case report, and a causal relationship cannot be definitively established. Further studies are required to validate this association.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Alasmari AA, Albrahim LI, Aleissa M: A unilateral linear pattern of lichen planus pigmentosus. Dermatol Rep. 2023;23:9650.
2. Pelet Del Toro N, Strunk A, Garg A, Han G. Prevalence and treatment patterns of lichen planus. J Am Acad Dermatol. 2025;92(4):717-23.
3. Sneha PS, Seetharamanjaneyulu K, Ramana GV, Saya S. A cross sectional study of lichen planus: It's epidemiological, clinico-histopathogical and serological perspective. IP Indian J Clin Exp Dermatol. 2020;6(1):57-61.
4. Abtahi-Naeini B, Khalili M , Shirdel F, Pourmahdi-Boroujeni M. Different Patterns of Lichen Planus in Three Members of One Family. Case Rep Dermatol Med. 2026:11779887.
5. Ioannides D, Vakirlis E, Kemeny L, Marinovic B, Massone C, Murphy R, et al. European S1 guidelines on the management of lichen planus: a cooperation of the European Dermatology Forum with the European Academy of Dermatology and Venereology. J Eur Acad Dermatol Venereol. 2020;34(7):1403-14.
6. Jivani N, Kota RS, Nair PA. Unilateral zosteriform lichen planus involving multiple noncontiguous dermatomes with oral involvement. Indian Dermatol Online J. 2016:7:539-41.
7. Andijani F. Zosteriform Lichen Planus on the Trunk: A Case Report of a Rare Clinical Entity. Cureus. 2022:5:22867.
8. Eljazouly M, Agharbi FZ, Alj M, Oqbani K, Chiheb S. Blaschko-Linear Lichen Planus Pigmentosus: An Unusual Presentation. Cureus. 2021;13(11):e20047.
9. García-Pola M, Rodríguez-Fonseca L, Llorente-Álvarez C, Llorente-Pendás S. History of Breast Cancer in Patients with Oral Lichen Planus: A Case-Control Study. J Clin Med. 2024;13(23):7208.
10. González-Moles MÁ, de Porras-Carrique T, Ramos-García P. Association of oral lichen planus with hepatic disorders and hepatocellular carcinoma: systematic review and meta-analysis. Med Oral Patol Oral Cir Bucal. 2023;1:229-37.
11. Todorov B, Heiland M, Nahles S, Preissner R, Preissner S, Hertel M. The potential association between oral lichen planus and vaccination against hepatitis B. A real-world study analyzing data from

approximately 200,000 patients. BMC Oral Health. 2025;25(1):1378.
12. Guida S, Tamburelli M. Lichen planus is associated with hepatitis C but not with hepatitis B virus: a systematic review and meta-analysis with a focus on Italian data. Ital J Dermatol Venerol. 2025;7:10.
13. Heidari A, Fathabadi F. A systematic review of the role of interleukin inhibitors in lichen planus: therapeutic and paradoxical effects. Inflammopharmacology. 2025;33:4237-74.
14. Bowen GM, Peters NT, Fivenson DP. Lichenoid dermatitis in paraneoplastic pemphigus-A pathogenic trigger of epitope spreading? Arch Dermatol. 2000;136:652-6.

Cite this article as: Tyagi P, Biswal A, Behera D, Raj C. Zosteriform lichen planus preceding ipsilateral breast carcinoma: a possible paraneoplastic association. Int J Res Dermatol 2026;12:355-9.