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CASE REPORT

A case of lichen planopilaris associated with lichen planus following Blaschko lines successfully treated with topical corticosteroid

Gülbin Yaşar Subaşı[1], Anıl Alpsoy[2], Betül Ünal[2], Erkan Alpsoy[1*]

[1] Department of Dermatology and Venereology, School of Medicine, Akdeniz University, Antalya 07059, Turkey. E-mail: ealpsoy@akdeniz.edu.tr*

[2] Department of Pathology, School of Medicine, Akdeniz University, Antalya 07059, Turkey.

ABSTRACT

Lichen planopilaris (LPP) is characterized by erythematous, keratotic follicular papules and cicatricial alopecia. LPP, the most common cause of cicatricial alopecia, is usually seen in women and causes significant psychosocial morbidity. We describe here a 42-year-old woman with a 6-month history of hair loss accompanied by itching on the scalp. Dermatological examination revealed patchy cicatricial alopecia in the vertex and band-like purple flat patches and plaques following the Blaschko lines on the right half of the body, together with post-inflammatory hyperpigmentation. Histopathological examination of the scalp biopsy was consistent with LPP, while thigh biopsy was consistent with lichen planus. With the histopathological and clinical evidence, our patient was evaluated as LPP associated with LP and successfully treated with topical corticosteroid. A few LPP and LP cases following the Blaschko lines have previously been reported separately. However, LPP, together with LP following Blaschko lines, have not been reported in the same patient.

Keywords: Lichen Planus; Lichen Planopilaris; Blaschko Lines

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1. Introduction

Lichen planopilaris (LPP) is distinguished by erythematous, keratotic follicular papules and cicatricial alopecia, localized especially on the vertex. LPP, the most common cause of cicatricial alopecia, is seen mostly in women between the ages of 40 and 60 and constitutes significant psychosocial morbidity. LPP may be accompanied by skin and mucosal symptoms of lichen planus (LP). Frontal fibrosing alopecia and Graham-Little-Picardi-Lassueur syndrome (GLPLS) are considered as variants of LPP[1]. The exact aetiology is not fully understood but is thought to be associated with an inflammatory response mediated by T lymphocytes targeting follicular antigens[2].

In a few cases, both LPP and LP cases following Blaschko lines have been reported separately in the literature. However, this is the first case report, to our knowledge, of LPP associated with LP following Blaschko lines to be reported in the English literature.

Lichen planus is a disease in which corticosteroids and various immunosuppressive treatments are used in the treatment. In our case, we applied intralesional corticosteroid treatment to the scalp and potent topical corticosteroid for skin lesions.

2. Case report

A 42-year-old female patient was admitted to our clinic with a 6-month history of hair loss accompanied by itching on the scalp. She developed rashes on her body 4 years before admission. Initially, itchy band-like rashes on the right thigh, inguinal and pubic areas were pink-red but eventually became dark red and purple. She had used topical corticosteroids for only lesions on the thigh, inguinal and pubic areas for varying durations in the first years of the disease and 3 months before her admission to our clinic with a partial response. Her past and family history was unremarkable except for hypothyroidism. She did not have a history of herpes zoster before her symptoms appeared. Dermatological examination revealed patchy cicatricial alopecia areas in the vertex (**Figure 1**).

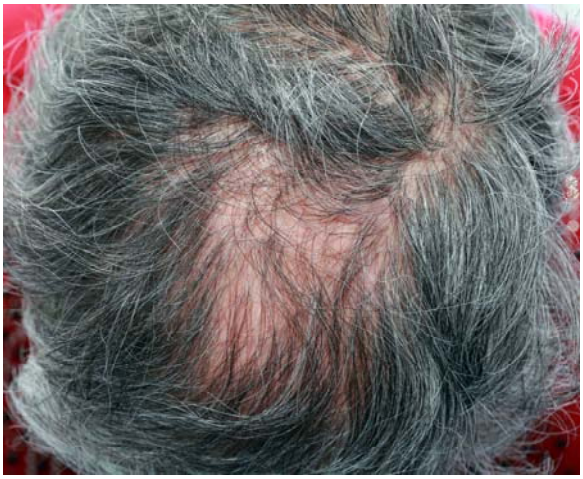

Figure 1. Lichen planopilaris; Patchy cicatricial alopecia areas in the vertex**.**

There were band-like patches and plaques following the Blaschko lines on the right half of the body. Purple flat papules and plaques, together with post-inflammatory hyperpigmentation, were observed in the right inguinal region, pubis, and thigh (**Figure 2**). There were no alopecic areas in the axillary and pubic regions. Scalp dermoscopy showed peripilar casts and cicatricial alopecia patches on the erythematous base where hair follicle openings could not be selected. Examination of mucosal surfaces and nails were normal. Routine laboratory examinations, including viral hepatitis markers, were also normal ranges. Histopathological examination of the scalp biopsy revealed lichenoid infiltration in the basal layer of the follicular epithelium and perifollicular lymphocyte infiltration, consistent with LPP. Thigh biopsy was consistent with lichen planus with hyperkeratosis, regional hyper-granulosis, irregular acanthosis, inflammatory cell infiltration in the upper dermis, and pigment incontinence.

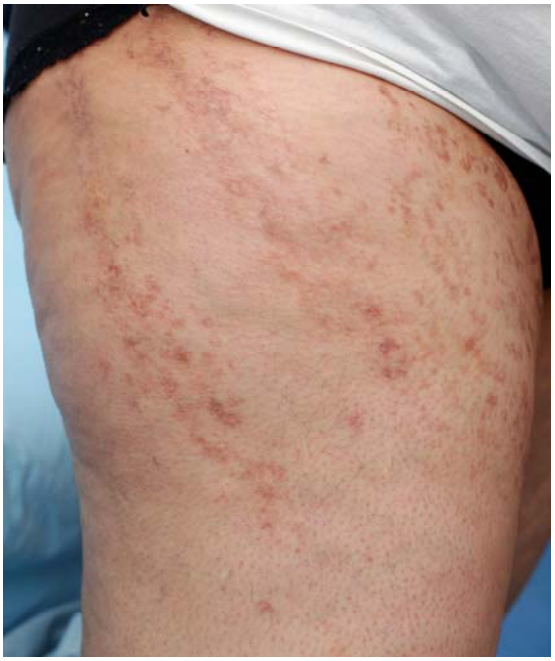

Figure 2. Linear lichen planus; Band-like patches and plaques together with post-inflammatory hyperpigmentation following the Blaschko lines on the right thigh**.**

3. Discussion

LP is an immune-mediated mucocutaneous disease with a broad clinical spectrum. The association of LP and LPP has been reported only in individual patients[2]. There is one exception to this. Vulvovaginal-gingival lichen planus (VVG-LP) is a unique form of LP comprising a triad of symptoms: vulval, vaginal and gingival LP lesions. Recently, Olszewska *et al.*[3] reported that VVG-LP shows an increased association with LPP. They noted that 75% of 16 patients with VVG-LP had LPP of the scalp. Our patient had linear LP, and she did not have mucosal involvement. Linear LP has been described as a zosteriform distribution in the healed herpes zoster regions, following Blaschko lines. It may also develop as an isotopic response in areas previously exposed to trauma (koebnerization). However, we did not detect any history of herpes

zoster or trauma leading to koebnerization. We define here a patient with concomitant LPP and linear LP. In our case, LPP appeared after LP started. To the best of our knowledge, LP preceding the onset of LPP has not been previously reported.

LPP and LP share a common pathogenic pathway, including autoimmune response against some common antigens and/or overexpression IL-23/IL-17 axis[4]. In our case, LPP developed 4 years after the appearance of LP. Some authors consider LPP as the follicular variant of LP[2]. Therefore, it can be speculated that LPP may be developed by following the LP with the immunogenic co-pathway activation. In our case, in contrast to LPP, LP has a pronounced segmental involvement that was following the Blaschko lines. This association may also be explained by type 2 segmental mosaicism, which results in loss of the corresponding wild-type allele occurring at a very early developmental stage in a heterozygous embryo. When this hypothesis is accepted, our case confirms that LPP and LP are only different spectra of the same disease

In conclusion, LPP accompanying linearly located LP in one half of the body has not been reported in the English literature. This situation can be a coincidence. LPP may be developed by following the LP with the immunogenic co-pathway activation or reflect another example of type 2 segmental mosaicism.

Conflict of interest

The authors declare that they have no conflict of interest.

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