ATATÜRK ÜNİVERSİTESİ YAYINLARI
ATATURK UNIVERSITY PUBLICATIONS

Current Research in Dental Sciences

Case Report *Olgu Sunumu*

DOI: 10.5152/CRDS.2024.4972

Erosive Lichen Planus Affecting the Gums: A Case Report

Dişetini Etkileyen Eroziv Liken Planus: Vaka Raporu

Kubilay BARIŞ
H. Ebru OLGUN

Department of Periodontology, Faculty of Dentistry, Kırıkkale University, Kırıkkale, Turkey

ABSTRACT

Oral lichen planus (OLP) is a more common autoimmune inflammatory disease than other dermatoses. It causes symptoms such as painful ulcers and a burning sensation, prompting the patient to seek help from a health-care provider. While it occurs clinically in various forms, the reticular form is the most common. Oral lichen planus is considered by many researchers to be a premalignant condition. The purpose of this case report is to discuss the clinical features of OLP.

Keywords: Malignant transformation, oral lichen planus, OLP etiology

ÖZ

Oral liken planus (OLP) diğer dermatozlara göre daha sık görülen enflamatuvar otoimmün bir hastalıktır. Ağrılı ülserler ve yanma hissi gibi semptomlar oluşturarak hastanın sağlık kuruluşuna başvuru yapmasına neden olmaktadır. Klinik olarak çeşitli formlarda karşımıza çıkarken en sık retiküler form görülmektedir. OLP'un pre-malign olduğu birçok araştırmacı tarafından kabul edilmektedir. Bu vaka raporunun amacı OLP' un klinik özelliklerini tartışmaktır.

Anahtar Kelimeler: Oral liken planus, malign transformasyon, OLP etyolojisi

INTRODUCTION

Lichen planus is a chronic inflammatory disease of unknown etiology that frequently affects mucous membranes, skin, genital mucosa, scalp, and nails. This disease was first described by Erasmus Wilson in 1869.[1] Women are affected twice as often as men.[2] Patients 50 years of age and older are more commonly affected.[3] Lichen planus affecting the oral mucosa is called oral lichen planus (OLP) and may occur alone or together with skin lesions. The incidence of OLP is 1.9%, which is more common than the cutaneous form (0.23%). On clinical examination, OLP can be divided into 6 types: papular, reticular, plaque-like, atrophic, erosive, and bullous types.[4] The most common type is the reticular pattern that appears as thin white lines known as Wickham's striae. The OLP may occur along with systemic diseases such as diabetes mellitus, hepatitis C, and hypertension. Lichenoid lesions can be triggered by various medications, such as antibiotics, antihypertensives, anti-inflammatories, and antimalarials. Metal restorations can also trigger lichenoid reactions in the adjacent oral mucosa.[5] Treatment of OLP is usually performed when erosive lesions or ulcerations are present. Before starting local or systemic treatment, it is important to eliminate all factors that may be responsible. Various therapeutic agents can be used in the treatment of OLP, including topical, intralesional steroid and systemic corticosteroids, immunosuppressants, retinoids, and immunomodulatory drugs.[6]

CASE PRESENTATION

A 52-year-old female patient was admitted to Kırıkkale University Faculty of Dentistry, Department of Periodontology, complaining of pain and redness of the buccal mucosa and gums. During history-taking, it was noted that the red lesions had been in the mouth for 1.5 years with no previous pain and that she suffered from type 2 diabetes. The patient was a nonsmoker. Intraoral examination revealed erosive lesions on the gums and Wickham's striae on the buccal mucosa (Figure 1).

Histopathologic examination and direct immunofluorescence examination by punch biopsy from the gingival area where the lesion was most severe were performed to make a definitive diagnosis (Figure 2).

Histopathological examination of the tissue revealed mucosal tissues, in which epithelial and connective tissues were seen separately. In the fragment belonging to the surface of the parakeratinized mucosal epithelium, degeneration and loss of basal layer cells were observed, and inflammatory cells were found to invade the epithelium. In the connective tissue fragment, lymphocytic infiltration is

Received/Geliş Tarihi: 21.04.2021
Accepted/Kabul Tarihi: 21.09.2021
Publication Date/Yayın Tarihi: 18.01.2024

Corresponding Author/Sorumlu Yazar: Kubilay BARIŞ
E-mail: dt.bkubilay@gmail.com

Cite this article as: Barış K, Olgun HE. Erosive lichen planus affecting the gums: A case report. *Curr Res Dent Sci.* 2024;34(1):80-83.

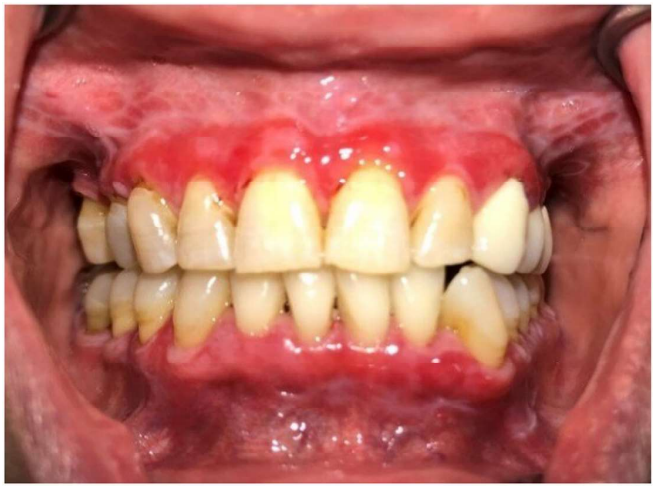

Figure 1. Image of redness on the patient's gums and Wickham's striae on the buccal mucosa.

present in the form of a band in the lamina propria. In the material sent for freezing, limited connective tissue was seen beneath the edematous epithelium. In the immunofluorescence studies performed, fibrinogen was focally positive, whereas C3, immunoglobulin G (IgG), IgM, and IgA were negative. As a result of clinical and histopathological examinations, the patient was diagnosed with erosive lichen planus. As part of periodontal treatment, the patient was recommended a mouth rinse with 0.2% chlorhexidine gluconate to remove calculus and train oral hygiene. The patient was recommended topical clobetasol propionat. for 2 weeks. After the application of topical corticosteroids, it was recommended not to eat or drink anything for at least 1 hour to allow the drug to remain on the surface of the lesion for a while. As a result of the treatments, the patient's burning or painful symptoms disappeared (Figure 3).

During regular follow-up, the lesions were found to recur after 6 months (Figures 4 and 5). The patient was consulted by the department of dermatology, and a follow-up examination was performed in our clinic.

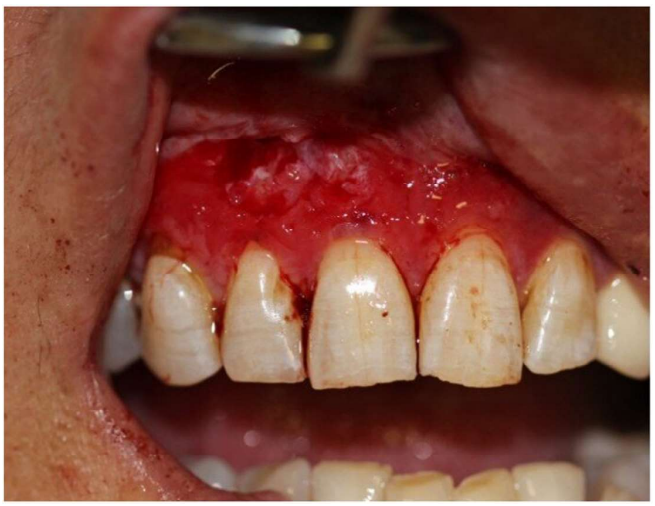

Figure 2. The appearance after performing a punch biopsy.

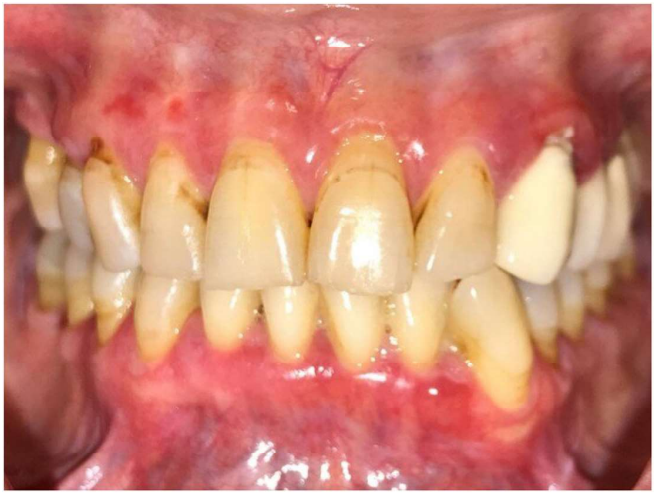

Figure 3. The appearance 1 month after the application of topical clobetasol propionate.

DISCUSSION

Although the etiology is not fully known, the disease is thought to be caused by a specific antigenic mechanism or autoimmune response triggered by alteration of epithelial basal cells, as well as nonspecific mechanisms and multivariate factors. Antigen-specific mechanisms may include limited antigen presentation by lesional keratinocytes, including major histocompatibility complex (MHC) class I and MHC class II. Many nonspecific mechanisms may play a role, including heat shock proteins, reactive oxygen products, stress, and mast cell chemotaxis.[7] The incidence of the disease is higher than that of other dermatoses and is more common in older women than in men. It is said that the lesion can be precancerous and turn into a malignant lesion. In particular, OLP has a risk of transforming into oral squamous cell carcinoma, and various publications have reported that this risk ranges from 0-12.5%.[8] However, there are authors who do not consider lichen planus lesions to be malignant.[9]

There are factors such as human leukocyte antigen, dental materials, infectious agents (gram-negative anaerobic bacilli and

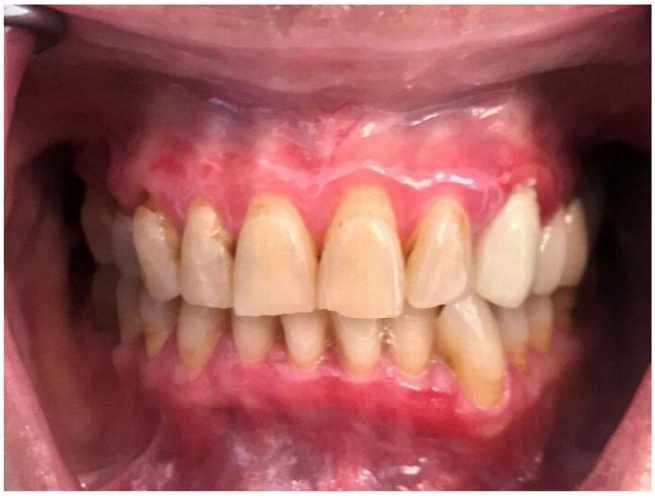

Figure 4. The control picture of the patient after 3 months.

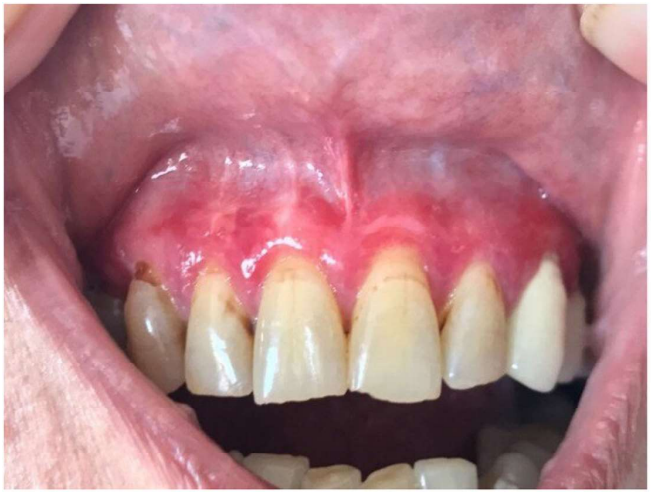

Figure 5. The patient's control appearance after 6 months.

spirochetes), and stress that have various contributions to OLP. Oral lichen planus has been associated with diabetes, hypertension, hepatitis C virus, thyroid disease, celiac disease, and other immune-mediated diseases.[10,11] In support of the literature, type II diabetes is known to be present in our case. On the contrary, 3 months after receiving the diagnosis of erosive lichen planus, our patient was admitted to the Department of Internal Medicine for examination, and hypertension was diagnosed during the examinations. A case of Grinspan syndrome with the triad of OLP, diabetes, and hypertension has been described in the literature. Because drug treatment for diabetes and hypertension can cause lichenoid reactions on the oral mucosa, it has been questioned whether Grinspan syndrome is an iatrogenically induced syndrome.[10] The fact that our patient was diagnosed with hypertension following treatment with OLP suggests that the drugs he was taking could cause this. Diabetes and hypertension medications can cause lichenoid reactions, and treatment of OLP can also lead to iatrogenic hypertension. Our case presentation represents new information in the literature in this regard.

The areas most commonly affected by OLP are the buccal mucosa, tongue, lips, gums, floor of the mouth, and palate. A burning sensation in the oral mucosa is a common symptom. In erosive OLP, varying degrees of ulceration may occur. The periphery of the lesion can usually be demarcated by thin, white, radiating lines—Wickham's striae. Involvement of the gingiva in erosive OLP can lead to desquamative gingivitis, which is why pain and burning in the affected area make the patient symptomatic. In our case, the anterior gingival region is affected, which is frequently mentioned in the literature and is symptomatic. This clinical presentation is not only a specific presentation for OLP. A similar clinical presentation can occur in many diseases, such as cicatricial pemphigoid, lupus erythematosus, pemphigus vulgaris, and linear IgA dermatosis. In addition, conditions such as hormonal disorders, candidiasis, lichenoid lesions, and vulvovaginal-gingival syndrome should be considered in the differential diagnosis of oral erosive lichen planus.[12,13] Our definitive diagnosis was made by biopsy. In our case, direct immunofluorescence (DIF) was performed for the differential diagnosis of diseases of the pemphigus group (paraneoplastic pemphigus) and pemphigoid (mucous membrane pemphigoid).[14] Immunoglobulin G and C3 were negative. Antibodies raised against the cell surface of keratinocytes can be detected in the diagnosis of diseases of the pemphigus group. The detection of specific antibodies against the intermediate substance (matrix) in the tissue and serum of the pemphigus patient is necessary for a definite diagnosis. Immunofluorescence techniques are now one of the most important diagnostic methods for immunobullous diseases.[15] Intercellular IgA deposits are observed in 50% of cases of IgA pemphigus at DIF. In our case, IgA was negative for linear IgA in direct immunofluorescence.

The goal of treating symptomatic OLP is to relieve sore ulceration or a burning sensation. A staged approach should be adopted. There is limited evidence from randomized controlled trials on the exact efficacy of the various commonly used preparations. In addition to treatment, patients should be educated about the need for good oral hygiene, and all causes of mucosal trauma, such as inappropriate dentures, sharp points, and weak dental restorations, should be eliminated.[16] Patients should be educated that there is a very low risk of malignancy associated with OLP and that long-term surveillance is appropriate.[17] In our case, it was suggested that the dentures be replaced, but the patient stated that he would have this done later because he was working a lot.

When treating OLP, pay attention to the medications used. Since the cause of OLP is currently unknown, there are no specific preventive measures for this disease. Diseases associated with OLP should be carefully investigated. However, regular clinical follow-up should be performed to exclude the risk of malignancy. For early diagnosis of oral squamous cell carcinoma, long-term follow-up of patients with OLP is required. Follow-up intervals can be adjusted to 2 months or 12 months, depending on the patient.

Informed Consent: Written informed consent was obtained from the patients who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – K.B, H.E.O.; Design – K.B, H.E.O.; Supervision – K.B, H.E.O.; Resources – K.B.; Data Collection – K.B, H.E.O.; Analysis and Interpretation – K.B, H.E.O.; Literature Search – K.B, H.E.O.; Writing Manuscript – K.B.; Critical Review – H.E.O.

Declaration of Interests: The authors declare that they have no competing interests.

Funding: The authors stated that the study did not receive any financial support.

Hasta Onamı: Bu çalışmaya katılan tüm hastalardan yazılı onam formu alınmıştır.

Hakem Değerlendirmesi: Dış bağımsız.

Yazar Katkıları: Fikir– K.B., H.E.O.; Tasarım – K.B., H.E.O.; Denetleme – K.B., H.E.O.; Kaynaklar – K.B.; Malzemeler – K.B., H.E.O; Veri Toplanması ve/veya İşlemesi – K.B., H.E.O.; Analiz ve/veya Yorum – K.B., H.E.O.; Literatür Taraması – K.B., H.E.O.; Yazıyı Yazan – K.B.; Eleştirel İnceleme – H.E.O.

Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemişlerdir.

Finansal Destek: Yazarlar bu çalışma için finansal destek almadıklarını beyan etmişlerdir.

REFERENCES

1. Usatine RP, Tinitigan M. Diagnosis and treatment of lichen planus. *Am Fam Phys*. 2011;84(1):53-60.

2. Gupta R, Garg M, Gupta S, Gupta N. Erosive liken planus of gingiva-a case report. *IP Indian J Clin Exp Dermatol*. 2020;6(3):294-297.
3. Fang M, Zhang W, Chen Y, He Z. Malignant transformation of oral lichen planus: a retrospective study of 23 cases. *Quintessence Int*. 2009;40(3):235-242.
4. Farhi D, Dupin N. Pathophysiology, etiologic factors, and clinical management of oral lichen planus, part I: facts and controversies. *Clin Dermatol*. 2010;28(1):100-108. [CrossRef]
5. Kaya D, Aküzüm D, Kaya P, Darı D. *Oral Eroziv Liken Planus-Bir Olgu. J Dent Fac Ataturk Univ*. 2005:76-80.
6. Alsarraf A, Mehta K, Khzam N. The gingival oral Lichen Planus: A periodontal-oral medicine approach. *Case Rep Dent*. 2019;2019:4659134. [CrossRef]
7. Carrozzo M, Francia Di Celle P, Gandolfo S, et al. Increased frequency of HLA-DR6 allele in Italian patients with hepatitis C virus-associated oral lichen planus. *Br J Dermatol*. 2001;144(4):803-808. [CrossRef]
8. Georgakopoulou EA, Troupis TG, Troupis G, Gorgoulis VG. Update of the cancer-associated molecular mechanisms in oral lichen planus, a disease with possible premalignant nature. *J B.U.ON*. 2011;16(4):613-616.
9. Radochová V, Koberová Ivančaková R, Heneberk O, Slezák R. The characteristics of patients with oral Lichen Planus and malignant transformation-A retrospective study of 271 patients. *Int J Environ Res Public Health*. 2021;18(12):6525. [CrossRef]
10. Lamey PJ, Gibson J, Barclay SC, Miller S. Grinspan's syndrome: a drug-induced phenomenon? *Oral Surg Oral Med Oral Pathol*. 1990;70(2):184-185. [CrossRef]
11. Lauritano D, Arrica M, Lucchese A, et al. Oral lichen planus clinical characteristics in Italian patients: a retrospective analysis. *Head Face Med*. 2016;12:18. [CrossRef]
12. Sobel JD. Erosive vulvovaginitis. *Curr Infect Dis Rep*. 2003;5(6):494-498. [CrossRef]
13. Karagoz G, Bektas-Kayhan K, Unur M. Desquamative gingivitis: a review. *J Istanb Univ Fac Dent*. 2016;50(2):54-60. [CrossRef]
14. Chen M, Hallel-Halevy D, Nadelman C, Woodley DT. Epidermolysis bullosa acquisita. In: *Autoimmune Diseases of the Skin*. Hertl M, ed. Springer: Vienna; 2005:109-132.
15. Bhagat N,Raj R,Arora R. Pemphigus vulgaris in pregnancy with transient neonatal pemphigus-can psychological stress be culprit? *Int J Reprod Contracept Obstet Gynecol*. 2017;6(10):4703-4707. [CrossRef]
16. Sato M, Tokuda N, Fukumoto T, Mano T, Sato T, Ueyama Y. Immun ohistopathological study of the oral lichenoid lesions of chronic GVHD. *J Oral Pathol Med*. 2006;35(1):33-36. [CrossRef]
17. Tovaru S, Parlatescu I, Gheorghe C, Tovaru M, Costache M, Sardella A. Oral lichen planus: a retrospective study of 633 patients from Bucharest, Romania. *Med Oral Patol Oral Cir Bucal*. 2013;18(2):e201-e206. [CrossRef]