

# Oral lichen planus with cutaneous manifestations: case report with emphasis on dental diagnostic criteria

## *Líquen plano oral com manifestações cutâneas: relato de caso com ênfase nos critérios de diagnóstico odontológico*

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### ABSTRACT

Lichen planus is a chronic inflammatory disease involving the skin and mucosa, which often affects the oral cavity. The objective of this study is to report a case of oral lichen planus (OLP) with cutaneous manifestations and to discuss the clinical, histopathological aspects and the established treatment. A 61-years-old female white patient was referred for evaluation of white lesions in the oral mucosa. In the intraoral examination, multiple white lesions with striated appearance were observed in the jugal mucosa, tongue and border. The extraoral examination revealed scaly lesions on the arm, white spots on the legs, and nail dystrophy on feet. Based on biopsy of the oral lesions and the histopathological analysis, the diagnosis of OLP was confirmed. The patient underwent treatment with clobetasol propionate topical cream (0.5 mg), and was instructed to apply it to affected area, once or twice a day for four weeks. In the clinical follow-up after one month and 15 days, the improvement of the lesions could be analyzed. As OLP is a disease with an etiopathogenesis that is still poorly recognized, several factors may enable the development of this condition. Therefore, the dentist's clinical view is essential for the most effective treatment.

**Key words:** oral lichen planus; stomatology; oral manifestations; oral pathology.

### RESUMO

*O líquen plano é uma doença inflamatória crônica que envolve pele e mucosa, acometendo frequentemente a cavidade bucal. Os objetivos deste estudo são relatar um caso de líquen plano oral (LPO) com manifestações cutâneas e discutir os aspectos clínicos e histopatológicos, bem como o tratamento estabelecido. Relatamos o caso de uma mulher, 61 anos de idade, leucoderma, que foi encaminhada para avaliação de lesões brancas na mucosa bucal. Ao exame intraoral, foram observadas múltiplas lesões brancas com aspecto estriado em mucosa jugal, língua e rebordo; ao exame extraoral, lesões de aspecto descamativo no braço, manchas brancas nas pernas e unhas distróficas nos pés. Com base na biópsia das lesões bucais e na análise histopatológica, o diagnóstico de LPO foi confirmado. A paciente foi submetida ao tratamento com propionato de clobetasol em creme (0,5 mg) e orientada a fazer a aplicação na área afetada, uma a duas vezes ao dia, durante quatro semanas. No acompanhamento clínico após um mês e 15 dias, pôde-se analisar a melhora das lesões. Por se tratar de uma doença com etiopatogênese ainda pouco reconhecida, vários fatores podem possibilitar o desenvolvimento dessa condição. Dessa forma, é imprescindível o olhar clínico do cirurgião-dentista para o tratamento mais eficaz.*

**Unitermos:** líquen plano oral; estomatologia; manifestações orais; patologia bucal.

## RESUMEN

*El liquen plano es una enfermedad inflamatoria crónica que involucra piel y mucosa, con frecuencia de la cavidad bucal. Los objetivos de este estudio son reportar un caso de liquen plano oral (LPO) con manifestaciones cutáneas y discutir sus aspectos clínicos e histopatológico, así como el tratamiento establecido. Reportamos el caso de una mujer de 61 años de edad, raza blanca, que fue remitida para evaluación de lesiones blancas en la mucosa bucal. En el examen intraoral se observaron lesiones blancas múltiples estriadas en mucosa yugal, lengua y cresta; en el examen extraoral, lesiones descamativas en el brazo, manchas blancas en las piernas y uñas distróficas en los pies. Basándose en la biopsia de las lesiones bucales y en el análisis histopatológico, el diagnóstico de LPO se confirmó. La paciente fue sometida a tratamiento con propionato de clobetasol crema (0,5 mg) y aconsejada a aplicar el medicamento sobre el área afectada, una o dos veces al día, por cuatro semanas. En el seguimiento clínico, al cabo de un mes y 15 días, fue posible analizar la mejoría de las lesiones. Por tratarse de una enfermedad de etiología todavía poco conocida, varios factores pueden favorecer su desarrollo. Así, el ojo clínico del cirujano dentista es imprescindible para un tratamiento más efectivo.*

*Palabras clave: liquen plano oral; estomatología; manifestaciones bucales; patología bucal.*

## INTRODUCTION

Lichen planus is an immunologically mediated disease that involves the mucocutaneous region; it is one of the most frequently diagnosed dermatological disorders<sup>(1)</sup>. Female is more affected, usually in a ratio of 3:2 in relation to male<sup>(1,2)</sup>. This manifestation can occur alone in the oral cavity or with skin lesions associations, simultaneously<sup>(2)</sup>.

Although oral lichen planus (OLP) is believed to be an autoimmune disease, mediated by T cells, its etiology is not fully elucidated<sup>(1)</sup>. The altered immune response results in apoptosis of keratinocytes in the basal layer<sup>(2)</sup>. Psychological factors, such as anxiety and depression, can trigger this disease<sup>(3)</sup>.

Because it is a mucocutaneous alteration, OLP can manifest on the skin, scalp, nails, and mucous membranes<sup>(3)</sup>. The oral cavity is often the first site of lichen planus involvement. In certain cases, it is the only form of presentation<sup>(4)</sup>.

The OLP can be presented in several clinical forms: reticular, atrophic, papular, erosive, bullous and erythematous. These different presentations represent variations in intensity and duration of the pathological process<sup>(3,4)</sup>. The different forms can occur simultaneously, and the predominant clinical appearance can change over time in the same patient<sup>(3)</sup>. The malignancy potential of the OLP is still controversial; the atrophic, ulcerated and erosive types have a higher incidence of malignant transformation<sup>(5)</sup>.

The classic histopathological characteristics must be evaluated to make a definitive diagnosis of OLP<sup>(3)</sup>. Among the characteristics analyzed, the following stand out: liquefactive degeneration of the

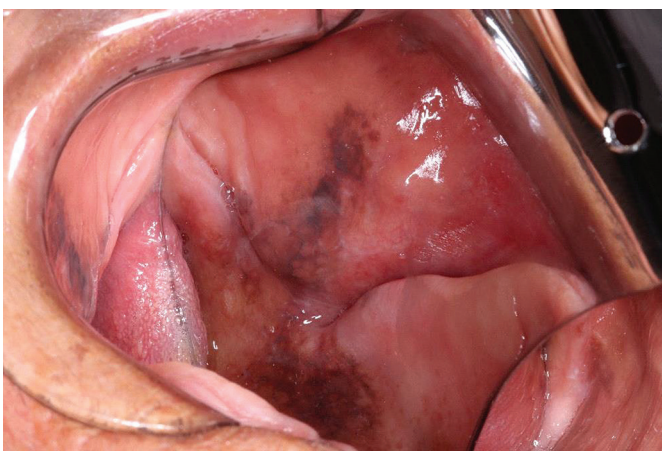
basal cell layer, dense lymphocytic inflammatory infiltrate in the subepithelial region, epithelial prominences with saw-tooth appearance, Civatte bodies, and hyperkeratosis<sup>(4,5)</sup>.

According to the clinical presentation, the OLP may not present symptoms, however, there are situations in which there may be candidiasis overlap; in these events, antifungal therapy is necessary<sup>(3,4)</sup>. In cases where the OLP presents the erosive and atrophic subtype, painful symptoms occasionally occur, and treatment with topical corticosteroids, such as fluocinonide, betamethasone, and clobetasol gel, is essential<sup>(2,3)</sup>.

## CASE REPORT

Female patient, 61 years old, white, was referred to a reference service in oral diagnosis with asymptomatic leukoplakic lesions in the oral mucosa. On intraoral examination, multiple white lesions with striated appearance were observed in the jugal mucosa (**Figure 1**); on extraoral examination, scaly and, in some points of the arm, ulcerated lesions were observed (**Figure 2**). When questioned, the patient clarified her various unsuccessful attempts to resolve dermatitis, having used antibiotic therapy.

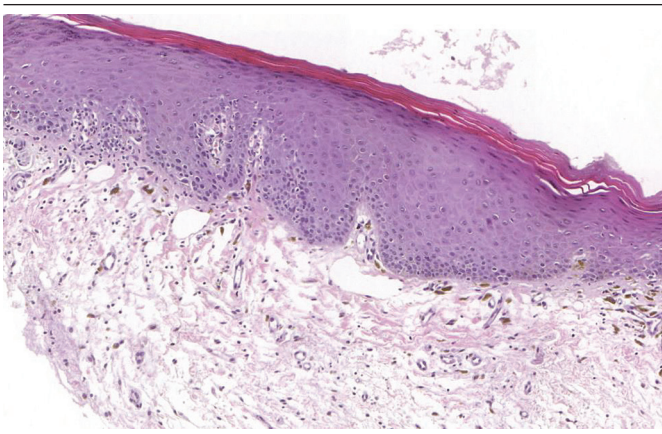
The clinical diagnosis was OLP. A biopsy of the oral lesion of the jugal mucosa was performed for further histopathological analysis. Microscopic examination revealed fragments of the oral mucosa covered by parakeratinized stratified squamous epithelium, showing intense subepithelial lymphocytic inflammatory infiltrate. In the connective tissue, hyperemic blood vessels and collagen fibers randomly dispersed were observed (**Figure 3**). According to the histopathological analysis and



**FIGURE 1** – Intraoral appearance of the patient. Jugal mucosa region showing white striated lesion



**FIGURE 2** – Skin appearance of the patient. Scaly and ulcerative lesions in the arms are observed



**FIGURE 3** – Microscopic analysis of the jugal mucosa region. Hyperkeratosis and mild lymphocytic inflammatory infiltrate in the subepithelial region are observed, as well as melanophagus

clinical findings, the diagnosis of OLP was confirmed. The patient was referred for medical evaluation due to the skin lesions and, subsequently, she was treated with clobetasol propionate cream (0.5 mg), a topical corticosteroid used to relieve inflammatory and pruritic manifestations of steroid-responsive dermatitis. Then, she was instructed to apply the medication to affected area, once or twice a day, for up to four weeks, until improvement of the condition. In the clinical follow-up after one month and 15 days, it was possible to analyze the improvement of the lesions, both in the oral mucosa and in the skin.

## DISCUSSION

The OLP may present with different clinical aspects. The most affected regions are the oral mucosa, tongue, gingiva, labial mucosa, and lower lip vermilion<sup>(6)</sup>; all are in agreement with the present case. About 10% of patients with OLP have the disease confined to the gums, differently from the case presented here<sup>(6)</sup>. Our patient presented ulcerated skin repercussions, which could justify the fact that the lesions are pruritic, causing lesions. In general, the OLP affects the flexor surfaces of the extremities<sup>(5,7,8)</sup>.

The diagnosis of this lesion is established considering the clinical and histopathological aspects<sup>(5)</sup>. The OLP makes a differential diagnosis mainly with lichenoid reactions to drugs or dental materials, leukoplakia, lupus erythematosus, and graft versus host disease in bone marrow transplant patients<sup>(5,8)</sup>.

There are reports of malignant transformation of OLP into squamous cell carcinoma, although there is no established consensus on the real malignancy potential of this lesion<sup>(8,9)</sup>. The frequency of malignant transformation varies from 0.4% to 5%, with the highest rate observed in erythematous and erosive lesions<sup>(10)</sup>. Some studies indicate that the atrophic lichen planus epithelium may be more susceptible to the action of carcinogenic agents, resulting in an increased risk of malignant transformation<sup>(10)</sup>.

In 1978, the World Health Organization (WHO) defined leukoplakia as a white plaque, which does not disappear with scraping and is not compatible with an established pathological, clinical and histological entity<sup>(9)</sup>. In disagreement, some researches argue the possibility that the reports of malignant transformation are not OLP, but, rather, dysplastic leukoplakia with a secondary lichenoid inflammatory infiltrate that resembles lichen planus (lichenoid dysplasia)<sup>(7)</sup>. Other studies corroborate these findings, arguing that the likelihood of

malignancy of oral lichenoid lesions (OLL) is higher than that of OLP. In the study by Cassol-Spanemberg J *et al.* (2018)<sup>(10)</sup>, the same reference is presented: from the 32 patients who participated in the research, eight presented OLP; none evolved into oral cancer. From the 24 patients with OLL, two achieved malignant transformation<sup>(6)</sup>. Such data are different from those shown by the WHO, whose mean malignant transformation is close to 55.9 months<sup>(5,6)</sup>.

The treatment of lesions with clobetasol propionate cream is the first line of treatment for symptomatic OLP lesions and has been shown to be an effective and reliable alternative, since it has reduced side effects compared to systemic corticosteroids, in addition to having excellent cost- benefit in longer follow-ups,

in agreement with what was established for the present case and in accordance with other studies already carried out<sup>(3,4)</sup>.

## CONCLUSION

From this clinical case, we can conclude that patients with OLP may develop skin lesions that will not always be diagnosed. As it is a disease of poorly established etiology, several factors may be associated with the development of this condition, which prevents a correct diagnosis. The clinical view of the dentist is essential for the effective treatment of lichen planus, as reported in this article, thus providing a better prognosis for the patient.

## REFERENCES

1. Durigon M, Trentin MS, Silva SO, Carli JP, Neves M. Líquen plano oral: reconhecendo a doença e suas características básicas. *Salusvita*. 2015; 34: 87-97.
2. Canto AM, Müller H, Freitas RR, Santos PSS. Líquen plano oral (LPO): diagnóstico clínico e complementar. *An Bras Dermatol*. 2010; 85: 669-75.
3. Tanda N. Expression of apoptotic signaling proteins in leukoplakia and oral lichen planus: quantitative and topographical studies. *J Oral Pathol Med*. 2000; 29: 385-93.
4. Danielli J, Vilanova LSR, Pedroso L, Silva MAG. Protocolo de atendimento e acompanhamento do paciente com diagnóstico de líquen plano oral. *Rev Odontológica Brasil Central*. 2010; 19: 1.
5. Alrashdan MS, Cirillo N, McCullough M. Oral lichen planus: a literature review and update. *Arch Dermatol Res*. 2016; 308: 539-51.
6. Di Stasio D, Guida A, Salerno C, et al. Oral lichen planus: a narrative review. *Front Biosci*. 2014; 3: 1-3.
7. Olson MA, Rogers RS, Bruce AJ. Oral lichen planus. *Clin Dermatol*. 2016; 34: 495-504.
8. Peng Q, Zhang J, Zhou G. Circulating exosomes regulate T-cell mediated inflammatory response in oral lichen planus. *J Oral Pathol Med*. 2018; 4: 20-3.
9. Sulewska M, Duraj E, Sobaniec S, et al. A clinical evaluation of efficacy of photodynamic therapy in treatment of reticular oral lichen planus: a case series. *Photodiagnosis Photodyn Ther*. 2019; 25: 50-7.
10. Cassol-Spanemberg J, Rodríguez-deRivera-Campillo ME, Otero-Rey EM, Estrugo-Devesa A, Jané-Salas E, López-López J. Oral lichen planus and its relationship with systemic diseases. A review of evidence. *J Clin Exp Dent*. 2018; 10: 938-44.

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