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CASE STUDY

Management of erosive oral lichen planus

Fimma Naritasari*✉, Ayu Fresno Argadianti*, Nida Arum Fadilah**

*Department of Oral Medicine, Faculty of Dentistry, Universitas Gadjah Mada, Yogyakarta, Indonesia
**Dentist Profession Education, Faculty of Dentistry, Universitas Gadjah Mada, Yogyakarta, Indonesia
*Jl Denta No 1 Sekip Utara, Yogyakarta, Indonesia; ✉ correspondence: drgfimmanarita@mail.ugm.ac.id

ABSTRACT

Oral lichen planus (OLP) is an autoimmune disease that commonly affects the mucocutaneous area. The etiology of OLP remains unclear, but several factors are considered risk factors, such as chronic liver disease (hepatitis C infection), stress, genetics, hypertension, diabetes, smoking, and tobacco chewing. OLP often causes pain, especially during exacerbation periods. OLP management aims to reduce symptoms, improve clinical conditions, reduce the risk of oral cancer, and maintain oral health. This case report presents a case of OLP in a 54-year-old Javanese female patient with complaints of pain in her oral cavity that persisted for three weeks. The same condition occurred three months earlier, but it resolved without treatment. Clinical examination of pathognomonic features of OLP in the form of white, mesh-shaped lesions (Wickham striae) on the buccal and gingival mucosa is the basis for determining the diagnosis of OLP. The ulcerative type of OLP is established based on the appearance of ulcerated lesions in the tongue area and complaints of pain. The patient had a history of hypertension with regular consumption of captopril for the past three years., but there was no documented history of allergies. The results of the psychological assessment with DASS-42 revealed that the patient experienced very severe anxiety, moderate depression, and mild stress. Management in this case was done by prescribing topical corticosteroid, which is dexamethasone mouthwash, which was gargled by the patient twice a day. One month after therapy, the ulcerative lesions on the tongue resolved entirely, and pain complaints disappeared. In this case, topical corticosteroids effectively reduced symptoms and improved the clinical condition. However, long-term follow-ups are necessary to ensure that the lesion does not transform into a malignant lesion.

Keywords: case report; oral lichen planus; topical corticosteroid; ulcerative lesion

INTRODUCTION

Lichen planus is a chronic mucocutaneous disorder that affects the skin, nails, scalp, and mucous membranes in the genitalia and mouth. Oral lichen planus (OLP) is an autoimmune disorder mediated by T-cells, where autoreactive cytotoxic CD8+ T cells induce apoptosis in the basal layer of oral epithelial cells.[1] In dental practice, cutaneous lichen planus (LP) is reported in approximately one-third of patients diagnosed with OLP, whereas in dermatological settings, OLP is present in two-thirds of patients.[2]

The etiology of OLP remains unclear, but several factors are considered risk factors, such as chronic liver disease (hepatitis C infection), stress, genetics, hypertension, diabetes, smoking, and tobacco chewing.[3] Recent studies indicate that the overall pooled prevalence of OLP is estimated at 0.89% in the general population and 0.98% among clinical patients. The prevalence of OLP is notably higher in non-Asian countries, particularly among women and individuals aged 40 and above.[4]

OLP is classified into six subtypes: reticular, papular, plaque-like, erosive, atrophic, and bullous. Erosive oral lichen planus (OLP) presents as an ulcerated, erythematous, and inflamed area, often exhibiting a white, lacy pattern. This subtype typically causes discomfort or pain for the patient and is frequently described as burning or unpleasant.[5] The diagnosis of OLP is based on both clinical and histopathological characteristics. Clinical observations are generally sufficient for diagnosis, particularly when patients display characteristic lesions such as Wickham's striae. Nevertheless, a biopsy is advised to distinguish OLP from other potential lesions.[6]

Therapy given to OLP patients follows the signs and symptoms of the disease, where the

principle of OLP management is to reduce pain and support lesion resolution.[1] No pharmacologic intervention is required in asymptomatic, non-ulcerative lesions of OLP.[7] Current therapies for OLP include drug therapy, surgery, psoralen with ultraviolet light A (PUVA), and laser.

METHODS

A 54-year-old Javanese female patient came to Professor Soedomo Dental Hospital of Universitas Gadjah Mada, Yogyakarta, Indonesia, with complaints of pain in the oral cavity that lasted for three weeks. The pain interfered with eating and sleeping. Three months earlier, the patient had similar episodes, which resolved without treatment. To manage the pain, the patient used a pain relief powder found on the market, but it proved to be largely ineffective. The pain was on a 6 VAS scale. A medical history examination showed that the patient had a history of hypertension and regularly consumed captopril. On arrival, the patient's blood pressure was 140/90 mmHg. The patient admitted that she had no history of hospitalization or allergies. At the time this case report was written, the patient was having complete dentures made because she no longer had teeth. Family history showed no association with the occurrence of disease. The patient did not smoke nor use tobacco products. The patient lived with her husband and worked as a scavenger in a densely populated settlement. Before the examination procedure, the patient has given consent to carry out examinations and treatment according to hospital regulations.

Extra oral examination showed no abnormalities. The patient stated no lesions in other areas of the body. On intraoral examination, whitish reticular lesions were found on the bilateral buccal mucosa and upper and lower gingival mucosa. Ulcerated lesions appeared on the right lateral area of the tongue (Figure 1). The diagnosis of OLP is based on the appearance of reticular

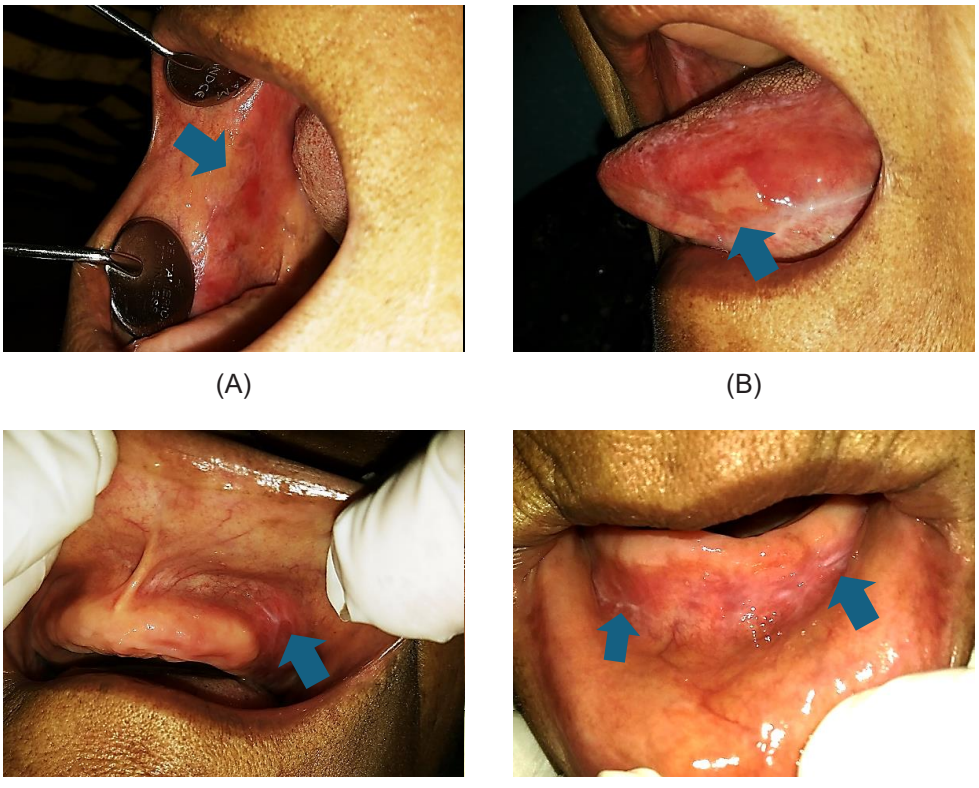


Figure 1. Oral Clinical Findings from the Patient's First Visit. (A) White reticular lesion on the buccal mucosa, (B) Oral ulceration on the left side of the lateral tongue, (C) & (D) white reticular lesion on gingival

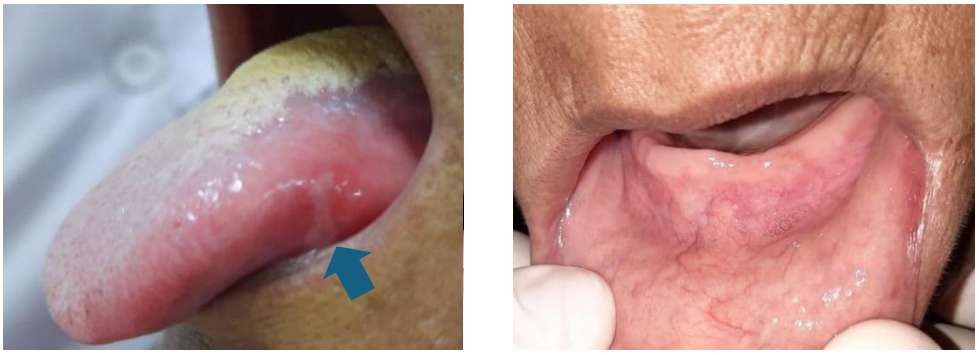
white lesions on the buccal and gingival mucosa, a typical or pathognomonic feature of OLP called Wickham striae. The ulcerative type of OLP is established based on the appearance of ulcerated lesions in the tongue area and complaints of pain.

The patient was assessed for psychological condition using the Depression Anxiety Stress Scales (DASS-42). This is because stress might be a key factor leading to the exacerbations of OLP. The results of the assessment using the DASS-42 showed a depression score of 15 (moderate), an anxiety score of 20 (very severe), and a stress score of 16 (mild). Complete blood tests and fasting blood sugar levels of the patient supported the examinations. Complete blood tests are used to screen any underlying systemic problems, and fasting blood glucose is used to rule out diabetic conditions. Histopathological examination was not carried out because the patient refused the procedure. The results of the supporting examinations are summarized in Table 1.

The management for this patient involved education related to OLP. This autoimmune disease cannot be cured, but its recurrence and symptoms can be managed. Patients are also asked to avoid foods that can trigger pain, such as foods that are too hot, spicy, or sour. Medication therapy for this patient was dexamethasone

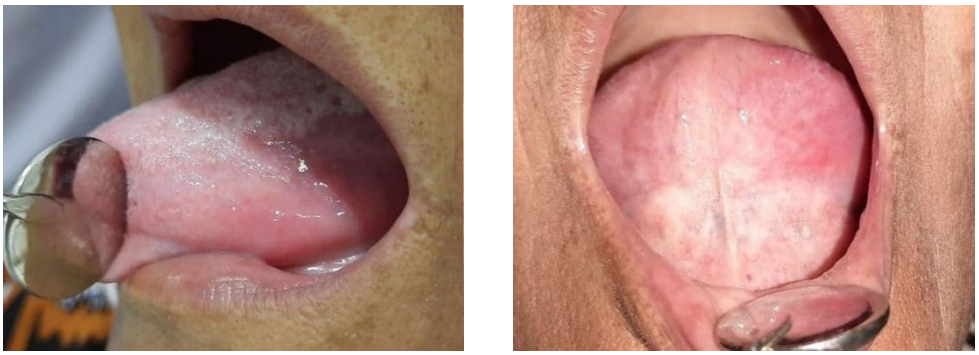
Table 1. Patient Laboratory Finding

Types of Clinical Pathology Examinations	Result	Reference Value
Complete Blood Count		
Hemoglobin	1211	11.7-15.5 g/dL
Erithrosit (RBC)	5.26	3.8-5.2x10^6/⌠L
Hematocrit	37.5	34-47%
MCV	71.3	80-100%
MCH	23.0	26-34 pg
MCHC	32.3	32-36 g/dL
RDW CV	13.2	11.5-14.5 %
Leucocyte	4,200	3,600-11,000/⌠L
Leukodiff		
● Eosinophil	3	2-4 %
● Basophil	0	0-1 %
● Neutrophil	31	50-70 %
● Lymphocyte	59*	25-40 %
● Monocyte	7	2-8 %
● Eosinophils Absolute	126	80-360/⌠L
● Basophils Absolute	0	10-90/⌠L
● Neutrophils Absolute	1,302	1.310-6,710/⌠L
● Lymphocytes Absolute	2,478	900-3,220/⌠L
● Monocytes Absolute	294	120-620/⌠L
Platelet	263,000	150,000-440,000//⌠
MPV	10.2	7.2-11.1 fL
LED	28	0-20 mm/hour
Blood Glucose		
Fasting Blood Glucose	79	<100 mg/dl



(A) (B)

Figure 2. Patient's second visit. (A) An ulcerative lesion in the lateral tongue still exists, and (B) A white reticular lesion on the gingiva was fading



(A) (B)

Figure 3. Patient's Third Visit. The ulcerative lesion on the lateral tongue is entirely resolved. Lateral view (A) and ventral view (B) of the tongue

mouthwash at a dosage of 0.5mg/5ml to be used twice a day. The patient was instructed to retain the mouthwash for about 30 seconds before spitting it out. The patient was scheduled for a follow-up visit two weeks later. Topical medication was chosen because the patient had a history of hypertension, and administering systemic medication may worsen the patient's blood pressure control.

On a follow-up visit two weeks later, the lesion remained, but the pain had reduced to a 2 VAS scale (Figure 2). Medication was continued as it was during the previous visit, with dexamethasone mouthwash 0.5 mg/5ml twice daily. The patient was asked to be monitored for two weeks. On the third visit, about one month after the first visit, it was observed that the ulcerated lesions on the tongue had healed, and the reticular lesions had faded, especially in the gingival area (Figure 3). The patient also stated that she no longer experienced pain in her oral cavity. The patient was asked to discontinue dexamethasone mouthwash. Additionally, she was informed about the importance of regular follow-up visit every six months and was once again made aware of the necessity for a histopathological examination due to the possibility of malignancy.

DISCUSSION

The diagnosis made in this case was based on the patient's clinical appearance due to whitish reticular lesions in the bilateral buccal mucosa and gingival mucosa areas known as Wickham striae. The American Academy of Oral and Maxillofacial Pathology proposed new clinical criteria for white and red multifocal lesions with

symmetric distribution.[8] Clinical and histological examinations usually diagnose OLP even though it is possible to diagnose classic lesions based on their clinical appearance alone.[3] Biopsy in OLP is recommended to confirm the clinical diagnosis and exclude malignancy.[6] The biopsy and histopathological examination were not performed because the patient refused the procedure. However, the patient was still educated on the necessity of having regular follow-ups and the importance of histopathological examination in OLP cases. This is because OLP is among the lesions that can potentially develop into a malignant lesion. According to a study by Fitzpatrick et al., the overall transformation rate for OLP is 1.09 percent. Patients' average age at onset of SCC is 60.8 years, and the malignant OLP is slightly predominant in female patients. The most common subsite of malignant transformation is the tongue. The average time from diagnosis of OLP or OLL to transformation is 51.4 months.[9]

Based on the results of the DASS-42 examination, the psychological condition could be a factor in the exacerbation of OLP in our case. However, a causal relationship was not possible to be established. A possible explanation for this might be that OLP pain causes anxiety and depression in patients. This is because stress is considered a risk factor for OLP.[3] Other research shows that anxiety and depressive symptoms are correlated with symptomatic reticular forms of OLP.[5] In OLP cases, eliminating the local exacerbating factors is a preventive measure.[1] In this regard, one of the therapeutic approaches provided is education regarding the condition of the disease, which serves to reduce the stress and anxiety the patients experience. The results of a complete blood examination indicated a decrease in the mean cospusculum hemoglobin (MCH) value and an increase in the lymphocyte percentage. MCH can occur in conditions of iron deficiency anemia. In this case, the hemoglobin level remains within the normal range; however, there is a decrease in the MCH. Therefore, it cannot be categorized as anemia, although iron deficiency may be a possibility. This is based on findings from previous research that showed that iron deficiency was present in 13.6% of OLP patients compared to 0% in the control group.[5] This deficiency could occur because the patient had difficulty eating during the experience of erosive OLP. The percentage of lymphocytes increases because the pathogenesis of OLP is mainly associated with T-cell activity.[1]

The differential diagnosis in our case was oral lichenoid lesion (OLL). The diagnosis was more suggestive of OLP because of the bilateral clinical appearance and the absence of any reported allergies in the patient. OLLs are usually unilateral. They have a topographical association with a dental restorative material and a causative association with a drug or medication if it is the inciting factor. OLL rarely occurs in sites such as the tongue and palate.[8] In most cases, OLR is indistinguishable from idiopathic OLP, clinically or histologically.[3] In our case, the patient had no previous history of allergies, and the chronological history of medication did not match the appearance of the lesion, leading to the suspicion that this case was OLP.

Therapy given to OLP patients follows the signs and symptoms of the disease, where the principle of OLP management is to reduce pain and support lesion resolution.[1] No pharmacologic intervention is required in asymptomatic, non-ulcerative lesions of OLP.[7] Current therapies for OLP include drug therapy, surgery, psoralen with ultraviolet light A (PUVA), and laser. Pharmacological therapy can be given topically or systemically in OLP cases. Drugs used in topical form are corticosteroids, immunosuppressives, retinoids, and immunomodulators. Drugs that are used systemically are thalidomide, metronidazole, griseofulvin, hydroxychloroquine, some retinoids, and corticosteroids.[1,6] Topical corticosteroids represent the first-line approach in OLP because they usually lead to clinical improvement and do not have as many side effects as systemic steroids.[5,6] In our case, topical corticosteroids were given. After two weeks of use, there was a reduction in pain from 6 to 2 on the VAS scale and the appearance of white stria lesions on the gingiva. Systemic administration contraindication in hypertension

patients because it has the possibility of inducing an increase in patient's blood pressure.[10] Topical steroid administration was stopped after one month of therapy because the pain had ceased, and the lesion had healed completely. Long-term use of topical corticosteroids may cause adverse effects, such as skin atrophy, hypopigmentation contact dermatitis, and oral thrush.[10]

In this case, the patient was instructed to have regular check-ups every six months. There is no definite consensus regarding the interval between follow-up visits for OLP. In general, it is periodically in mild cases, six months in severe cases, and three months if the histopathological examination results show changes in the form of dysplasia. Patients must be informed of the clinical conditions of OLP they are suffering from.[7] Biopsy and histopathological examinations are still recommended to rule out the possibility of malignant transformation or dysplastic lesions.

CONCLUSION

A comprehensive clinical examination is essential in OLP cases to determine the case diagnosis. OLP therapy with topical corticosteroids effectively reduces symptoms and clinical appearance. Regular check-ups for OLP is crucial because of the associated risk of developing malignancy.

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