

4-27-2020

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Recommended Citation

Daroonpan, P., Kaomongkolgit, R., Tantanapornkul, W., & Palasuk, J. Demographic and Clinical Profile of Gingival Oral Lichen Planus in a Group of Thai Individuals. *J Dent Indones.* 2020;27(1): 33-37

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ORIGINAL ARTICLE

Demographic and Clinical Profile of Gingival Oral Lichen Planus in a Group of Thai Individuals

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ABSTRACT

Objective: This study aimed to determine the clinical profile of the gingival lesions of oral lichen planus (OLP) in a group of Thai patients. **Methods:** The dental records of 67 patients were reviewed. **Results:** In this study, 51 (76.1%) women and 16 (23.9%) men with a female-to-male ratio of 3.2:1 were included. The average age of patients with OLP was 56.0 ± 12.5 years (ranged = 20–81 years). Furthermore, 52 (77.6%) patients had a history of systemic diseases, and hypertension was predominant. All the patients presented with symptomatic OLP. Multiple OLP lesions were observed in 56 (83.6%) individuals, and single gingival OLP was found in 11 (16.4%) individuals. Among these lesions, 38.8% of reticular and atrophic forms of gingival OLP were primarily detected. Mixed and single clinical forms of gingival OLP were found in 37 (55.2%) and 30 (44.8%) patients, respectively. None of the patients had a family history of OLP, extraoral involvement, or malignant transformation. In addition, 64 (95.5%) patients with gingival OLP were treated with topical steroid, and only 1 (1.5%) patient was treated with a combination of topical and systemic steroids. **Conclusion:** This study provided information beneficial to OLP diagnosis by general dental practitioners and specialists during a routine oral examination.

Key words: clinical profile, demographic, gingiva, oral lichen planus

How to cite this article: Daroonpan P, Kaomongkolgit R, Tantanapornkul W, Palasuk J. Demographic and clinical profile of gingival oral lichen planus in a group of Thai individuals. *J Dent Indones.* 2020;27(1):33-37

INTRODUCTION

Oral lichen planus (OLP) is a chronic immunologic inflammatory mucocutaneous disorder affecting 0.1%–4% of the general population.¹ OLP is more common in women than in men with different age ranges.^{2,3} The most commonly affected sites in the oral cavity are the buccal mucosa, tongue, and gingiva.^{1,4} The gingival manifestation of OLP can be clinically characterized by reticular, papular, plaque-like, atrophic, erosive, and bullous forms.³⁻⁶ The extension and degree of gingival involvement vary among individuals.⁷ Lesions are often asymptomatic, but atrophic and erosive forms can be symptomatic, and their symptoms include burning sensation and severe pain. These symptoms lead to tissue fragility and difficulty in speaking, eating, and swallowing.⁸

According to a world workshop on the classification of periodontal and peri-implant diseases and conditions in 2017, OLP is categorized as nondental plaque-induced

gingival diseases and conditions.⁹ This classification suggests that the gingival lesions of OLP can indirectly increase the risk of plaque-induced periodontal disease because symptoms associated with such lesions impede the maintenance of oral hygiene; as a result, the risk of periodontal tissue destruction increases.⁷ The World Health Organization (WHO) classifies OLP as an oral potentially malignant disorder because its most serious complication is the development of oral squamous cell carcinoma.¹⁰ Therefore, accurate diagnosis and adequate treatment are indispensable factors for improving clinical conditions.

Although several studies on the clinical profile of patients with OLP have been undertaken, relevant information about patients with gingival OLP is limited, especially in Thailand. Moreover, gingival OLP is characterized by wide variations in clinical appearance and symptoms. As such, many cases are misdiagnosed or undiagnosed. Therefore, this retrospective study aimed to determine the demographic and clinical profiles of gingival OLP lesions in a group of Thai

patients in an oral medicine clinic during the past 17 years.

METHODS

The dental records of patients with gingival OLP from the archive of the Oral Medicine Clinic, Dental Hospital, Naresuan University from 2002 to 2018 were retrospectively reviewed. Inclusion criteria covered the complete dental records of patients who had OLP with gingival lesions. Incomplete dental records and records of nongingival lesions were excluded from this study. This study was approved by the Naresuan University Institutional Review Board (NU-IRB-COA No. 530/2018). The diagnosis of patients with OLP was clinically and histopathologically confirmed in accordance with the WHO criteria.¹¹ Furthermore, the histopathological records of all patients from the Oral Pathology Service of Dental Hospital at Naresuan University were also reviewed to microscopically confirm the cases of OLP. A total of 67 dental records that met the inclusion criteria were retrospectively reviewed. Information regarding gender, age, chief symptoms, lesion distribution, clinical forms, extraoral involvement, medication use, systemic diseases, and oral habits (i.e., tobacco use, alcohol consumption, and betel nut chewing) was evaluated. Statistical analysis was performed using SPSS version 17.0 (SPSS Inc., Chicago, IL, USA).

RESULTS

Table 1 shows the age and gender distribution of patients with gingival OLP. All of them were Thai, and they consisted of 51 women (76.1%) and 16 men (23.9%) with a female-to-male ratio of 3.2:1. Their age ranged from 20 years to 81 years with an average age of 56.0 ± 12.5 years (women's average age = 56 ± 10.8 years; men's average age = 53.4 ± 16.9 years). The age group of 50–59 years had the highest prevalence of gingival OLP (27/67, 40.3%).

According to medical history, 52 (77.6%) patients had a history of medication use and systemic disease. The most common systemic diseases were as follows (number, %; arranged in a descending order): hypertension (18, 34.6%), dyslipidemia (11, 21.2%), diabetes mellitus (6, 11.5%), thyroid gland disorders (5, 9.6%), liver disease (5, 9.6%), lung disease (3, 5.8%), heart disease (3, 5.8%), and epilepsy (1, 1.9%). Furthermore, 67 (100%) nonsmokers, 58 (86.6%) nondrinkers, and 66 (98.5%) nonbetel nut chewers were recorded. All the patients presented with symptomatic OLP. Among them, 56 (83.6%) patients had OLP lesions located in the gingiva and other parts of the oral mucosa, and 11 (16.4%) patients had gingival lesions only.

Table 2 shows gender distribution based on the clinical forms of gingival OLP. A single clinical form was found

Table 1. Age and gender distribution of 67 patients with oral lichen planus and gingival involvement

Age group (years old)	Female n (%)	Male n (%)	Total n (%)
20–29	0 (0.0)	1 (1.5)	1 (1.5)
30–39	4 (6.0)	3 (4.5)	7 (10.5)
40–49	7 (10.4)	1 (1.5)	8 (11.9)
50–59	22 (32.8)	5 (7.5)	27 (40.3)
60–69	13 (19.4)	4 (6.0)	17 (25.4)
70–79	3 (4.5)	2 (3.0)	5 (7.5)
80–89	2 (3.0)	0 (0)	2 (3.0)
Total	51 (76.1)	16 (23.9)	67 (100)

Table 2. Gender distribution of 67 patients with oral lichen planus and gingival involvement according to clinical forms

Clinical form	Female n (%)	Male n (%)	Total n (%)
Reticular	4 (6.0)	4 (6.0)	8 (11.9)
Atrophic	7 (10.4)	1 (1.5)	8 (11.9)
Erosive	11 (16.4)	3 (4.5)	14 (20.9)
Reticular and atrophic	20 (29.8)	6 (9.0)	26 (38.8)
Reticular and erosive	3 (4.5)	0 (0)	3 (4.5)
Atrophic and erosive	2 (3.0)	2 (3.0)	4 (6.0)
Papular, plaque, and erosive	1 (1.5)	0 (0)	1 (1.5)
Reticular, atrophic, and erosive	1 (1.5)	0 (0)	1 (1.5)
Reticular, bullous, and erosive	1 (1.5)	0 (0)	1 (1.5)
Reticular, plaque, atrophic, and erosive	1 (1.5)	0 (0)	1 (1.5)

in 30 (44.8%) patients, and mixed clinical forms were found in 37 (55.2%) patients. In Figure 1, reticular and atrophic forms (38.8%) were primarily found, and they were followed by erosive forms (20.9%), reticular forms (11.9%), atrophic forms (11.9%), atrophic and erosive forms (6.0%), and reticular and erosive forms (4.5%). All patients had no family history of OLP, extraoral involvement, or malignant transformation. Furthermore, 64 (95.5%) patients were treated with topical steroid, and only 1 (1.5%) patient was treated with a combination of topical and systemic steroids.

DISCUSSION

To our knowledge, this study was the first to determine the demographic and clinical profile of gingival lesions in a group of Thai patients with OLP. In general, the clinical profiles of Thai patients with gingival OLP in our study were consistent with those of Italian⁶ and

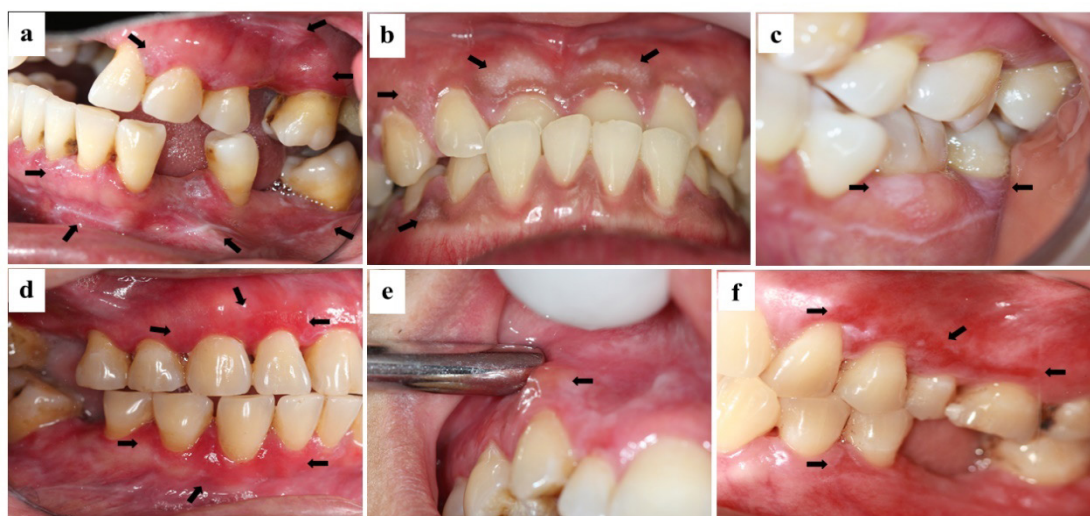


Figure 1. Clinical forms of the gingival involvement of oral lichen planus. (a) Reticular, (b) papular, (c) plaque-like, (d) atrophic, (e) bullous, and (f) erosive forms

Brazilian⁷ patients. Our study also showed that the prevalence of gingival OLP in females (76.1%) was 3.2 times higher than that in males (3.2:1 ratio). This condition was most prevalent in individuals aged 50 years, and the average age was 56.0 years, which was similar to that reported in Brazil.⁷

The association of OLP and medical conditions has been reported in other studies.¹²⁻¹⁴ In our study, three-fourths of patients (77.6%) had a history of systemic diseases (i.e., hypertension, dyslipidemia, diabetes mellitus, thyroid gland disorder, and liver disease). Their pharmacological treatment and geriatric age may contribute to the co-morbidities and pathogenesis of OLP.¹³ Although smoking, alcohol drinking, and betel nut chewing may increase the risk of OLP and cause lesions to be malignant,^{5,15} malignant lesions can be found even in nonsmokers and nondrinkers.¹⁶ Even though no malignant transformation of OLP was observed in this group of Thai patients, the incidence of malignant OLP transformation in Thai patients is 0.2%–1.7%.¹⁷ However, OLP has a persistent trait, and malignant lesions may form. Therefore, such individuals must be subjected to long-term monitoring by experienced clinicians.^{4,8}

Isolated gingival involvement has been reported, and it ranges from 8.6% to 15% of patients with OLP.^{6,16} This finding was slightly lower than that found in our study (16.4%). OLP diagnosis can be challenging, especially when the gingiva is the only site involved. A careful examination of the erythematous gingiva may reveal faint keratotic lines. The rest of the oral mucosa should be examined cautiously to detect evidence of classical OLP lesions. Moreover, patients should be questioned and examined to observe the existence of cutaneous lesions.¹⁸ Tovar et al.¹⁹ reported that 25% of patients

with OLP have skin involvement, whereas skin lesions were not observed in this present study.

Consistent with previous findings,^{6,7} our results showed that more than half of the patients (55.2%) had mixed clinical forms of gingival OLP. Reticular and atrophic forms (38.8%) were primarily found among gingival OLP lesions, and this observation was in agreement with a previous report.⁶ In the present study, all patients were symptomatic, and their symptoms included oral discomfort, burning sensation, pain, and difficulty in eating, which are similar to those observed in Italians⁶ and Brazilians.⁷ Normally, small bullous lesions on the attached gingiva is a common finding.⁶ However, a small percentage of patients (1.5%) had a bullous morphology in our study. Furthermore, familial background may play a significant role in OLP.²⁰ However, the incidence of family history in patients with gingival OLP was not found in the present study.

The results from this study were similar to those of Radochová et al.¹ in East Bohemia in Czech Republic. However, many differences were found: inclusion criteria (patients with gingival OLP in the present study vs. patients with OLP in the previous study); different races and ethnicities; and clinical forms of gingival OLP (six forms [i.e., reticular, papular, plaque-like, atrophic, erosive, and bullous] in the present study vs. OLP classification (two forms [i.e., white and red forms] in the study of Radochová et al.¹ In terms of the clinical forms of gingival OLP, this study demonstrated gender distribution across all forms of gingival OLP (Table 2). This finding was similar to that reported by Mignogna et al.⁶ The variability of clinical appearance could be beneficial to the clinical identification of oral lesions by clinicians.

OLP frequently affects gingival tissues, so its recognition during a routine clinical oral examination and periodontal procedures can reduce the number of undiagnosed or misdiagnosed cases and establish appropriate management strategies. In OLP diagnosis, oral lesions are clinically identified first, and a biopsy is obtained to confirm their identity histopathologically. Once a diagnosis has been established, appropriate management, including optimal oral, periodontal, and general health care, can be initiated.⁶ The treatment of gingival OLP is basically similar to that of other OLP forms; for example, topical or systemic steroid therapy, photochemotherapy, and photodynamic therapy are administered to treat patients with gingival OLP.^{8,18} Potent topical steroids are recommended as the first drug of choice for the treatment of symptomatic OLP. Asymptomatic OLP may not be treated, but follow-up is recommended.⁸ In our study, the patients were treated with topical steroid (95.5%) and a combination of topical and systemic steroids (1.5%).

Gingival OLP lesions can indirectly increase the risk of plaque-induced periodontal disease because symptomatic lesions may hinder proper oral hygiene care, resulting in increased deposits of irritating factors and possibly promoting periodontal tissue destruction.^{6,7} Effective but atraumatic plaque control, professional scaling, and root planning should be instituted and closely monitored.^{7,18} Appropriate plaque control is an effective method in improving the clinical feature and painful symptoms of OLP with gingival involvement.⁷ Long-term follow-up should be reserved for patients with complicated OLP and those who are unresponsive to treatment. Tissue areas that do not respond to treatment may need further evaluation and biopsy. Biopsy is necessary if malignant changes are suspected.⁸

CONCLUSION

This study illustrates the characteristics of OLP with gingival involvement in a group of Thai patients in the northern region of Thailand. OLP is one of the most common oral mucosa disorders with a high frequency of gingival involvement, so precise diagnosis and adequate treatment are indispensable factors for improving clinical conditions. This study provides information beneficial to OLP diagnosis by general dental practitioners and specialists during a routine oral examination.

CONFLICT OF INTEREST

The authors declared no potential conflict of interest.

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(Received October 29, 2019; Accepted January 14, 2020)