

Oral Lichen planus: A clinical study of 123 patients attending an Oral Medicine Clinic, Baghdad University, Iraq

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ABSTRACT

One hundred twenty three patients with oral lichen planus (81 female and 42 male) of mean age 48.5 years were included in this study. Reticular lichen planus was observed as the most frequent clinical form. While the buccal mucosa was the site affected most, the tongue was seen to be the next most frequently involved.

All lesions were symptomatic, patients with the erosive form showing severe symptoms while those with the reticular form showed mild to moderate symptoms. The transformation rate of oral lichen planus into malignancy was observed in 3.2% of the population. A continuing follow up for contributing symptoms and early diagnosis of suspected transformed lesions is of the utmost importance.

Key words: lichen planus, clinical presentations, histopathological findings, malignant transformation

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INTRODUCTION

Lichen planus is one of the most common dermatological diseases to involve the oral cavity. It is considered to be a relatively common chronic inflammatory mucocutaneous disorder that affects approximately 1-2% of the general population. Oral lichen planus (OLP) most frequently affects women aged between 30 and 60 years¹⁻⁵.

The exact cause of OLP is unknown, although the immunologic system plays a leading role in its pathogenesis, in which auto-cytotoxic T lymphocytes trigger apoptosis of epithelial cells leading to chronic inflammation⁶⁻⁸.

Clinically, OLP occurs predominantly in adults over 40 years of age, although younger adults and children may be affected. Lesions are typically bilateral and often appear as a mixture of clinical subtypes. White or grey streaks may form a linear or reticular pattern on an erythematous background. Alternatively, there may be a central area of shallow ulceration (erosion) with a yellowish surface (fibrinous exudate) surrounded

by an area of erythema. Oral lesions are frequently found in the buccal mucosa, tongue, soft palate, gingiva and lips. They may have a variety of clinical appearances, with reticular, atrophic, erosive, or plaque-like presentation, and the lesions appearing in only one form or in a combination of forms⁹⁻¹².

OLP tends to be a dynamic condition with remission and exacerbation of symptoms. The atrophic, erosive forms may have associated symptoms ranging from moderate to severe pain with burning sensation, while in the reticular form symptoms range from discomfort (especially during the consumption of hot or spicy foods) to roughness^{11,13-16}.

The diagnosis of OLP can be made from the clinical features if they are sufficiently characteristic, particularly if typical skin or other lesions are present, but biopsy is recommended to confirm the diagnosis and to exclude dysplasia and malignancy^{4,7,17}.

The classical histopathological findings in oral lichen planus are lichenification of the basement layer, followed by a marked, layered lymphocytic infiltrate immediately underlying the epithelium, the presence of numerous eosinophilic colloid bodies along the epithelial-connective tissue

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interface (Civatte bodies), hyperplastic, or more frequently, saw tooth-shaped interpapillary ridges, variable thickness of the spinous layer, and variable degrees of ortho- or parakeratosis. OLP lesions may result from the induction of keratinocytes apoptosis by cytotoxic CD8+ T cells stimulated by a yet unidentified self-antigen on a genetically predisposed patient^{5,6,15,18,19}.

The objectives of the management of OLP should be to prevent and screen for malignant transformation and alleviate symptoms in the long-term. Another goal is the prolongation of the symptom-free intervals.

Avoidance of potential precipitating drugs, tobacco, alcohol, and local trauma, as well as strict oral hygiene, is essential. The first-line pharmacologic treatment relies on topical steroids. Systemic steroids should be limited to the short-term cure of severe refractory OLP. Life-long clinical follow up, at least annually, is fundamental^{6,13,20-22}.

A possible relationship between OLP and the risk of malignancies in the same site was speculated in the past two decades. Patients with OLP are considered to have 0.4% to 2.5% chance of oral malignancy at the site of the lesions, with a special high risk in those with the erosive and atrophic forms of the disease²³⁻²⁶.

The aim of the study reported here is to determine the clinical presentation, associated symptoms, and the presence of malignant transformation of OLP.

MATERIALS AND METHODS

The study group comprised 123 OLP patients (81 females and 42 males) who had been referred to the Oral Medicine Clinic, College of Dentistry, Baghdad University in Iraq during the period 2003 to 2005. Diagnosis was performed with history taking (to exclude lichenoid drug reaction lesions) and clinical examination. It was confirmed by biopsy and histopathological examination.

Ethics Committee approval was obtained from College of Dentistry, Baghdad University. Information regarding age and gender of patients, and the clinical forms of the lesion (whether reticular, atrophic, erosive or plaque) were recorded. OLP was classified as reticular (lace-like keratotic mucosal configuration), atrophic (keratotic changes in combination with mucosal

erythema), or erosive (pseudomembrane-covered ulceration with keratosis and erythema) which could present with reticular pattern^{11,16}. The severity of symptoms was assessed based on the clinical presentation into mild, moderate or severe. Clinical findings regarding site of involvement, associated symptoms at the time of diagnosis were recorded. The hematoxylin-eosin (H&E) stained sections of specimens from all patients were reviewed.

Histopathologically proven malignant transformation at site of lesion was registered regardless of the degree of dysplasia. Patients were treated either with Triamcinolone which is of medium potency or with systemic Prednisolone.

RESULTS

The age distribution of gender and the different forms of OLP in the sample are shown in Table 1. Around 77% of the patients were in the 40 to 79 year age group, a period of high susceptibility to oral lichen planus.

Table 1. Gender and forms of OLP according to age group

Group	20-39		40-59		60+		Total
	No.	%	No.	%	No.	%	
Female	16	61.5	49	69.0	16	61.5	81
Male	10	38.5	22	31.0	10	38.5	42
Erosive	2	7.7	13	18.3	14	53.8	29
Reticular	22	84.6	36	50.7	9	34.6	67
Atrophic	2	7.7	20	28.2	2	7.7	24
Plaque	–	–	2	2.8	1	3.9	3
Total	26		71		26		123

All forms (reticular, atrophic and plaque) were prevalent in the 40-59 years of age group, except for the erosive form which was observed in the patients of 60 years of age and above. The most common type was reticular lichen planus, which was present in 54.5% of patients, while the plaque type contributed to 2.4% of the lesions.

Chi-square test showed no statistically significant association between gender and OLP. Also the association observed between age group and OLP was not statistically significant.

The study did not reveal a major difference between the distribution of the different types of OLP among the males and females, although both females and males showed a higher percentage of the reticular type (58.0%, 47.6%) than the other forms. While the next most commonly occurring type in females was the erosive form (24.7%), the

atrophic form showed the second highest prevalence (26.2%) in males. The least frequent type in both genders was the plaque type.

Most OLP patients had single-site involvement (68.3%), with the buccal mucosa being the most common location in each clinical form, followed by the tongue (Table 2). The reticular form was the most prevalent clinical form of OLP in almost

Table 2. Distribution of site involvement according to different clinical forms of OLP

No. of sites	Site involved	Type			
		Erosive	Reticular	Atrophic	Plaque
One site involved (n=84)	B.M.*	12	38	12	3
	Lip	2	--	--	--
	Ridge	--	3	--	--
	Tongue	3	9	2	--
More than one site involved (n=39)	B.M. + Floor	1	--	3	--
	B.M. + Lip	1	3	3	--
	B.M. + Lip+Floor	--	--	--	--
	B.M. + Ridge	1	1	--	--
	B.M. + Tongue	5	8	2	--
	Lip + Ridge	--	1	--	--
	Tongue + Floor	4	3	1	--
	Tongue + Palate	--	1	--	--

* Buccal mucosa

all the sites affected. Almost 94% of patients had a bilaterally symmetrical distribution of oral lesions. None of the observed cases of OLP showed gingival involvement.

When multiple sites were involved, both buccal mucosa and tongue (ventral surface most frequently) were the most commonly affected.

Table 3 shows the different forms of OLP according to gender and the severity of clinical symptoms. Of the 30.9% of the patients who experienced severe symptoms, 22 had presented with erosive lichen planus and nine with the reticular form. Of the 69.1% of the patients with mild to moderate symptoms, 58 had the reticular form of OLP, and 17 the atrophic form.

Sixteen out of the 20 females who had erosive LP had experienced severe symptoms. While the symptoms in most patients who had the reticular and atrophic types were mild to moderate, none of those with plaque lesions experienced severe symptoms.

Four patients had histologically proven malignant transformation, regardless of the degree

Table 3. Severity of clinical symptoms in relation to gender and different forms of OLP

Type	Gender	Severe	Mild to Moderate	Total
Erosive	Female	16	4	20
	Male	6	3	9
Reticular	Female	7	40	47
	Male	2	18	20
Atrophic	Female	3	10	13
	Male	4	7	11
Plaque	Female	--	1	1
	Male	--	2	2

of dysplasia. The tongue was involved in all four patients. The result constituted a transformation rate of 3.3% of the OLP into malignancy, with three of these patients being females of age 57 years. All malignant transformations occurred in the erosive type of lichen planus. Most of the patients responded well to treatment and the symptoms were alleviated. Long-term follow up was recommended.

DISCUSSION

Several clinical appearances of OLP have been described.^{3,21} The diagnosis of OLP cannot be based only on clinical grounds, because other conditions such as leukoplakia, lupus erythematosus, and even squamous cell carcinoma can have a similar clinical appearance. Therefore the use of histological diagnosis is essential. The profile of our patients who had OLP was generally similar to that found in other studies^{1,13,18}.

The higher prevalence of OLP in women has been reported by most investigators,^{6,9,10,18} which is compatible with the findings in this study.

The reticular clinical form of OLP has previously been reported to be the more common and is typically more sharply defined than the other forms,^{3,15,22} as was observed in the present study. This can be attributed to the fact that the reticular form seldom causes the patients to seek treatment. In all forms of OLP the buccal mucosa was the leading site of involvement, followed by the tongue, a finding also observed in other studies with large groups of patients^{15,18,20}.

As had been reported in other studies^{5,9,12,26}, some patients showed multiple-site oral involvement. The buccal mucosa and the tongue were the most common sites affected in the present study.

The majority of our patients experienced some degree of oral discomfort, which was typically generalized, but the patients with non-erosive or non-ulcerative OLP still complained of oral discomfort often, as had been reported in other studies²². The erosive form of OLP was the most symptomatic. Twenty two out of 38 OLP patients reporting severe symptoms had presented with the erosive type, compared to the seven among the 24 patients who had the atrophic form. Only nine out of 67 patients with the reticular type experienced severe symptoms. The reticular form was the least symptomatic, although tobacco and alcohol, and even hot, spicy food may play a role as co-factors in stimulating symptoms in patients with pre-existing OLP. These results obtained in our study matched those reported by other workers^{18,20}.

An important question that needs attention is related to the pre-cancerous status of LP since our findings indicate that dysplasia occurred in four patients (3.2%). This rate, which is slightly higher than the 0.07%¹ and 1.8%²⁵ that was observed in other studies, could be associated with the possible extended exposure to carcinogenic causative factors.

CONCLUSION

Around three fourths of the patients were in the age group 40 to 79 years, the most susceptible period for oral lichen planus. Reticular, atrophic and plaque forms were prevalent in the 40-59 year group, whereas the erosive form occurred in those aged 60 years and above, with the buccal mucosa being the most common site in each clinical form. Malignant transformations occurred only in the erosive type of lichen planus.

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