ORIGINAL ARTICLE

CONTENTS

Evaluation of clinical and demographical finding in patients with oral lichen planus: A retrospective cross sectional study

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ABSTRACT

Aim: To learn more about Oral Lichen Planus Iraqi patients, including their background information, symptoms, and prognosis.

Materials and Methods: From the Oral and Maxillofacial Pathology Department, College of Dentistry, Baghdad University, we retrospectively reviewed the medical records of 68 patients with a histologically confirmed clinical diagnosis of oral lichen planus and subsequently contacted the patients by phone to evaluate their prognosis.

Results: Females were more likely than males to experience severe pain; the reticular form of Oral Lichen Planus was the most prevalent at 38.2%, but the erosive type was more prevalent among females. Only 53 of 68 patients responded to phone calls. More than 37% of those respondents reported involvement at a second location intra-orally following the first oral manifestation, and 20% had extraoral Lichen Planus, and approximately 22.6% of them observed changes in the morphology and behavior of the lesion after a brief period of time, while 26.4% experienced complete remission.

Conclusions: Females were more likely to have oral lichen planus. Females and elderly persons were more likely to have severe pain than other. The lesion must be monitored for symptomatic flare-ups over time.

KEY WORDS: epidemiology, lichen planus, oral lichen planus, retrospective study

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INTRODUCTION

Oral lichen planus (OLP) is a common inflammatory mucocutaneous condition that affects the oral mucosa [1, 2]. An important involvement for the immune system is suspected, however the exact reason is yet unclear, while there are several therapy options, the disease has a protracted clinical course [3, 4]. The incidence of OLP in the general population ranges from 1% to 2% [5]. Typically, it affects middle-aged and elderly people with a female/male ratio of 2:1 [6] and the age of onset is generally between the fourth and sixth decades of life [7]. Intraoral, buccal mucosa, tongue, and gingiva are most commonly involved while other areas like mucosa of the palate and floor of the mouth are rarely affected [8]. Approximately 20% and 15% of OLP are linked to genital and cutaneous lichen planus, respectively [9]. Although OLP may cause a wide variety of oral mucosal symptoms, the most common ones are bilateral and/or numerous symmetric lesions, often accompanied by other clinical patterns [10]. It has been found that aggravation and remission occur in cycles [11]. It is common for lichen planus to appear as OLP, either alone or in association with other lesions [12], according to Shah JS et al. [13] traditionally classified into six forms: reticular, plaque-like, popular, atrophic, erosive, and bullous. The most prevalent form of lichen planus is reticular, whereas the second most common type is erosive, which causes painful symptoms and has been linked to a probable malignant transformation of lichen planus [14, 15].

One of the most serious outcomes of OLP is oral squamous cell carcinoma (OSCC), with rates of malignant transformation ranging from 0.5% to 7%. [16, 17], As a result, the World Health Organization (WHO) designated OLP as a potentially malignant disease [18]. Therefore, it is crucial that patients with OLP be evaluated by a team of specialists, since there may be extraoral site involvement and increased risk of oral cancer. Dense infiltration of lymphocytes into the subepithelial space, lymphocyte penetration of the epithelium, and hydropic degeneration of the basal keratinocytes are histopathological hallmarks of OLP [19]. The therapy issue is complicated. The severity of the disease, the predominant clinical form of lesions, and the patient's symptoms should all be taken into account while planning a course of treatment. Asymptomatic reticular lesions often don't need treatment and may be monitored for progression [20]. The primary goals of

therapy are the resolution of symptoms and the healing of atrophic and ulcerative lesions.

AIM

The purpose of this investigation was to examine the demographic and clinical data of 68 OLP patients in Iraq.

MATERIALS AND METHODS

The current research, according to design was an observational retrospective, and was initiated in December 2022 and continued through May 2023 at the University of Baghdad's College of Dentistry's Department of Oral and Maxillofacial Pathology. Before beginning the research, permission was granted by the Ethics Committee at the University of Baghdad's College of Dentistry (project No. 695722, December 2022). For this study, the authors accessed the medical records of all patients diagnosed with oral Lichen Planus (LP) from the oral pathological laboratory between January 2017 and May 2023. These records included information such as the patients' ages, genders, diagnosis years, types of LP, oral manifestations, and biopsy, the authors were given permission to contact the LP patients via the phone numbers provided in the reports. The primary objective of this communication was to assess the disease prognosis and record any change in the morphology or behavior of the lesion. Additional questions were asked about extra oral LP lesions, including the time of lesion onset, the type of medication being taken, and the patient's family and medical history. The interview was conducted entirely in the native language. Each participant's replies and permission were gathered after an explanation of the study's goals was provided.

STATISTICAL ANALYSIS

SPSS (version 11.5) was used to analyze the data; descriptive statistics included the usage of frequency, percentage, mean, and standard deviation. Pain, oral clinical presentation, location, and type of OLP served as independent factors studied using the chi-square test for correlation with dependent variables (sex and age), a significant level was set at $p<0.05$.

RESULTS

In total, the medical records of 68 patients with a clinically and histopathologically confirmed diagnosis of OLP were studied (Table 1). The sample population was composed of 43 (63.2%) females and 25 (36.8%) males (ratio F:M = 2:1). The mean age at diagnosis was 49.25 ± 14.88 (46.36 ± 16.28 years for males) and (50.34 ± 14.36 years for females), and the peak of age-frequency distribution was the fifth decade (32.35%) of life (Fig.1).

Over 70% of the oral OLP had lesions in multiple oral cavity regions. The buccal mucosa was most commonly affected, followed by the tongue and gingiva, and the floor of the mouth was least affected (Fig.2), the most prevalent form of OLP was the reticular type (Fig.3).

Patients with reticular OLP accounted for 38.23% of all cases, erosive type for 29.41%, pigmented type for 4.4%, while patients with bullous OLP and atrophic OLP each accounted for 2.9% of all cases.

Buccal mucosa was the most prevalent place (69.1%), followed by tongue (17.6%) and gingiva (10.3%), and OLP lesions were lowest on the mouth floor (2.9%). The erosive, pigmented, bullous, and atrophic types were also documented. Predominantly males exhibited the reticular form (n=15) and while the erosive type was predominantly observed in females (n=20). Pain perception was shown to vary significantly across the sexes statistically. Patients with oral LP who were older than 40 years old reported significantly higher pain levels than their younger counterparts. There were no statistically significant differences between sexes or age groups in terms of clinical presentation, implicated locations, or OLP categories (Table 2).

Dysplastic alterations were seen on histology in 13 (19.1%) of the samples. There were five reticular samples and eight erosive instances. No correlations were found between dysplastic alterations and demographic factors such as age, gender, location, or OLP type. Only 53 patients could be reached by phone, according to the author in charge of communication (Table III) including 31 women and 22 males, with an average age of 49.64 ± 15.66 years and the average of the age of onset was 47.59 ± 14.38, most of them were non-smoker 33 (62.26%) and non-drinker 52 (98.11%), and about 11 (20.8%) of them have family history of OLP and while 21 (39.6%) have medical history of systemic disease. Lesion involved another site intraorally in 20 (37.73%) of patients after period of time, and another involved extraoral LP in 25 (47.2%) after diagnosed the lesion orally. After re-call, 12 (22.64%) of them have a change in morphology and behavior of lesion, with 14 (26.41%) of the having total remission of lesion. No malignant transformation was documented. Corticosteroids and analgesic were the drugs prescribed for 22 (38.59%) of them, while 31 (58.49%) of patients don't used any medication (Table 3).

DISCUSSION

Oral lichen planus is a chronic inflammatory mucucatenous disease that has the potential to become malignant

Table 1. The demographic and clinical characteristics of oral lichen planus (OLP) patients

Parameter	Patients	
	Abs.	%
Sex		
Male	25	36.8%
Female	43	63.2%
Male: female	1:2	
Age (years) Mean ± SD	49.25±14.88–	
Min–max	13–76	
Site of oral biopsy		
Cheek	47	69.1%
Tongue	12	17.6%
Gingiva	7	10.2%
Type of OLP		
White type	37	54.4%
Red type	31	45.5%
Pain		
Symptomatic	40	58.8%
Asymptomatic	28	41.1%

Table 2. Correlation between age and gender and other socioeconomic variables

Parameter	Male n,%	Female n,%	Age (years) <40 n,%	≥40 n,%
Pain				
Symptomatic	6, 8.8	34, 50.0	6, 15.0	34, 85.0
Asymptomatic	19, 27.9	9, 13.2	12, 42.8	16, 57.1
p–value*	0.001		0.01	
Site				
Buccal mucosa	15, 31.9	32, 68.08	14, 51.9	13, 48.1
Tongue	5, 41.66	7, 58.33	10, 62.5	6, 37.5
Gingiva	4, 57.1	3, 42.85	2, 50.0	2, 50.0
Floor of the mouth	1, 50.0	1, 50.0	12, 57.1	9, 42.9
p–value*	0.8		0.3	
Type of OLP				
White type	16, 43.2	21, 56.75	12, 52.2	11, 47.8
Red type	9, 29.0	22 ,70.96	3, 50.0	3, 50.0
p–value*	0.4		0.5	

*Bold font indicates significance at $p < 0.05$ by Chi-square test.

[21]. The primary conclusions of the present observational research were that the main age was 43 years and that women were more impacted than men. In the majority of instances, the oral cavity was where the initial OLP lesions appeared. Aging and the gender (female) were linked to the pain becoming worse. In all, only 53 people answered the phone, and after receiving corticosteroids and analgesics, 14 of them claimed complete remission. According to our research, OLP is more common among women than in men, that is in consistent with the results of prior international epidemiological investigations [22-24]. It is probable that estrogen has a substantial role in the increased occurrence of OLP in women, since estrogen has been proven to promote immunological reactivity [25]. However, some researchers have presented the opposite, showing a greater rate of OLP in men than females [26]. In this sample of patients, OLP often first appeared in the fifth decades of age. Comparable findings have been reported from other surveys in other nations [27-29], however, other

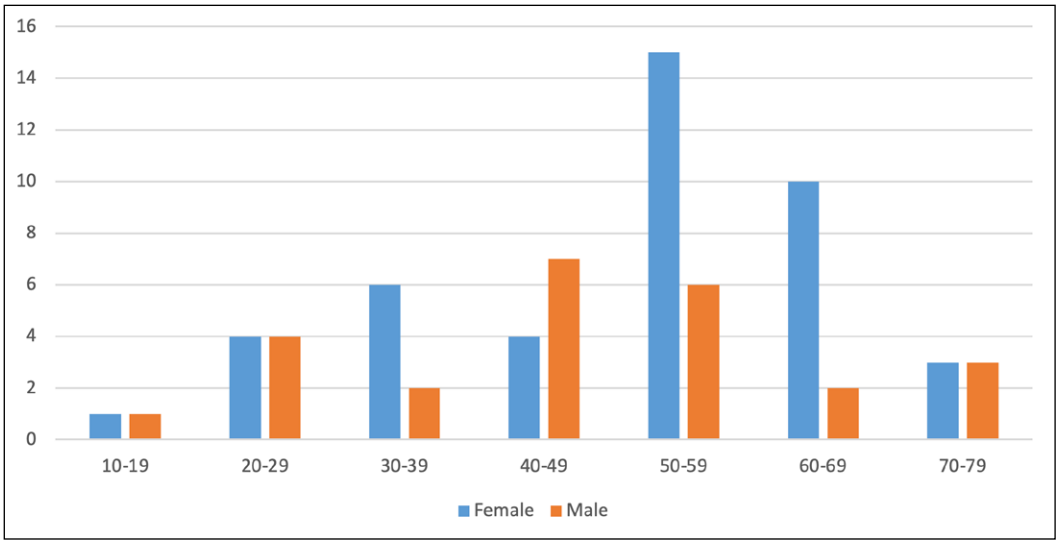

Fig. 1. Distribution of gender according to different groups of age.

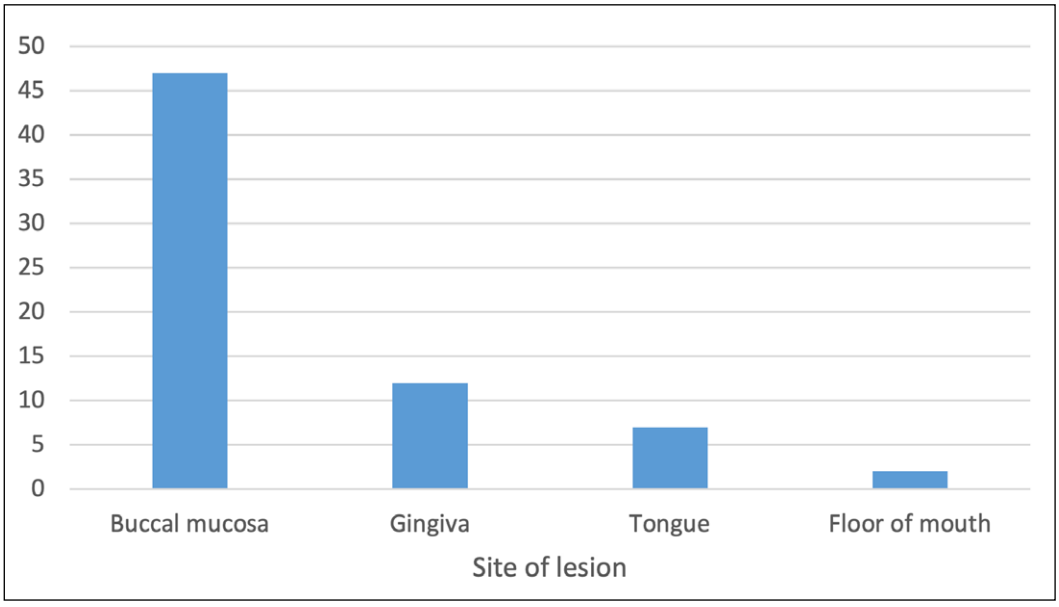

Fig. 2. OLP lesions' locations in patients.

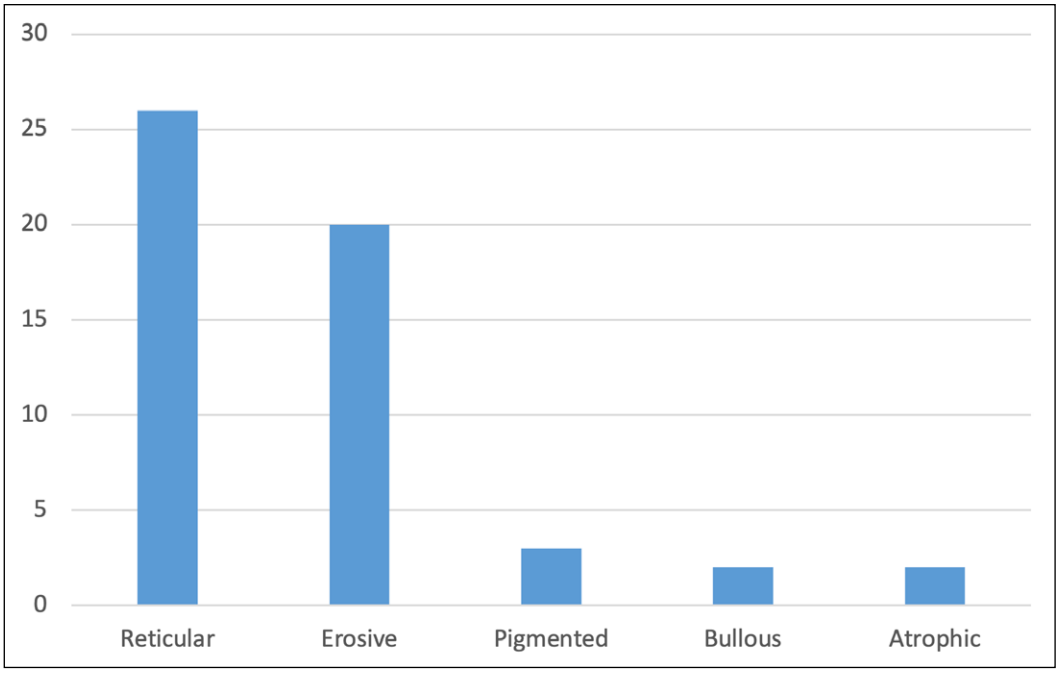

Fig. 3. Distribution of patients based on OLP type at the time of diagnosis.

Table 3. Variables based on the demographic and clinical characteristics of patients with oral lichen planus

Parameter	Patients	
	No.	%
Sex		
Male	22	41.50%
Female	31	58.49%
Age (years) Mean ± SD	49.64 ± 15.66	
Medical history of systemic disease		
Yes	21	39.6%
No	32	60,3%
Family history of OLP		
Yes	8	15%
No	45	84%
Another site involved later intraorally		
Yes	20	37.7%
No	33	62.2%
Another site involved later extraorally		
Yes	11	20.7%
Skin	7	63.6%
Genital area	3	27.2%
Nail	1	9.0%
No	42	79.2%
Healing		
Total remission of lesion	14	26.41%
No change in morphology and behavior of lesion	25	47.16%
Change in morphology and behavior of lesion	12	22.64%
Medication		
Don't administrate any medication	31	58.49%
Administrate medication	22	38.59%
Topical medication	14	63.63%
Systemic medication	8	36.36%

research has shown that the average age of OLP is in the fourth decade of life [30]. These variations in findings may have several causes, the most prominent of which are sample size, genetic predisposition, and other confounding variables. Oral manifestations of LP lesions include reticular lesions in 38.23% and erosions in 29.41% of cases. These trends mirrored those seen by Gotmare et al. [31], who reported that reticular and erosive OLP were the most prevalent types. Lesions caused by oral lichen planus (OLP) may appear anywhere in the mouth, however the buccal mucosa is the most usually affected region [32, 33] which also was the pattern observed in the present study. Patients' primary complaint in this study was severe pain. Consistent with earlier research, this study confirmed that pain is a common symptom of OLP [34]. A cluster of cytotoxic (CD8) T cells very near to the surface of the epithelium, leading to an exaggerated reaction to environmental triggers [35]. In addition, the pain experienced by women was much more intense than that experienced by men. It has been argued in the past that men have a greater pain tolerance or threshold than females [36]. There is currently no agreed-upon explanation for the observed disparity in pain perception between the sexes. However, it is possible that greater sensitivity to pain as we age contributes to the gradual decline in estrogen levels in women [37, 38]. Of the 68 OLP patients that were called, only 53 (77.94%) answered. There might be a variety of factors preventing contact with non-responding patients, including a change in contact information, relocation to another country, or even death. According to the responding patients, eight patients have a positive family history

of OLP. This result was consistent with findings from previous studies indicating that lichen planus patients have a positive family history. A higher frequency of human leukocyte antigen B7 (HLA-B7) has been identified in affected families [39]. Since OLP patients may be carriers of a disease with systemic consequences, a multidisciplinary team may be necessary for their management [40]. Twenty-one individuals with systemic diseases (such as hypertension, diabetes, or thyroid disease) were included in our research. OLP is a chronic inflammatory disorder that may be a precursor to cancer [16]. Inflammation has been shown to be a significant risk factor for the development of cancer in a number of studies. Oral and pharyngeal mucosal diseases that may progress to cancer are strongly linked to cigarette smoking [41], we tracked 20 smokers throughout the course of our study and found that some of them observed a progression from one lesion type to another. It's important to highlight that a patient with oral lichen planus may also have lichen planus lesions in other places of his body, according to a previous study [32]. Approximately 20% of patients contacted had further oral lesions from OLP after the original lesion appeared and 11% of patients had extraoral lesions 1-2 years after the initial oral presentation. In addition, we identified fourteen patients whose OLP spontaneously remitted, contrary to a previously reported finding that spontaneous remission of OLP is exceedingly uncommon [42, 43]. The development of oral cancer is the most serious consequence of OLP, although this was not seen in our study. The reported rate of malignant transformation of OLP is 0 to 10% [44], giving our patient group one of the lowest incidences of malignant transformation. As the etiology of OLP remains obscure, no etiological treatment is currently available [45]. The goal of therapy is to reduce the disease's functional effect and relieve symptoms. The majority of patients with asymptomatic reticular lesions do not require any form of treatment. In contrast, the majority of erosive lesions are extremely excruciating, necessitating treatment in these patients. Corticosteroids are typically the treatment of choice for OLP. The key limitations of this research are the absence of a clinical evaluation and the need of a bigger sample size. The prognosis was also determined through telephone conversation rather than via a physical examination. Furthermore, higher-level clinical studies establish causality, whereas observational research data just show correlation. Caution is warranted until further research confirms the conclusions of the present study, which provided results of illnesses linked to a recurrence rate and malignant transformation.

CONCLUSIONS

Results indicated that OLP was more prevalent among female Iraqis. Severe pain in OLP patients is strongly associated with females and older age groups; clinically, the disease undergoes remission and exacerbation, and all patients must be carefully monitored. All OLP patients should be followed up on a periodic basis. The correct diagnosis of any pathology is crucial for producing effective treatment and minimizing iatrogenic harm.

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The research received ethical clearance from the Institutional Review Committee (IRC) of the University of Baghdad's faculty of dentistry (project NO.6957722, Dec. 2022).

CONFLICT OF INTEREST

The Authors declare no conflict of interest

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