

Original Research Article

Evaluation of oral lichen planus frequency in patients referred to pathology centers of Kermanshah city, during 2008 to 2011**Hamid Reza Mozaffari¹, Mahmoud Rahmani¹, Fatemeh Rezaei¹, Masoud Sadeghi², Roohollah Sharifi^{3*}, Ahad Ejtehadi⁴**¹Department of Oral Medicine, School of Dentistry, Kermanshah University of Medical Sciences, Kermanshah, Iran²Medical Biology Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran³Department of Endodontics, School of Dentistry, Kermanshah University of Medical Sciences, Kermanshah, Iran⁴General Dentist, Private Practice, Kermanshah, Iran***Corresponding author**

Roohollah Sharifi

Email: rohollahsharifi@gmail.com

Abstract: Oral lichen planus (OLP) is a chronic inflammatory disease that affects the mucus membrane of the oral cavity. The aim of this study is to evaluate of the prevalence of OLP based age, sex, subtypes and involvement sites. In a cross-sectional descriptive study during 2008 to 2011, 63 patients with OLP referred to Clinics of Pathology, Kermanshah, Iran. Age, sex, site and type of lichen planus were checked for the patients. The mean age at diagnosis for four years was 42.13 (range, 17-72 years) that 42 patients (66.7%) were females. During 2008 to 2011, 27 patients (42.9%), 13(20.6%), 12(19%), 10(15.9%) and 1(4.5%) had involvement sites for OLP in buccal mucosa, lip, tongue, gum and palate, respectively. Out of 63 patients, 35 patients (55.6%), 27(42.9%) and 17(27%) had reticular, erythematous and erosive lichen planus. White lichen planus (reticular, papular and plaque-like) was seen more than red lichen planus (bullous erythematous and erosive) in cases. In conclusion, the OLP affects women more than men and the mean age is very different in different areas of the world. The reticular and buccal mucosa were the most common subtype and site of OLP.

Keywords: Oral lichen planus, Epidemiology, chronic inflammatory disease

INTRODUCTION

Oral lichen planus (OLP) is a chronic inflammatory disease that affects the mucus membrane of the oral cavity [1]. The clinical presentation of OLP ranges from mild painless white keratotic lesions to painful erosions and ulcerations [2]. The exact etiology is uncertain, but the immunological system is believed to play a significant role in it. It has a protracted clinical course despite various available treatment modalities [3]. Different causes are involved with its incidence including stress, genetics, systemic diseases, medicines, dental restorative materials and viruses through activating mechanisms of T cytotoxic cells, degranulation of mast cell and activation of metalloproteinase matrix that disturbs the base membrane and basal cell apoptosis will be epithelial [4]. OLP is considered as a potentially malignant disorder with malignant transformation rate of 0.5% to 2% [5]. OLP seen clinically as reticular, papular, plaque-like, erosive, atrophic (erythematous) or bullous types [6]. Reticular lichen planus presents Wickham's

striae with erythematous margins. Erythematous lichen planus and atrophic lichen planus lesions exhibit erythematous back ground with radiating white striae. Plaque-like lichen planus appears as white plaque lesions whereas bullous lesions present as intraoral bullae [7]. Intraorally, the buccal mucosa, tongue and the gingiva are commonly involved although other sites may be rarely affected [6].

The aim of this study is to evaluate of the prevalence of OLP based age, sex, subtypes and involvement sites during 2008 to 2011 in the West of Iran.

MATERIALS AND METHODS

In a cross-sectional descriptive study during 2008 to 2011, 63 patients with OLP referred to Clinics of Pathology, Kermanshah, Iran. Age, sex, site and type of lichen planus were checked for the patients. The data were analyzed by SPSS version 20 software.

RESULTS

Out of 650 patients with oral lisions during 2008-2011, 63 patients (9.7%) had OLP that evaluated for our study. The mean age at diagnosis for four years was 42.13±13.73 years (range, 17-72 years) that 42

patients (66.7%) were females (Table 1). Over time, the prevalence of OLP in female was more than male and the number of patients increased and the mean age reduced. The mean age for females was 42.78±13.28 years and for males 40.71±15.45 years.

Table 1: The prevalence of the number of patients during 2008 to 2011(n=63)

Period	Number of patients	Mean±SD	Male/female ratio
2008	11	48.09±16.50	4/7
2009	10	41.50±15.02	3/7
2010	19	39.50±14.80	8/12
2011	21	41.87±10.68	6/16
Total	63	42.13±13.73	21/42

During 2008 to 2011, 27 patients (42.9%), 13(20.6%), 12(19%), 10(15.9%) and 1(4.5%) had involvement sites

for OLP in buccal mucosa, lip, tongue, gum and palate, respectively (Table 2).

Table 2: The prevalence of sites of lichen planus in the patients (n=63)

Period	Tongue	Buccal mucosa	Palate	Gum (gingival)	Lip
2008	5(45.5)	1(9.1)	0	1(9.1)	4(36.4)
2009	4(40)	1(10)	0	1(10)	4(40)
2010	2(10)	12(60)	0	2(10)	4(20)
2011	1(4.5)	13(59.1)	1(4.5)	6(27.3)	1(4.5)
Total	12(19)	27(42.9)	1(4.5)	10(15.9)	13(20.6)

Out of 63 patients, 53 patients were checked for subtypes of lichen planus (Table 3). A number of patients had several subtypes of lichen planus simultaneously. Therefore, there were 98 lesions. Out of 63 patients, 35 patients (55.6%), 27(42.9%) and

17(27%) had reticular, erythematous and erosive lichen planus. White lichen planus (reticular, papular and plaque-like) was seen more than red lichen planus (bullous, erythematous and erosive) in cases.

Table 3: The subtypes of lichen planus in the patients (n=53)

Number of patients	Subtypes of lichen planus					
	Reticular	Papular	Plaque-like	Bullous	Erythematous (Atrophic)	Ulcerative (Erosive)
1	1	1	0	0	1	0
3	1	0	1	0	1	0
1	1	0	1	0	1	0
8	1	1	0	0	0	0
9	1	0	0	0	1	0
1	1	0	0	0	1	1
7	1	0	0	0	0	1
5	1	0	0	0	0	1
1	0	1	1	0	0	0
1	0	1	0	0	1	0
1	0	1	0	0	1	0
1	0	0	1	0	1	1
3	0	1	0	0	0	0
8	0	0	0	0	1	0
1	0	0	0	0	1	1
2	0	0	0	0	0	1

DISCUSSION

The present retrospective study attempts to report the prevalence of OLP patients in Kermanshah city, Western Iran. OLP, the mucosal counterpart of cutaneous lichen planus, presents frequently in the fourth decade of life and affects women more than men

in a ratio of 1.4:1 [8]. One study [9], reported that OLP is a disease primarily of adults (50 to 55 years of age) and predominantly affects women. Any site in the oral cavity may be involved, but the buccal mucosa and gingiva are the most common sites. Munde et al.[2] checked 128 patients with OLP that male/female ratio

was 1.61:1 and the buccal mucosa was the most common site (88.20%). Also, reticular type of OLP was the most common form (83.5%) followed by erosive (15.6%) and atrophic OLP (0.78%). White lichen planus was seen in 83.59% and red lichen planus in 16.40% cases. Out of 63 patients in this study, 66.7% were females (male/female ratio:2:1). The other reports [10-13], showed that OLP is more prevalent in 3rd decade in India (mean age 36.9 years), which is lower than the mean age reported in central China (50.4 years), UK (52.0 years), Spain (56.4 years), and Italy (56.7 years). In our study, the mean age in 2008 was 48.09 years and in 2011 was 42.13 years. Over time, the mean age at diagnosis for OLP patients in our study is reducing and also lower than other areas, exception for India. Varghese et al.[14] selected 122 OLP patients that they found more prevalence in females than males and reticular lichenplanus was the most common clinical subtype found. Also, bilateral buccal mucosal was the common site, when the distribution of sites of OLP were compared ($P < 0.05$). [14] In a study [15], 4470 Egyptian patients referred to the Faculty of Oral and Dental Medicine, Cairo University, Egypt, 64 patients (1.43%) were diagnosed with OLP (20 males and 44 females). Most of the patients were females between the 4th and 6th decades [$n=49/64$; 48.45%]. The red type of OLP [atrophic and erosive lesions] was predominant in this Egyptian sample of patients [15], but our study showed that the prevalence of OLP was 9.7% and the white lichen planus was more than red lichen planus in the patients. Therefore, two results were different and the prevalence of OLP is very higher. In addition to, the reticular was the most common of subtype and buccal mucosa was the most common site of lichen planus that was similar to other studies.

CONCLUSION

The OLP affects women more than men and the mean age is very different in different areas of the world. The reticular and buccal mucosa were the most common subtype and site of OLP.

REFERENCES

1. Lavanya N, Jayanthi P, Rao UK, Ranganathan K. Oral lichen planus: An update on pathogenesis and treatment. *J Oral Maxillofac Pathol.* 2011;15(2):127-32.
2. Munde AD, Karle RR, Wankhede PK, Shaikh SS, Kulkurni M. Demographic and clinical profile of oral lichen planus: A retrospective study. *Contemp Clin Dent.* 2013;4(2):181-5.
3. Crincoli V, Di Bisceglie MB, Scivetti M, Lucchese A, Tecco S, Festa F. Oral lichen planus: Update on etiopathogenesis, diagnosis and treatment. *Immunopharmacol Immunotoxicol.* 2011;33:11-20.
4. Mozafari H, Farhadzadeh K, Rezaei F. A Study of the Effects of CO₂ Laser Therapy on Oral Lichen Planus (OLP). *J Appl Environ Biol Sci.* 2015;5(9S):114-8.

5. Mattsson U, Jontell M, Holmstrup P. Oral lichen planus and malignant transformation: is a recall of patients justified? *Crit Rev Oral Biol Med.* 2002;13:390-6.
6. Ismail SB, Kumar SK, Zain RB. Oral lichen planus and Lichenoid reactions; Etiopathogenesis, diagnosis, management and malignant transformation. *J Oral Sci.* 2007;49:89-106.
7. Mollaoglu N. Oral lichen planus: a review. *Br J Oral Maxillofac Surg.* 2000;38:370-7.
8. Sugeran PB, Savage NW, Walsh LJ, et al. The pathogenesis of oral lichen planus. *Crit Rev Oral Biol Med.* 2002;13(4):350-65.
9. Lozada-Nur F, Miranda C. Oral lichen planus: epidemiology, clinical characteristics, and associated diseases. *Semin Cutan Med Surg.* 1997;16(4):273-7.
10. Ingafou M, Leao JC, Porter SR, Scully C. Oral lichen planus: A retrospective study of 690 British patients. *Oral Dis.* 2006;12:463-8.
11. Gandolfo S, Richiardi L, Carozzo M, et al. Risk of oral squamous cell carcinoma in 402 patients with oral lichen planus: A follow-up study in an Italian population. *Oral Oncol.* 2004;40:77-83.
12. Bermejo-Fenoll A, Sánchez-Siles M, López-Jornet P, Camacho-Alonso F, Salazar-Sánchez N. A retrospective clinicopathological study of 550 patients with oral lichen planus in south-eastern Spain. *J Oral Pathol Med.* 2010;39:491-6.
13. Xue JL, Fan MW, Wang SZ, Chen XM, Li Y, Wang L. A clinical study of 674 patients with oral lichen planus in China. *J Oral Pathol Med.* 2005;34:467-72.
14. Varghese SS, George GB, Sarojini SB, Vinod S, Mathew P, Mathew DG, Sebastian J, George A. Epidemiology of Oral Lichen Planus in a Cohort of South Indian Population: A Retrospective Study. *J Cancer Prev.* 2016;21(1):55-9.
15. Mostafa B, Ahmed E. Prevalence of oral lichen planus among a sample of the Egyptian population. *J Clin Exp Dent.* 2015 1;7(1):e7-e12.