

LICHEN PLANUS: A RETROSPECTIVE STUDY OF 217 PATIENTS

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ABSTRACT

Lichen planus is an autoimmune inflammatory disease which effects primarily skin, nails and mucous membranes such as oral mucosa. The objective of this study was to find out the frequency, gender distribution and occurrence of unilateral or bilateral presentation of oral lichen planus among patients seen at Allied Hospitals of University College of Dentistry, The University of Lahore. Statistical analysis was carried out using SPSS (ver.23) for gender, age distribution and unilateral or bilateral presentation. Five years data revealed a total of 217 patients diagnosed with oral lichen planus. 146 (67.3%) patients were female while 71 (32.7%) were male. Most patients presented with bilateral lesion 135 (62.2%) while 82 (37.8%) presented with unilateral lesion. 165 (76%) patients reported that use of spicy food aggravates the condition, amongst them 50 (21.24%) were male and 115(78.76%) female patients. This study concluded that this disease effected females more than males with age group 31 to 40 years, with bilateral oral involvement predominantly. Mean age was found to be 36.78 and SD value 10.794. Spicy food was an associated factor that worsened the condition in almost 165 (76%) patients.

Key Words: *Lichen Planus, Oral Lesion, Auto-immune oral disease.*

INTRODUCTION

Lichen Planus is relatively common, chronic dermatological disease that often affects the oral mucosa.¹ Although the exact etiology of this disease is still unknown, but some factors are associated with it.² The immunological system is believed to play a leading role.³ Different external agents, especially viruses, and internal agents, like stress, and the heat shock protein antigen expression, associated or not, can alter the basal keratinocytes of the oral mucosa making them a target of the cell immune response CD8⁺ T lymphocytes. This produces cytokines, interleukin-2 and tumor necrosis factor, causing chronic inflammatory response and apoptosis of keratinocytes.⁴

Stress is often attributed to the onset or exacerbation of OLP, even though no causal relationship has been

demonstrated. However, OLP patients are more likely to suffer from anxiety, depression and low self-control than controls.⁵

The genetic predisposition has been hypothesized in OLP etiology. In this context, genetic factors influencing immune function may contribute to OLP pathogenesis. Many studies have focused on the relationship between HLA and OLP.⁶

Although no single systemic factor or disease is consistently associated with OLP, hepatitis C virus (HCV) seropositivity has been demonstrated to be more common in OLP patients.⁷ This association is especially present in certain geographic areas, being strongest in the Middle-East.⁸

Oral Lichen Planus is a premalignant disease. Currently identified oral premalignant diseases include leukoplakia, erythroplakia, palatal lesions associated with reverse smoking, oral lichen planus, oral submucous fibrosis, actinic keratosis and discoid lupus erythematosus.⁹

The proposed histopathological features include the presence of liquefaction and degeneration of basal cells and band-like infiltrate of lymphocytes and absence of epithelial dysplasia. The absence of epithelial dysplasia is mandatory to distinguish oral lichen planus from lichenoid dysplasia. In fact lichenoid dysplasia may share white oral lichen planus the clinical appearance

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but not the risk of a neoplastic derailment.^{10,11}

Oral Lichen Planus presents with clinical features such as white striations, white papules, white plaques, erythema, erosions, or blisters affecting predominantly the buccal mucosa, tongue and gingivae.⁹

The red, inflamed lesions and open sores of oral lichen planus can cause a burning sensation or pain. The white, lacy patches may not cause discomfort when they appear on the cheek mucosa but may be painful when they involve the tongue whereas the red, inflamed lesions and open sores of oral lichen planus can cause a burning sensation or pain.¹²

The aim of this study was to make a cross sectional retrospective study analysis of oral lichen planus, which would give us better understanding about distribution of this disease amongst males and females, age predilection, unilateral or bilateral presentation, and aggravation of condition by spicy food, in the local population.

METHODOLOGY

A retrospective study was done using patients data obtained from archives of Oral & Maxillofacial Surgery and Diagnostic Departments of University Dental Hospital, the University of Lahore. Five years record was collected from January 2012 to December 2016. All patients those were diagnosed with oral lichen planus according to World Health Organization criteria were selected. Retrospective data of 217 patients was sorted out and included in the study by two observers. The age range was found to be between 15 years to 70 years.

The variables like age, gender, unilateral/bilateral distribution pattern, and association of spicy food as an aggravating factor were observed. Selected sample comprised of 217 patients that contained the required necessary information for this study.

Statistical Analysis was carried out using SPSS (Ver. 23). Descriptive analysis, one Sample T Test were done for statistical analysis, using this software.

RESULTS

Data sample of total 217 patients was selected over the span of last 5 years starting from 1st January 2012 to 31st December 2016. There were 146 (67.3%) female patients while male patients were 71 (32.7%) as shown in Fig 1. The ratio of female to male was 2:1. Patients between age ranges of 15 years to 70 years were observed in this study. Majority patients 150 (69.1%) fell in age group 31-40 years. Second most majority 30 (13.8%) was found in the age group 15-30 years. Third most majority 26 (12%) was seen in age group 41-60 years, and only 11 (5.1%) were between 61-70 years age as shown in Table 1. Mean age was found to be 36.5 and SD value 10.794. Majority of the patients 135(62.2%)

TABLE 1: AGE DISTRIBUTION

Age Range	n	(%)
15-30 years	30	13.82
31-40 years	150	69.12
41-60 years	26	12
61-70 years	11	5.1
Total	217	100.0

TABLE 2: ASSOCIATION OF SPICY FOOD AND LP

	Males	Females	Total
Spicy Food Associated (n%)	50(70.42%)	115(69.69%)	165(76.03%)

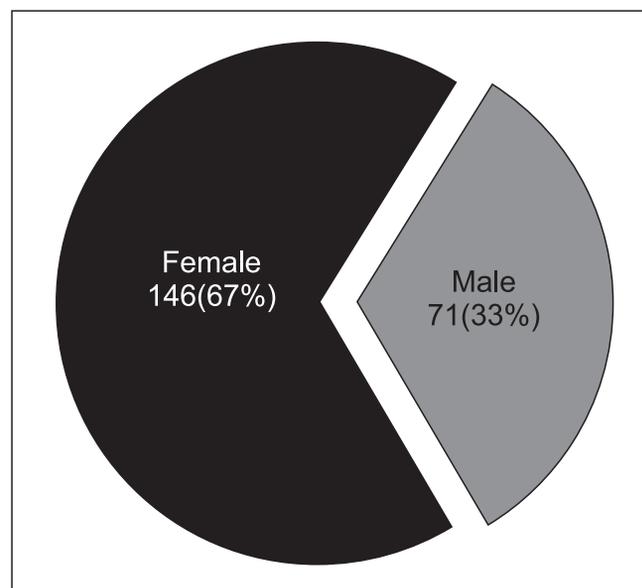


Fig 1: Gender distribution of Lichen Planus

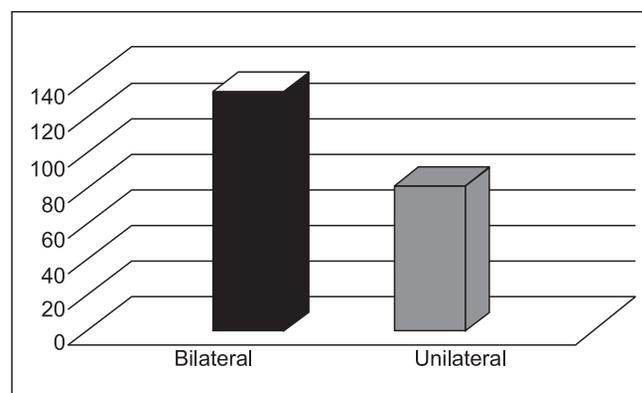


Fig 2: Site distribution of LP

were presented with bilateral involvement of oral mucosa with lichen planus, while unilateral presentation was observed only in 82(37.8%) patients, as shown in

Fig 2. 165 (76.03%) patients also reported that spicy food aggravates the condition, as shown in Table 2.

DISCUSSION

Oral Lichen Planus is a relatively common presenting oral mucosal lesion that continues to affect population with no definitive cure. Limitation of appropriate knowledge about the disease and its pattern of presentation may affect the diagnosis of the condition. In developing country like Pakistan with limited number of dental surgeons and oral physicians, a precise knowledge of identification and clinical diagnosis of oral lichen planus is needed, so as not to misdiagnose the disease. Most important finding of this study was the association of spicy food with lichen planus.

In general, the results obtained from this study were similar to other studies performed throughout the world like in Iran⁶, Chili¹³, India¹⁴, Italy¹⁰, and Romania.¹⁵ In this study 146/217 females 67.3% presented with this disease more than males, in a ratio of 2.1:1. The similar findings were observed in the study conducted by Serban Tovar et al¹⁵, in which most OLP patients were female 498/633 (78.67%). In the present study patients presented in age ranges of 15 years to 70 years. 69% of patients were amongst the middle age group 31-40 years. Second most prevalent age group was 41-60 years which was found to be around 12%. Young patients (age 15 to 30 years) were also observed, consisting 14% of the sample size. The exact reason for this pattern is not known. The mean age was found to be 36.5 years which is in accordance to the findings by Anita D Munde et al.¹⁴ According to Anita D Munde et al¹⁴ mean age of LP presentation was 36.9 years which supports the finding in this study.

The clinical presentation of oral lichen Planus is characteristically described by Dorina et al¹⁰ as "The papule is the elementary lesion that characterizes the OLP: their confluence can generate white reticular striae (Wickham striae) or plaques. Papular, reticular and plaque-like OLP are considered as hyperkeratotic or "white form", usually no symptomatic. On the contrary, atrophic, erythematous, erosive and bullous variants of OLP are symptomatic and distinguished as "red form". The OLP lesions were usually bilaterally/symmetrically localized and the most common involved sites were the buccal mucosa, tongue, gingiva, lips, floor of mouth, palate."¹⁰

Distribution pattern in this study was also consistent with the studies reported throughout the world. Irrespective of the exact site of lesion, the pattern of distribution in terms of unilateral or bilateral was noted and found that most prevalent pattern was bilateral. Bilateral presentation of LP was observed in 135 patients (62.2%) whereas the unilateral presentation was less seen, only in 82 patients (37.8%). Almost same

findings were seen in the studies conducted by Anita D Munde et al.¹⁴

Another important finding in the present study was, spicy food aggravated the symptoms of the patients. Not much work has been done on the association of Lichen Planus with any particular type of food. A total of 165 patients reported that the symptoms of Lichen Planus were either initiated or increased when they consumed different types of spicy food. As the local food cuisine involves a lot of spicy dishes used on daily basis, this finding was found to be affecting a majority of the patients, more than 76% (Table 2). Disease presentation was seen mostly in females but no significant difference was seen in spicy food association among males and females. 70.4% of males were seen reporting this aggravating factor and 69.7% females reported the same. However, the information on the type of spices, quantity of food, frequency of intake, cooked or uncooked meals and the timings of meal could not be appreciated from the selected data.

Reasons for uneven distribution among gender, different age groups, bilateral or unilateral distribution along with the association of initiation or worsening of symptoms of disease with the consumption of spicy food is still unexplained. The factor that a spicy food aggravates the symptoms of oral lichen planus was a new finding in the course of this study and it raises new questions as how this particular type of food may aggravate the disease and affect the symptoms, what quantity of such food may do so, what frequency may affect the symptoms, whether cooked or uncooked food aggravates the disease and what timings of the food intake were commonly associated. These new questions demand that more work needs to be done on this subject.

CONCLUSION

Lichen Planus is a worldwide occurring autoimmune disease of skin, nails, and mucosa which occurs in both males and females. Females were relatively more affected than males with a 2.1:1. The most prevalent affected age group was between 31 and 60 years. Young people were also affected. Mean age was noted to be 36.5 years. Mostly the presentation of lichen planus was bilateral in contrast to unilateral, irrespective of the exact site of lesion. A very important finding of this study was the association of lichen planus with spicy food. No significant work in literature was found in this regard, so more active research is required for better understanding about the disease.

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- 1 Shahzad Waheed Qureshi:** Introduction, Discussion writing, Data Collection and formatting of the article.
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- 3 Ahmad Ammar Shamsi:** Materials & Methods, Referencing and Results write up.