THE FREQUENCY OF ORAL LICHEN PLANUS IN SAMPLES SENT TO PATHOLOGY DEPARTMENT OF TABRIZ DENTAL SCHOOL (2006-2016) AND ITS RELATION WITH AGE, SEX, LESION TYPE AND LOCATION

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Abstract

Background & Aims: *Due to the lack of studies in this field, especially in the northwestern area of the country, the tendency for malignancy and the importance of its early diagnosis, this study aimed to investigate the prevalence of oral lichen planus lesions and its relation to age, gender, type and location of the lesion.* ***Methods:*** *In this cross - sectional study clinical records of all patients referred to pathology department of Tabriz Faculty of Dentistry in the past 10 years (2006-2016) were analyzed. The data including age and gender of patients and lesion location were recorded in a check list.* ***Results:*** *In this study from patients referred to dental school (2006-16), 64 patients with oral lichen planus were identified. 58 patients and 6 patients had non-erosive and erosive lichen planus, respectively. 30 patients were male (mean age=42.5± 12.1) and 34 patients were female (mean age =46.9±12.8). Most of the patients were in the age group 49-40 (31.3%). Most of the male and female patients were in the age group 49-40 (36.7%) and 59-50 (38.2%), respectively (P=0.49). The frequency of this lesion was the highest in the buccal mucosa (66.1%) and was the lowest in the labial mucosa, lips and edentulous ridge (each with 2.8%).* ***Conclusion:*** *Prevalence of lichen planus in women was slightly more than men. Most of the patients were in the age group 49-40 years whit mean age of 44.8 years. Most of the lesions were non-erosive and were located in the buccal mucosa.*

Key Words:
Oral Lichen Planus, Tabriz Faculty of Dentistry, Frequency, Age, Gender

Introduction

Oral Lichen planus is an inflammatory chronic skin disease related to T cells and with unknown etiology (1). Some factors and co-factors such as stress, diabetes, hepatitis C, trauma, and increased sensitivity to metals and drugs (2,3). Most of the researchers suggest Self-immune pathogenesis for it due to the unknown antigenic stimuli. Because of the fact that lichen planus is in relation to Graft Versus Host Disease (GVHD), the hypothesis that this an autoimmune disease will be supported (4, 5). From the clinical point of view, oral lichen planus includes reticuler, papuler, plaque, bulose, erythematosus, ulcerative. To diagnose oral lichen planus, the presence of reticuler and papuler is necessary. If there will be any wound in addition to bulose and erythematosus, the planus is named base on it (6, 7, 8). This disease is mostly seen in the middle aged women with the distribution rate of 2.3% – 0.5%. In the oral sore, the reticular type is more common and usually asymptomatic (10, 11). Some of the researchers believe that such a disease can lead to problems such as SCC. The malignant changes are seen mostly is the wound type, especially, when the sore is on the tongue, soft palate, and mouth (12). Moreover, planus is a disturbing disease which have symptoms such as pain and soring of the oral mucosa, feeling roughness in the oral mucosa, decreasing the flexibility of the mucosa, and limitation in opening the mouth. While the diagnosis of the lichen planus is done based on clinical and Histopathologic findings, the white mucosa will be remained in the primary stages (13, 14). There is scrutiny of research about lichen planus and the epidemiologic changes in Iran.

According to the investigation, the rate of lichen planus frequency is 9% (361 individuals) (15), 18.2% (420 individuals), (16), and 3.6 % (328 individuals) (17).

In the study conducted by Mathew et al. in the south of India in 2008, the distribution rate was 1.2%. the most frequent age was 41-60 and it was more seen in women (60%) (19).

In the study of Varghese et al. (2016) 122 patients of lichen planus were investigated. In this study the women showed more effects of lichen planus. The type of reticular was the most common form of buccal mucosa (20).

With a search in the databases in Iran, it can be found that there is scrutiny of research in north-west of Iran. However, it is highly important to diagnose the oral lichen planus to avoid oral and dental diseases and manage the appropriate situations for the patients. Moreover, with the results of clinical examination of this disease in Tabriz, it is revealed that this disease has increased; knowing that the epidemiologic change in this disease is quite important. Therefore, this study was conducted with the aim of investigating the frequency of oral lichen planus lesions in samples sent to pathology department of Tabriz Dental Faculty between 2006-2016 and its relationship with age, gender, type and location of the lesion.

Methods

In current study, the investigation was done on records of patients referring to Tabriz Dental Faculty during 2006-2016, and the diagnosis of the lichen planus was approved for them. Consequently, the sampling was complete. Data collected including age, sex, type and location of the lesion were recorded in the checklist. In the case of multiple lesions, the names of all the involved sites, along with the type of lesion, were recorded and analyzed, separately.

Results

In the current study 64 patients were recognized to have lichen planus in that their records were examined. 30 individuals (46.9%) of the patients were male with the mean age was 42.5 ± 12.1 and 34 (53.1%) female, with a mean age of 46.9 ± 12.8 (Table 1 and 2). while the mean age of female patients was higher than that of male patients, the t-value for the independent groups showed that this difference was not statistically significant (P = 0.159 and CI = -10.7 - 1.7).

In Table 3, the frequency distribution of patients is shown based on different age groups and gender. As it can be seen, most patients are in the age group of 40-44 (31.3%), 50- 59 (29.7%), and 39-39 (18.8%), respectively. Male patients were more in the age group of 40-44 (36.7%) while female patients were more in the age group of 50-60 (38.2%). Chi-square test showed that this difference was not statistically significant (p-value = 0.49).

58 patients (90.6%) had lichen planus and 6 (9.4%) had erosive lichen planus. Table 4 indicates the frequency of patients according to their type of lesion and their gender. As it can be seen in Table 4, the frequency of erosive lesions in female patients was higher than in male patients. However, Chi-square test showed that this difference was not statistically significant (p-value = 0.48).

Table 5 shows the distribution of oral lichen planus types based on the location of the lesion. Table 5 also indicates the frequency of this lesion in the buccal mucosa was the highest with 1.66% and lips and dentine ridge were 2.8%, the lowest in the labial.

Discussion

Oral Lichen planus is an inflammatory chronic skin disease related to T cells and with unknown etiology whose symptoms include pain and soring of the oral mucosa, feeling roughness in the oral mucosa, decreasing the flexibility of the mucosa, and limitation in opening the mouth (6-9). Some believe that this disease and specially the tongue wounds, the region of the tongue, soft palate and mouth, are potential to cause malignant issues such SCC. Diagnosis of lichen planus is based on a set of clinical and histopathologic findings (7 and 10). The current study was an attempt to examine the frequency of oral lichen planus lesions in samples sent to pathology department of Tabriz Dental Faculty between 2006 and 2016. The results of this study showed that only 64 cases of oral lichen planus were registered during this period, 58 of them (90.6%) had lichen planus and 6 (9.4%) had erosive lichen planus. In the study conducted by Shahsavari et al. during 2000-2010, about 40100 people were evaluated, with 0.9% of them (361) having lichen planus (15).

In the study done by Khalili et al. in Tehran, the clinical records of patients from 1968 to 2002 were examined. Of the 11,000 number of examined samples, 251 cases (2.2%) had definitive diagnosis of oral lichen planus (18).

The study of Pak Fetrat et al. which was done in Mashhad, the overall prevalence of 5 years old oral lichen planus (2001-2005) among 2379 people referred to the oral health department was reported 18.2% (420) (16). Shirani et al.in Isfahan in 2010 conducted a study out of 6509 patients referred to the pathology department during 21 years, 324 were white-mouth lesions, with a final diagnosis of 238 patients (3.6% of all patients), which found to have oral lichen planus (17).

In a 3-year study Mathew et al. in the south of the india in 2008, the lesion was 2.1% (143 individuals) among 1190 examined records. In a study by Varghese et al. during the years 2014 and 2015, 122 cases from 29606 patients with lichen planus (20). This can be due to the difference in the number of patients examined, the difference in the geographical area and other intervening factors.

Moreover, in the current study, the incidence of lichen planus was slightly higher in women than in men. Most of the patients were in the age group of 49-40 year-of- age with an average age of 44.8 year-of-age. The most common location was buccal mucosa and the tongue.

In the Khalili et al study, the mean age of the lesion was 42 years with a range of 5-83 years. The most common disease location was buccal mucosa, followed by tongue and gum. White spot, Wickham lines and mucosal erythema were the most common clinical features of the lesion (18). In the study of Pak Fetrat et al in 2008, the highest incidence of lichen planus was reported in women and in the age group of 30-44 year-of age. The mean age of patients was 41 year-of-age; 65% of them were female and 35% were male. Approximately, in 85% of patients, buccal mucosa was the most commonly involved region. The reticular was the most common pattern of involvement in patients (16). In another study conducted in the southern parts of India, the most prevalent age of involvement was in 60- 41 year-of-age and the prevalence of this lesion was (60%) in females (19). In the study of Varghese et al in 2016, lichen planus was more common among females. The reticular form was the most common form of buccal mucosa (20). The results of the current study are in line with the previous studies mentioned, in which the prevalence of lichen planus in females and in the age range of 40-50 year-of-age are reported. The most common problematic location was Buccal Mucus.

It is suggested that the studies will be conducted in domain of Iran by obtaining information from all the centers.

Conclusion

The results of this study showed that between 2006-2016 only 64 cases of oral lichen planus were recognized; 58 of them (90.6%) had non-erosive lichen planus and 6 (9.4%) patients had erosive one. Moreover, the incidence of lichen planus was slightly higher in females than in males. Most patients were in the age group of 49-40 year-of-age with an average age of 44.8 years.

Conflict of Interest:

None to declare.

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Table 1. the frequency distribution of the lichen planus patients based on gender

Gender	Frequency	Percentage
Male	**30**	**46.9**
Female	**34**	**53.1**
Total	**64**	**100**

Table 2. the age of the lichen planus patients based on gender

Gender	SD±Mean	Min. Age	Max. Age
Male	1.12 ± 5.42	20	71
Female	8.12 ± 9.46	21	84
Total	6.12 ± 8.44	20	84

Table 3. the distributions of the lichen planus based on gender and age group

Age group	Gender		
	Male	**Female**	**Total**
20-29	5(16.7)	3(8.8)	8(12.5)
39-30	6(20)	6(17.6)	12(18.8)
49-40	11(36.7)	9(26.5)	20(31.3)
59-50	6(20)	13(38.2)	19(29.7)
69-60	1(3.3)	2(5.5)	3.(4.7)
79-70	1(3.3)	0(0)	1(1.6)
89-80	0(0)	1(2.9)	1.(1.6)
Total	30(100)	34(100)	

Table 4. Frequency distribution (percentage) of lichen planus types based on the gender of patients

Type of lesion	Gender		
	Male	Female	Total
Non-erosive	28(93.3)	30(88.2)	58(90.6)
Erosive	2(6.7)	4(11.8)	6(9.4)
Total	30(100)	34(100)	

Table 5. Frequency distribution (percentage) of lichen planus types based on the location of lesion

Lesion location	F	Percentage
Buccal mucosa	**47**	**66.1**
Tongue	**14**	**19.7**
Gum	**4**	**5.6**
Labial mucosa	**2**	**2.8**
Lip	**2**	**2.8**
Toothless rage	**2**	**2.8**
Total	**71**	**100**