Original Research Article

Prevalence and Distribution of Oral Leukoplakia in Patients Attending Oral Medicine Department at Dentistry college in Tishreen University

Abstract

BACKGROUND: To find out the prevalence and distribution of oral leukoplakia in patients who are visiting the Department of Oral Medicine at Tishreen University is necessary to assess oral health and identify the risks of malignant transformation.

OBJECTIVES: The aim of this study was to find out the prevalence and distribution of oral leukoplakia in the patients who visited the Department of Oral Medicine at Tishreen University.

MATERIALS AND METHODS: The study was conducted on 500 patients of the Tishreen Oral Medicine Department at Tishreen University. The number of males was 348 and females 152. The number of who drink alcohol was 117 and non-alcoholic 383. The number of smokers was 279 and non-smokers 221. The average age of the sample was 52 years.

RESALTS: We found that the percentage of leukoplakia in the sample was 2.8%. There was a statistically significant correlation between leukoplakia and smoking, drinking alcohol, Increase in age and sex, and no relation was found with general diseases.

CONCLUSIONS: Increased incidence and associated risk factors (smoking, drinking alcohol, increasing age and sex) require dentists to carefully examine Oral mucosa for early detection of precancerous changes and therefore early treatment.

Comment [U1]: Spelling error needs to be corrected

Leukoplakia, smoking, drinking alcohol

Introduction :

Leukoplakia is “The lesion is often a white lesion on the mucous membrane of the mouth that can not be classified as any other disease”. [1] As such, it is not a specific disease in itself, where there is a clinical similarity and variable tissue manifestations. [2] Which are strongly attached to the mucosa and associated with an increased risk of cancer [4,3], the lesion has clear and

variable edges over time [5,3]. Advanced models have developed red spots and there are no other symptoms. [5] Mucosa sometimes though to other parts of the gastrointestinal tract or urinary tract Genitals may be affected [6,7,8].

leukoplakia is a descriptive term that should be launched only after excluding other possible causes. The cause of the episode is not known but the risk factors include smoking chewing tobacco, excessive drinking alcohol, viruses and chronic irritation and the use of nuts [9,3]. It is a pre-cancerous lesion where tissue biopsy generally shows an increase in correlations with or without abnormal cells [5,3] and is mixed with lichen planus , hyperkeratosis, and white candidiasis [3].

Comment [U2]: Aracanurt has been associated with oral submucous fibrosis. It would be beneficial if the authors could mention what nuts are mentioned here

Treatment recommendations depend on the clinical appearance and histological examination of the lesion. When abnormal cells are present, simple surgical removal is one possible solution. In other cases, monitoring for periods of three to six months may be sufficient. [3] People are advised to stop smoking and reduce alcohol intake. [3] In half the cases, When smoking continues, 66% of cases Increase thick and white. [5] These cases are more common with age and usually do not occur until after 30. [3] Rates may be as high as 8% in men over the age of 70. Several studies have been conducted on their prevalence and risk factors in several studies in different communities to determine the risk rate, which increases the predictability and ease of treatment

materials and methods :

- The sample consists of 500 patients who visite the Department of Oral Medicine at the Faculty of Dentistry at Tishreen University, who are over 16 years of age. The number of males is 348 and females 152, and 14 cases have been diagnosed as leukoplakia.

- The number of smokers 279 and non-smokers 221.

- The number of who drink alcohol was 117 and non-alcoholic 383.

- The number of people with systemic diseases 101 and the number of non-infected 399.

- The average ages were 52 years, while the age of those infected was between 49-62 years.

- A research form was designed in which the researcher recorded the patient's personal information (age and gender), Smoking (intensity, duration), Drinking Alcohol (Quantity, Frequency, Duration).

- The existence of general diseases through the use of indirect and directed questions.

- WHO standards for clinical diagnosis to leukoplakia were adopted.

- The statistical SPSS program was used to analyze the results.

3. Results:

3.1 Prevalence leukoplakia of the sample:

Statistics

leukoplakia

N	Valid	500
Mean		.028
Std. Deviation		.165
Sum		14

Table (3.1) Some descriptive statistics for the rate of leukoplakia

The previous table shows some metadata for the variable variable. The sample in question was 500. The number of individuals who had leukoplakia 14 was 2.8% and a standard deviation 0.16.

3.2 Relationship between leukoplakia and age:

The average ages were 52 years, while the age of those infected was between $49 - 62$. To test whether there was a relationship between leukoplakia and the age, we used the Point Biserial Correlation Coefficient, which is expressed in Pearson Correlation, next one:

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Correlations

		leukoplakia	age
leukoplakia	Pearson Correlation	1	.115*
	Sig. (2-tailed)		.010
	N	500	500
age	Pearson Correlation	.115*	1
	Sig. (2-tailed)	.010	
	N	500	500

Table (3.2) Correlation is significant at the 0.05 level $(2-$tailed$)$.

Note from the table that the correlation coefficient value is 0.115. The correlation is linear in the sense that the longer the age, the greater the probability of a coating. Although this coefficient is relatively small, the correlation is significant or significant at the significance level of 0.05 (Sig = 0.01 <0.05).

3.3 Relationship between leukoplakia and sex:

The number of males who do not have a diploma is 334 and the number of females is 152. However, it should be noted that those who have a class are male only.

To study the relationship between sex and class, a correlation coefficient can be used.

* Crosstabulation sex

Count

		sex		
		male	female	Total
leukoplakia	Non-leukoplakia	334	152	486
	leukoplakia	14	0	14
Total		348	152	500

Table (3.3): Some descriptive statistics on the rate of sex-related relationship

Symmetric Measures

	Value	Approximate Significance
Phi	.112	.012
N of Valid Cases	500	

Table (3.4) Relationship between leukoplakia and sex using Phi coefficient

Note from the above table that the value of the Fay correlation coefficient is 0.112, ie the correlation is positive or negative, which is a significant correlation (Sig = $0.012 < 0.05$).

3.4 The relationship between leukoplakia and smoking:

leukoplakia was distributed as follows:

There are two non-smokers and twelve smokers .

To study the relationship between smoking and class, a correlation coefficient was used.

* Smoking Crosstabulation

	Total	
	Non-smokers	smokers

Leukoplakia	Non-leukoplakia	219	267	486
	leukoplakia	2	12	14
Total		221	279	500

Table (3.5): The relationship between leukoplakia and smoking

Symmetric Measures

	Value	Approximate Significance
Phi	.154	.008
Cramer's V	.154	.008
N of Valid Cases	500	

Table (3.6): The relationship between leukoplakia and smoking using the laboratory Fay

Note from the above table that the value of the coefficient of Fay correlation is 0.154, ie the correlation is positive or negative, which is a significant correlation (Sig = 0.008 <0.05). In the sense that those who are increasing their smoking are more likely to have a class.

3.5 The relationship between leukoplakia and drinking alcohol:

Six people in the sample do not drink alcohol and eight drink . To study the relationship between drinking alcohol and leukoplakia can be used Chi-Square test.

* Alcohol consumption Crosstabulation

		Total		
		Non-alcoholic	alcoholic	
leukoplakia	Non-leukoplakia	377	109	486
	Leukoplakia	6	8	14
Total		383	117	500

Table (3.7) Relation between drinking alcohol and leukoplakia

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.890[a]	2	.001
Likelihood Ratio	9.971	2	.007
Linear-by-Linear Association	13.800	1	.000
N of Valid Cases	500		

Table (3.8) Relation between drinking alcohol and leukoplakia using Chi-Square Test

From the table above, the value of the Chi-Square test index is 14.89 and the test is significant at the significance level of 0.05 (Sig = 0.001 <0.05). That is, there is a link between drinking alcohol and leukoplakia.

3.6 The relationship between leukoplakia and systemic diseases:

The distribution leukoplakia among sample is as follows: Thirteen people are without systemic diseases and only one is with. To study the relationship between leukoplakia and systemic diseases, the correlation coefficients can be used coefficient of Phi

Crosstabulation

Count

		Systemic diseases		
		without	with	Total
leukoplakia	Non-leukoplakia	386	100	486
	leukoplakia	13	1	14
Total		399	101	500

(3.9)

Symmetric Measures

	Value	Approximate Significance
Phi	-.055-	.220
N of Valid Cases	500	

(3.10)

Note from the above table that the value of the coefficient of Phi correlation is equal to 0.055, ie, the correlation is weak and is insignificant at the level of 0.05 (Sig = 0.22> 0.05). It is not clear that those who have leukoplakia have a disease.

4.Discussion:

The prevalence of our study was 2.8% while the prevalence was 0.9% in a study by Reichart et al [10] While a high proportion was observed in Zhang et al. 9.18% [11] and 9.3% in a study conducted by Kumars et al [12] among the tribal population of Kundam province. In a study by Granero et al [13] in Mallorca it was 5,1%and It was 22% at Patil s et al [14].

The difference between prevalence rates in different studies is explained by a number of factors, including: sample size, the nature of the studied society, common habits (smoking and drinking alcohol) and the age of the studied sample, where we see a significant increase in prevalence in studies conducted on older persons. [14] The nature and climate of the region may also play a role.[12]

We found in our study that there was a positive correlation between the prevalence of the leukoplakia and the increase in age. Reichart et al. [15] agreed with us because he studied the German olders to a similar result while R Chandran et al. [16] Kassab et al [17] disagreed with us in a study conducted at the Lebanese University found no difference in the distribution of oral lesions among age groups. Several studies [15] [10] have found a positive correlation between age and leukoplakia. This may be explained by histological changes that occur with increase in age, as well as by prolonged use of oral habits (smoking, drinking alcohol).

In our study, we found that only males were affected by leukoplakia, indicating their association with sex. PA Reichart et al. [10] agreed that males are more affected than females 1.6% to 0.2% .

A study conducted in Budapest by J.Banoczy et al. [10] Where the ratio of males to females was 3.2% to 1% and It also reached the same conclusion Sujathy et al.[19] and Patil S et al. [14] In a study carried out by Cebeci Ar et al. in Ankara [52], the number of men was four times greater than that of women. These results may explain the different oral habits of the sexes (smoking and drinking alcohol) and may be the cause of occupational stress [21] and sex there are no studies to prove a direct relationship.

We found a positive correlation between prevalence of leukoplakia and smoking and this is consistent with many studies Femopase FI et al. [22] Gary et al.[23] Saraswathi et al. [24] Zhang et al. [11] and Mathewall et al [25].The agreement between studies on the presence of such a relationship may explain the effect of nicotine on the oral mucous and the changes it causes in mucous membranes. We found that there was a positive correlation between drinkink alcohol and leukoplakia, and we agreed with that, Zhang et al. [11], Saraswathi et al [26], and Sujathd et al.[19] and Rooban et al.[27]

While Cebeci Ar et al. [20] did not find a relationship between drinking alcohol and the risk of developing oral lesions. Explanation of the effect of drinking alcohol on the oral mucous where the excessive use of high alcohol, which contains (more than 25%) to the presence of gray board [28].

In our study, there was no relationship between the prevalence of leukoplakia and the presence of systemic diseases , Agreed with us Cebeci Ar et al. [20] This may be due to the low age of the sample and the nature of the studied society while Reichart et al. [15] disagreed with us This may be because he studied German elders with a high proportion of systemic diseases as a result of age.

Comment [U3]: Other authors such as Madiyal et al have also found similar results. The manuscript may benefit from the mention of similar studies conducted recently-
Status of thiocyanate levels in the serum and saliva of non-smokers, ex-smokers and smokers. Ananya Madiyal, Vidya Ajila, Subhas G Babu, Shruthi Hegde, Suchetha Kumari, Medhini Madi, Sonika Achalli, Priyadharshini Alva, Harshini Ullal. African Health Sciences. Vol 18, No 3 (2018)

Comment [U4]: Spelling error needs to be corrected

Conclusions:

The prevalence and distribution of oral leukoplakia were influenced by a range of factors (smoking, drinking alcohol, sex and age), but no association

was found with systemic disease, which should prompt dentists to examine the oral mucous in the most high risk factor groups for early detection of pre-cancerous lesions .

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