

# Prevalence of common white lesions in oral cavity among patients attended School of Dentistry in Sulaimani/ Iraq



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## Abstract

**Background:** White lesions in oral cavity constitute a rather common group of lesions that are encountered during routine dental clinical examination. These lesions include a wide range of diseases like candidiasis, leukoplakia, lichen planus and hyperkeratosis. This study was conducted to examine the prevalence of common white lesions in the oral cavity.

**Patients & Methods:** Examination was done for 500 patients visiting dental school, in Sulaimani city, Kurdistan region-Iraq from different age groups and sexes for presences of white lesions. Examination includes the type, site and size of the lesion in oral cavity.

**Results:** The result showed that about 44.2% (221 patients) had one type of white lesions with male predominance. Candidiasis and hyperkeratosis represented the majority of these cases 54.2% and 38% respectively while leukoplakia represented the less finding in this study (3.6%). According to the age group these lesion were founded in above 50 years patients more than the other groups.

**Conclusion:** White lesions in oral cavity may be symptomless and can be found by routine oral examination. Early diagnosis may aid in the treatment of these lesions.

**Keywords:** *White lesions, candidiasis, Leukoplakia, Lichen planus, hyperkeratosis.*

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## Introduction

White lesions of oral cavity such as candidiasis, hyperkeratosis, leukoplakia and lichen planus are commonly encountered during clinical dental practice. Many of them are harmless and don't require any treatment other than reassurance from the side of clinician. But still a small minority roughly 4% is potentially dangerous if left unattended<sup>(1)</sup>.

Majority of oral white lesions are inflammatory or reactive, a reaction to some form of local trauma. A small minority of white lesions does carry significant cause for further concern and that emphasize the need for a clinical means to distinguish white lesions that have high probability for premalignant or frankly malignant behavior<sup>(2)</sup>.

Oral cavity Candidiasis which caused by candida albicans is the most common causative organism for oral candidiasis occur as commensal micro-organism in about 50% of adult with natural teeth and without any observed signs of infection<sup>(3,4)</sup>. However, other reports showed that the prevalence of those micro-organism in

clinically normal mouths of healthy adults range from 3%-48%<sup>(5)</sup>.

Lichen planus is chronic disease of skin and mucous membrane which is relatively common of worldwide distribution, it is an inflammatory dermatological disease frequently manifesting in the oral cavity and usually involves some degree of hyperkeratosis or epithelial hyperplasia<sup>(6)</sup>.

Oral leukoplakia has been recognized as a medical entity of significance since the later decades of the last century, and its importance as a possible premalignant condition has been suggested as long<sup>(7)</sup>. The clinician will be left with a category of unclassified keratotic lesions that do not fit into any of the above mentioned subgroup. Such lesions meet the criteria to qualify for a leukoplakia as laid out by the definition of the word leukoplakia<sup>(8)</sup>.

Despite careful clinical evaluation some white lesions remain as clinical problems which needs further investigations and follow up. This study was planned to determine the prevalence of white lesions in the oral cavity among patients visiting

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the clinic of school of dentistry in University of Sulaimani city for a first time.

**Patients and methods:**

The study included examination of oral cavity of 500 patients attended the clinics of dental Sulaimami dental school. Patients from different sexes and age groups were examined to find the white lesion in oral cavity. In addition to the patients' information the type and site of the lesion in oral cavity were included in the study. The data were tabulated and analyzed statistically.

**Result**

The results showed that 220 patients (44.2%) out of 500 patients with white lesion in the oral cavity during clinical examination distributed into 41.6% (92) female and 58.3% (128) male. Candidiasis was the most common lesion found in the oral cavity (53.6%) followed by hyperkeratosis (38%) as in table (1). According to the age group patients above 50 years were the most affected by these lesions table (2).

There was male predominance in distribution of the lesions in oral cavity according to the sex in all types of white lesions except for lichen planus were the female affected more than males in fig. (1). Candidiasis of the floor of the mouth and hyperkeratosis of the cheek represented the most affected area of the oral cavity as in fig.(2).

Table. 1: Type of lesions in 221 patients

Type of lesion	Number	Percentage
Hyperkeratosis	84	38.00%
Candidiasis	118	53.60%
Lichen planus	10	4.50%
Leukoplakia	8	3.60%

**Discussion**

White lesion of oral mucosa represents a wide group of diseases affecting oral epithelium. The results of the study may give an idea about the prevalence of white lesions in the oral cavity in Sulaimani city –Kurdistan region. In this study we consider the age of the patients examined because the prevalence of both reactive and degenerative lesion increase with age (9).

The finding of this indicted that oral candidiasis had the highest incidence rate among other lesions groups. This rate of candidiasis (53%) is higher than other study includes large sample of patients (10). Chronic candida infection related mainly with tow conditions which systemic diseases and the use of complete denture by patients. The way of wearing complete denture by the patients included in this study was greatly affected the results. Most of sample patients were used their dentures continuously or they were used them over long lime even for many years without change these dentures. The high incidence of candida infection may explained by those reasons. On other hand this highlights the importance of education of the patients about how to use their dentures.

Hyperkeratosis composed the second most common type of white lesion in this study (38%) mainly in to form either traumatic or frictional hyperkeratosis. Other research mentioned that prevalence of hyperkeratosis lesion was varied from 0.9 to 1.9% (11,12). Actually hyperkeratosis may be related to many factors like irritation, habits, systemic diseases and congenital causes. Although the results showed high prevalence of hyperkeratosis but in the most cases it's could be treated according to the cause of the lesion and the important point in this field is to make the diagnosis early.

The prevalence of leukoplakia varied in different studies and also varied in its incidence in different communities as it related to many factors. Age, sex, habits, oral hygiene and systemic diseases contributes to this variable finding. The prevalence of oral leukoplakia based

Table 2: Distribution of the white lesions according to the age group.

Age group	Candidiasis		Hyperkeratosis		Lichen planus		Leukoplakia	
	Male	Female	Male	Female	Male	Female	Male	Female
20-29yrs.	10	11	7	3	1	0	1	0
30-39 yrs.	10	9	21	9	1	1	1	0
40-49 yrs.	17	9	12	9	1	2	2	1
>50 yrs.	27	25	13	10	1	3	2	1
Total	64	54	53	31	4	6	6	2

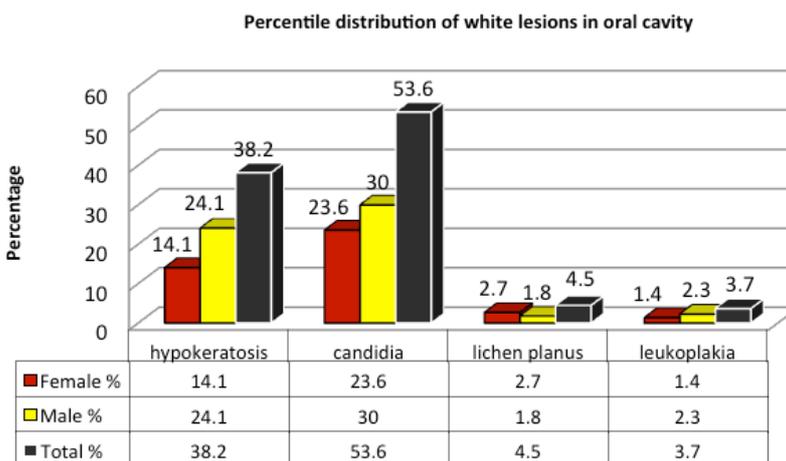


Fig. 1. Distribution of white lesions in oral cavity according to the sex.

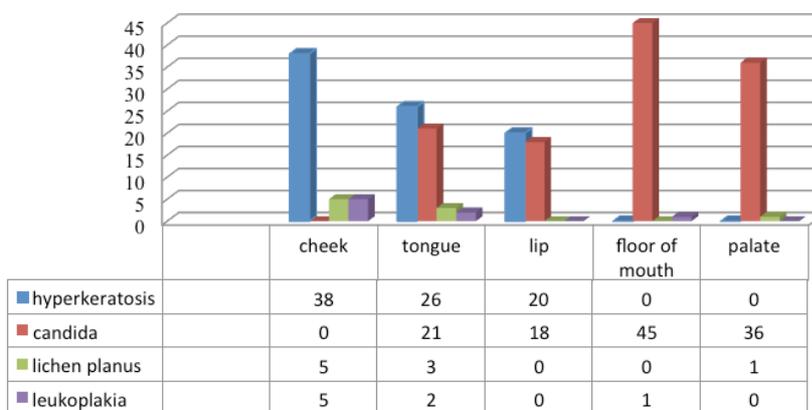


Fig. 2 Distribution of white lesions in oral cavity according to the area.

on epidemiological data from different countries over the last 30 years varies from 1%-13% with main value of 3%<sup>(13)</sup>. According to Waldron and Shafer<sup>(14)</sup> leukoplakia represents about 4.5% of total number of oral white lesions. While Alani and Talabani reported that the prevalence of leukoplakia is 4% in Iraqi patient<sup>(15)</sup>, which is in agreement with the result of this study. Authors reported that the most frequent site of oral leukoplakia was on the buccal mucosa 62.5% followed by hard palate 14.2% and retromolar region 8.5%<sup>(16)</sup>. The buccal mucosa, floor of the mouth, lateral tongue and soft palate have the highest rate of localization<sup>(17,18)</sup>. All these result consistent with this research although the time and place is different.

Oral lichen planus considered a precancerous condition, is generally located bilateral and its etiology is not fully understood<sup>(19,20)</sup>. Axell and Rundquist found a prevalence of lichen planus among Swedish people about 1.9% and especially among young people<sup>(21)</sup>. The present study showed the incidence of oral lichen planus is 4% which is higher than the above mentioned study.

This may attributed to the sample used or the different in the ethnic groups of both studies.

The data of this study may provide information on the epidemiological aspect of common oral white lesions, which help in planning future oral health studies and implementing preventive program in Sulaimani city. Finally, it may be observed that the majority of lesions can be identified and controlled through education and measures targeted to both the general population and to dental professionals.

**Conclusion**

Every patient must subject to routine examination of oral tissues to detect white lesions as most of these lesions are symptoms less and can be found by routine oral examination this will help in early diagnosis and treatment of these lesions.

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