

## Original Article

# Assessment of white lesion in known population group: A Pilot Study

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### Abstract

**Background:** A wide variety of white lesions are encountered in general population and specially those people with habits of tobacco chewing and smoking. Assessments of white lesions totally depend on early detection and prevention. **Aim:** To assess prevalence of white lesions in known population. **Material and Method:** 100 patients were included in the study. An oral screening campaign was organized to screen all the patients. Patients aged above 18 years were included in the study. All the patients were interviewed and clinically examined for any signs of white lesions. **Result:** A total of 100 patients were included in the present study, 40% males and 60% were females. Of the 100 patients burning sensation in 45 patients, 30/100 patients were suffering from ulcer i.e. 30%, and 10 cases showed no symptoms. 72% cases involved right buccal mucosa and 70% cases left buccal mucosa. **Conclusion:** the risk of development of white lesion is not very uncommon. Tobacco has a important role to play. Increase in awareness can help to minimize the condition.

**Keywords:** white lesions, tobacco, smoking, precancerous lesions.

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## INTRODUCTION

Oral cavity is hub of bacteria. Some of these bacteria are involved in oral diseases like dental caries and periodontitis. Oral cavity is exposed to number of external factors which could explain the presence of numerous bacteria.<sup>1</sup> Micro flora of oral cavity is complex and a very little is known about it. Sometimes micro flora of oral cavity is disturbed due to long use of antibiotic therapy, compromised immune system etc; which can further lead to oral diseases. White lesions are one of the common finding of oral cavity. Lesion appear white in oral cavity is due to replacement of normal keratin by abnormal keratin and abnormal keratin can reflect the spectrum of light evenly and due to constant bathing of the hyperkeratotic tissue in saliva.<sup>2</sup> According to

World Health Organization 1978 oral leukoplakia is defined as: "A white patch or plaque that cannot be characterized clinically or pathologically as any other disease."<sup>3</sup> World health organisation in the year 2007 redefined leukoplakia as the term leukoplakia should be used to recognize white plaques of questionable risk having excluded (other) known diseases or disorders that carry no increased risk for cancer.<sup>4</sup> White lesions are often associated with various risk factors like tobacco, gutka, smoking.<sup>5</sup> According to the data available the prevalence of oral cancer is the second highest among all cancers in men and is estimated that 100,000 more new cases are being detected annually and 90% of all oral malignancies are oral squamous cell carcinomas in India.<sup>6</sup> So we aimed to study the

prevalence of white lesions in known population and associated risk factors.

### MATERIAL AND METHOD:

A cross sectional study was planned. Sample size selected for the present study was 100 patients aged above 18 years. Ethical clearance was obtained at the beginning of the study from ethical committee. A detailed description regarding the investing procedures was explained to patients and attendees. A written informed consent was obtained from patients.

Inclusion criteria:

- All the patients presenting with symptoms of white lesions
- Patients aged above 18 years.

Exclusion criteria:

- Patients aged below 18 years
- Patients with mental retardation
- Pregnant females

A detailed history was obtained from patients which included patients identification details, presenting complaints, duration of the disease, personal habits including addictions, past history and family history. A detailed clinical examination was performed including general examination, examination of oral cavity. Biopsy was planned for all the patients with lesions. Laboratory investigation and histopathological examination was performed for required cases.

### STATISTICAL ANALYSIS

Data was collected and analyzed using the computer software, Statistical Package for Social Science version 10. For all statistical evaluations, a two-tailed distribution was assumed and *P* value < 0.05 was considered significant.

### RESULTS

A total of 100 patients were included in the present study. Of the 100 patients 40 were males i.e. 40% and 60 were females i.e. 60% (Table 1). The age group selected for the [resent study were patients aged above 18 years, in current study. In current study 10/100 patients were aged between 18 to 30 years (10%). 35 patients were aged between 31 to 40 years i.e. 35%. 40 patients were aged between 41 to 50 years i.e. 40% and 15 were aged between 51 to 60 years i.e. 12% (Table 2).

In the present study, symptoms like dryness, burning sensation, ulcer etc were examined. Of the 100 patients dryness was recorded in 10 cases (10%), burning sensation in 45 patients, difficulty in mouthy opening in 5 cases (5%). 30/100 patients were suffering from ulcer i.e. 30%, and 10 cases showed no symptoms. In our study burning sensation was observed more commonly, followed by ulcer (Graph 1). In our study, white lesions were present on different sites, most common site was right buccal mucosa in 72/100 cases i.e. 72%, 70 cases in l.<sup>3</sup>tongue, 16/100 patients reported white lesion on gingiva, lateral part of tongue was involved in 14 cases, in 10 cases hard palate was involved whereas only 1 case was observed involving floor of mouth (Graph 2).

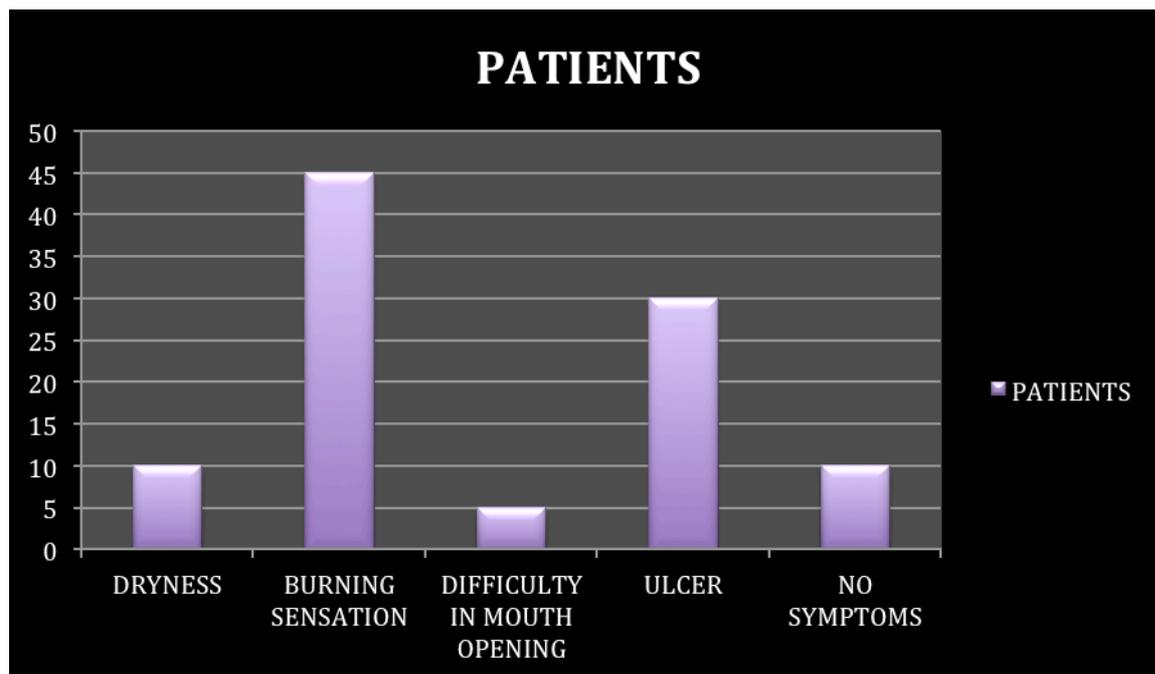
**Table 1: Patients demographic details**

Gender	n	Percentage
Males	40	40%
Females	60	60%
<b>TOTAL</b>	n = 100	100%

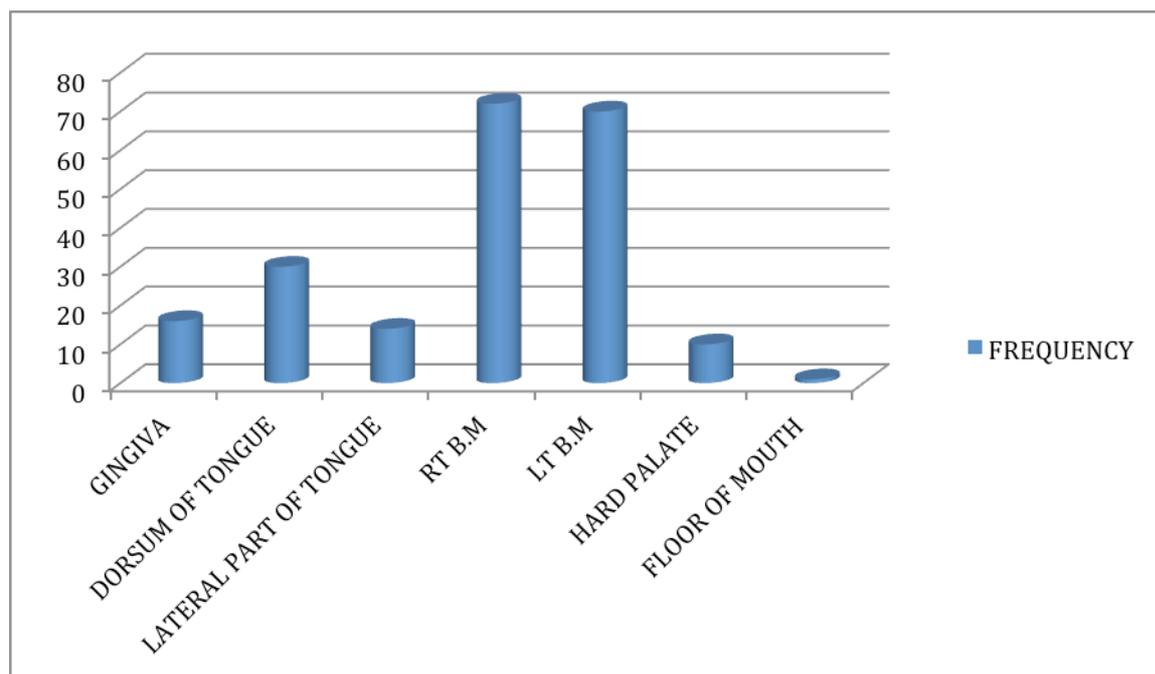
**Table 2: AGE DISTRIBUTION**

Age Group	Number	Percentage
18-30	10	10%
31-40	35	35%
41-50	40	40%
51-60	15	15%

**Graph 1: MOST COMMON SYMPTOMS OBSERVED**



**GRAPH 2: COMMON SITE OF WHITE LESION**



## DISCUSSION

White lesions are frequently encountered in individuals. Patients often tend to ignore the lesions until any discomfort is felt. White lesions can be both benign and malignant. It can affect people of all the age groups. In the present study, most of the patients were aged between 41 to 50 years i.e. 40%. Most of the patients suffering from white lesions had tobacco chewing and smoking involved. Study reported by Bhowate *et al* reported that 66.3% of the population chewed tobacco in the form of betel quid.<sup>7</sup> According to the data available 26.8% prevalence of oral mucosal changes in subjects with habits.<sup>8,9</sup> However in present study association between white lesions and habits were not included. Site of the lesion varies in patients and it depends upon the type of habit involved. Laronde DM et al in their study suggested that tobacco and alcohol are the potential risk factors of oral malignancy and 75% of oral cancer patients are regular users of tobacco or alcohol. In the present study, 80% of patients were found to be using tobacco regularly.<sup>10</sup> The most common site observed in present study was right and left buccal mucosa in 72% and 70% cases. 30% cases were observed in dorsum of tongue, 16% patients reported white lesion on gingiva, lateral part of tongue was involved in 14% cases, in 10% cases hard palate was involved whereas only 1% case was observed involving floor of mouth. Few studies have reported that the most common sites are buccal mucosa, alveolar mucosa and lip while others have shown that the buccal mucosa (46% patients) is the most common site followed by gingiva 40%, palate 27%, tongue 26%, floor 22% and lip 11% .<sup>11,12</sup> Burning sensation was found to be the most common symptom observed among patients in present study. Symptoms may differ for each patient and it depends on the type of lesion as well as site. Based on the histopathological results 10% cases in present study were diagnosed as leukoplakia while other cases have reported a prevalence rate of 8.2%.<sup>13</sup>

## CONCLUSION

Within the limits of our study we conclude that white lesions are very common among people.

Risk factors like tobacco chewing should not be ignored. Educational program should be conducted to increase patients knowledge regarding white lesions and its harmful effect should be explained. Early diagnosis can help to prevent the disease.

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