

Oral Leukoplakia: A Premalignant Condition

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Abstract: Oral leukoplakia is a predominantly white lesion of the oral mucosa that carries an increased risk of malignant transformation. Risk of malignant transformation may vary ranging from 2 to 3 percent or even much higher. Common association has been seen with tobacco smoking with preponderance to male sex. Various surgical and non-surgical treatment modalities have been used to treat this condition, but recurrence is equally common with all of them. Due to limited research and poor definition of oral leukoplakia, this subject still needs more research on an international level to improve its outcome.

Keywords: leukoplakia, white patch, pre-malignant condition

1. Introduction

Leukoplakia is a Greek word-Leucos means white and Plakia means patch. It was first coined in the second half of the 19th century by the Hungarian dermatologist, Schwimmer in 1877 [1, 2]. Leukoplakia is a condition in which one or more white patches or spots (lesions) forms inside the mouth. The aetiology of Oral leukoplakia is considered multifactorial, but smoking is considered to be a frequently involved factor. It is much more common among smokers than among non-smokers. Others factors which are supposed to be associated are chewing of tobacco, areca nut and in some occasion with heavy use of alcohol but there are not much studies proving occurrence with alcohol use. Some points towards its synergistic effect with other factors. Long Standing oral candidiasis, trauma, chronic dental ulcers, malocclusion of teeth can lead to lesions that later on convert into leukoplakia. The reported annual risk of malignant transformation of oral leukoplakia varies in the numerous studies on this subject and range from 2 to 3% or even much higher. The cancer may develop at or near the site of the leukoplakia or elsewhere in the oral cavity and the head-and-neck area [3, 4].

Epidemiology

The estimated prevalence of oral leukoplakia is approximately 0.1%, but may vary in different parts of the world. The prevalence of leukoplakia in India varies from 0.2% to 4.9%. Men are affected more frequently than women, and a vast majority of leukoplakia occurs in the age range of 35-45 years [5]. The most common sites are the buccal mucosa, alveolar mucosa, and lower lip; however, lesions in the floor of mouth, lateral tongue, and lower lip are most likely to show dysplastic or malignant change [6].

Staging

There is great difference of opinion worldwide in labelling and staging oral leukoplakia, which is hindering with its diagnosis and treatment.

One of the commonly acceptable systems is TNM clinical staging system for oral leukoplakia (OL system) was recommended by WHO in 2005 taking into account the

size (L) and the histopathological features (P) of the lesion [6].

(L-Size of leukoplakia)

L1-Size of leukoplakia is < 2cm

L2-Size of leukoplakia is 2-4 cm

L3-Size of leukoplakia is > 4cm

Lx-Size of leukoplakia is not specified.

(P-Pathology)

Px-Dysplasia not specified in pathology report

P0-No epithelial dysplasia

P1-Mild to moderate epithelial dysplasia

P2-Severe epithelial dysplasia

Other one is BANOCZY (1977) [2] According to which:

Type I-Leukoplakia Simplex-a uniform raised plaque formation, varying in size, with regular edges.

Type II-Leukoplakia Verrucosa-a lesion with slightly raised, rounded, red or white excrescence, that may be described as granules or nodules.

Type III-Leukoplakia Erosiva-it is characterized by verrucous proliferation raised above the mucosal surface.

2. Case Report

[1]. A 44 years male who is a chronic smoker presented to ENT OPD with chronic fissuring of bilateral angle of mouth and stomatitis was initially put on topical steroid triamcinolone, multivitamins, and vitamin C for 2 weeks. Some improvement was noted but lesions over angle of mouth extending to buccal mucosa did not fully disappear. Meanwhile he has been planned for excision biopsy under local anaesthesia and was worked up for the same. On routine investigations fasting blood sugar was 118mg/dl, Haemoglobin was 13.2gm/dl, Bleeding time 1 minute 45 seconds, Clotting time 4 minutes 30 seconds. Patient had negative serology and serum Urea was 42mg/dl and serum creatinine was 0.72mg/dl. Patient is planned for an excision biopsy under local anaesthesia.



Figure 1: Photograph of patient showing leukoplakia of angle of mouth extending to buccal mucosa.

[2]. A 50 year old male patient presented to ENT OPD with whitish lesions over the soft palate for 4 months. This patient is a chronic smoker and tobacco chewer for the past 30 years. Punch biopsy was taken and sent for histopathological examination, which later on turned out to be verrucous squamous cell carcinoma. Patient was subjected to radiotherapy later on for the same.



Figure 2: Photograph of patient showing whitish growth in soft palate

3. Discussion

Treatment modalities

The main aim in oral leukoplakia's management of care is to detect and to prevent malignant transformation.

Cessation of tobacco habits may result in regression or even disappearance of the lesion. Although spontaneous regression of oral leukoplakia is less likely. In our setup treatment of oral leukoplakia is commonly done by surgical removal of the lesion. With advent of new techniques, many other treatment modalities such as harmonic scalpel, electrocoagulation, cryosurgery, laser treatment by CO₂ evaporation of excision and other type of lasers, and various nonsurgical treatments such as application of retinoids, beta-carotene, vitamin C

supplements, topical steroids, bleomycin, and 5-fluorouracil are being used. But recurrences are common with all types of modalities. Recurrence rates as high as 10 percent may be seen [7]. Even in surgical resection of the lesion, it doesn't lower the risk of recurrence, but give a better assess for histopathological diagnosis. For better understanding and uniformity in diagnosis and treatment, more research on this subject is needed worldwide.

4. Conclusion

Paucity of research and vague definition of oral leukoplakia in all these past years, has hindered in progress of treatment and management of oral leukoplakia. It is need of the hour to make certain fixed definitions, so that these lesions could be addressed in a better way and various treatment modalities could be assessed and offered to patients in terms of outcomes.

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