Review Article

Keratotic White Lesions of Oral Mucosa: An Oral Stomatologist Perspective

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Abstract

White lesions are common findings in the oral cavity and may affect any surface such lesions are often an incidental finding on routine examination. The process of clinical diagnosis and treatment planning is of great concern to the patient as it determines the nature of future follow up care. White lesions of the oral mucosa represent a diagnostic challenge for dental practitioners, because similar appearances are the final common manifestation of a wide spectrum of conditions. The lesions represent diagnoses of varying seriousness, ranging from traumatic keratosis to dysplasia and squamous cell carcinoma. Some clinical features are classical and others overlap between different diagnoses, they should be correlated with patient history. Clinical diagnostic skills and good judgment forms the key to successful management of white lesions of the oral cavity.

Key words: Keratotic, white lesions, leukoplakia, mucosa

Introduction

Oral white lesions are a common clinical finding in a recent study of more than 17,000 people in the United States, these lesions were found in 27.9%. The lesions represent a wide spectrum of diagnoses of varying seriousness, ranging from traumatic keratosis to dysplasia and squamous cell carcinoma. White patches may be isolated or involve multiple areas and have variable presentations including linear patterns, plaque-like lesions, diffuse patches and mixed white and
erythematous areas. Most of the oral diseases have pathognomic & characteristic clinical features which can serve as pathfinder in the diagnosis. White lesions appear white due to increased thickness of surface epithelium and reduced vascularity. It is important to investigate the lesion with a thorough history, examination and the appropriate investigations. This article briefly reviews common lesions which may present as a white patch in the oral cavity and their management.

White Lesions (Acc to Burket's Oral Medicine 9th Edition)

| Lichen Planus | Asymptomatic, commonly bilateral, white plaque arranged in striated pattern associated with erythema, affecting predominantly the buccal mucosa, tongue and gingiva, which affect the history of stress. Corticosteroids are the mainstay of OLP therapy because of their activity in dampening cell mediated immune activity and are administered topically, intralesionally or systemically. The combination of systemic and topical steroid therapy is often very effective. Localized oral lesions are treated with topical ointment, applied two to four times daily after meals and generalized oral lesions are often treated effectively with a steroid mouth rinse twice daily after meals. Treatment of OLP with cyclosporin, azathioprine, levamisole, griseofulvin, retinoids, hydroxychloroquine sulphate, dapsone and psoralen/UVA has been reported. (Fig 1) |
| Nicotine Stomatitis | Nicotinic stomatitis occurs almost exclusively in heavy pipesmokers and rarely in cigarette or cigar smokers. It characteristically occurs posterior to the rugae as redness on the palate, which later assumes a grayish-white and nodular appearance due to periductal keratinization of the minor salivary glands. A characteristic finding is the appearance of multiple red dots, which represent the dilated and inflamed duct openings of the minor salivary glands. Thermal and chemical agents acting locally are responsible for the occurrence of this condition. The treatment of choice is smoking cessation. |
3. **Leukoedema**  
Located Bilaterally on buccal mucosa, gray-white, diffuse, wrinkled surface, disappears on stretching mucosa and it has milky surface with an opalescent quality. No treatment is required.\(^6\).

4. **Leukoplakia**  
White patch, Localised or extensive, slightly elevated, wrinkled surface. On palpation these lesions may feel leathery to “dry or cracked mud like.” Treatment requires cessation of habit. The use of beta-carotene has potential benefits and protective effects against cancer are possibly related to its antioxidizing action.\(^12\) The supplementation of lycopene (8 mg/day and 4 mg/day) reduced hyperkeratosis.\(^13\) Recommended daily allowance for ascorbic acid ranges between 100–120 mg/per day for adults.\(^13\) The recommended daily limit rates for \(\alpha\)-Tocoferol (Vitamin E) are 10 mg/day for adult men and 8 mg/day for adult women.\(^14\) In the systemic use with dosage of 300000 IU of retinoic acid (Vitamin A) and in topical use with dosage range from 0.05% to 1%.\(^13\) Topical bleomycin was used in dosages of 0.5%/day for 12 to 15 days or 1%/day for 14 days.\(^13\) (Fig 2)

5. **Hairy tongue**  
Abnormal coating on the dorsum of tongue occur due to neglected oral hygiene, use of antibiotics and immunosuppressive drugs, oral candidiasis, excessive alcohol consumption and smoking. Desquamation of the filiform papilla leads to hair like appearance. Treatment focused on elimination of predisposing factors and removal of filiform papilla.\(^15\)

6. **Geographic tongue**  
It is a benign, inflammatory disorder, circumferentially migrating and leaves an erythematous area behind, atrophy of filiform papilla and occurring most commonly on the dorsum of the tongue and on the lateral borders.\(^16\) For painful BMG, recommended supportive and symptomatic management would include a bland diet, plenty of fluids, acetaminophen for systemic pain relief, and a topical anesthetic agent such as
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### 7. Hairy Leukoplakia

Usually in an immunocompromised or immunosuppressed host. May serve as a pre-AIDS sign. Located on Lateral border of tongue. Early lesions are fine, white, vertical streaks with corrugated surface or vertical folds and later lesions are plaque like. OHL is usually asymptomatic. Topical retinoids (e.g. 0.1% vitamin A may improve the appearance of OHL-affected oral surfaces through their dekeratinizing and immunomodulating effects. Topical podophyllin has also been reported to induce resolution of OHL. Hairy leukoplakia can be treated successfully with antiviral drugs. Antiviral agents such as acyclovir, zidovudine, desciclovir ganciclovir. Lesions recur soon after discontinuation of therapy.

### 8. Candidiasis

Oral candidiasis is a common opportunistic infection of the oral cavity caused by an overgrowth of Candida species, the commonest being Candida albicans. Associated with predisposing factors include immunosuppression, diabetes mellitus, antibiotic therapy, xerostomia and use of dentures. There are a number of different types of oropharyngeal candidiasis including acute pseudomembranous, acute atrophic, chronic hyperplastic, chronic atrophic, median rhomboid glossitis, and angular cheilitis. *Pseudomembranous candidiasis (thrush)* is characterised by extensive white pseudomembranes consisting of desquamated epithelial cells, fibrin, and fungal hyphae. These white patches occur on the surface of the labial and buccal mucosa, hard and soft palate, tongue, periodontal tissues, and oropharynx. The membrane can usually be scraped off with a swab to expose an underlying erythematous mucosa. *Acute atrophic candidiasis* is usually associated with a burning sensation in the mouth or on the tongue. The tongue may be bright red similar to that seen with a low serum B12, low folate, and low ferritin. *Chronic hyperplastic candidiasis* characteristically occurs on the buccal mucosa or lateral border of the tongue as speckled or
9. White Sponge Nevus

White sponge nevus (WSN) is a rare hereditary dyskeratotic hyperplasia of mucous membranes. Present at birth, or in early childhood, located on buccal mucosa. The lesions consist of symmetric, thickened, white, corrugated or velvety, diffuse plaque with an elevated and irregular surface comprising fissure or plaque formations. No treatment is required.

10. Frictional Keratosis

Seen in edentulous areas of the alveolar ridge. Reducing predisposing factors are sufficient. No surgical intervention is required.

12. Chemical Burn

Result from applying analgesics such as aspirin or acetaminophen, to the mucosa adjacent to an aching tooth, mild white filmy desquamation seen in oral mucosa. Areas of necrosis typically heal without scarring in 7-10 days after discontinuation of the drug. Simultaneously palliative and symptomatic treatment such as topical anaesthetics (benzocaine gel) and topical corticosteroids (Triamcinolone ointment) may be helpful.

13. Linea Alba Buccalis

White line, seen bilaterally, streak on buccal mucosa at the level of occlusal plane extending horizontally from commissure to most posterior teeth.
Conclusion

Oral white lesions are not uncommon and a significant number of patients are asymptomatic. The dental professionals should be familiarize with their pattern and presentation to effect early diagnosis and management.

References


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