

CAUSES AND CLINICAL PICTURE OF ORAL LEUKOPLAKIA

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Annotation. Oral leukoplakia (OLK) is a common mucosal pathology frequently encountered in general dental practice which belongs to a group of conditions known as oral potentially malignant disorders (OPMDs). This inferred risk of progression to oral squamous cell carcinoma warrants an understanding of the etiology of this condition, its clinical presentation, and how patients diagnosed with OLK are managed in both general and specialist care practices.

Keywords: Leukoplakia, management, surgical, nonsurgical treatment, carcinoma.

ПРИЧИНЫ И КЛИНИЧЕСКАЯ КАРТИНА ЛЕЙКОПЛАКИИ ПОЛОСТИ РТА

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Аннотация. Оральная лейкоплакия (ОЛК) является распространенной патологией слизистой оболочки, часто встречающейся в общей стоматологической практике, которая относится к группе состояний, известных как оральные потенциально злокачественные заболевания (ОПЗЗ). Этот предполагаемый риск прогрессирования в оральную плоскоклеточную карциному требует понимания этиологии этого состояния, его клинической картины и того, как пациенты с диагнозом ОЛК лечатся как в общей, так и в специализированной практике.

Ключевые слова: лейкоплакия, лечение, хирургическое, нехирургическое лечение, карцинома.

Introduction

Oral leukoplakia (OLK) is a common cause of such white patches. Oral leukoplakia is defined as a white patch of questionable risk having excluded all (other) potential causes that carries no increased risk of carcinoma. Given the risk of malignant transformation associated with leukoplakia, it is imperative that general dental

practitioners (GDPs) recognise oral leukoplakia and understand the appropriate management of this condition.

The development of oral leukoplakia appears to be multifactorial in nature. However, the definitive cause is unclear. Smoking has been identified as the predominant risk factor, with oral leukoplakia six times more common in smokers. Alcohol is recognised as an independent risk factor for oral leukoplakia.

Oral leukoplakia may be subclassified into homogeneous and non-homogeneous forms. Homogenous oral leukoplakia is characterised by a predominantly flat, uniform, often well-demarcated white patch, with a consistent surface topography, and it usually lacks symptoms. Non-homogenous oral leukoplakia should be regarded with significant suspicion as it carries a higher risk of malignant transformation than homogenous oral leukoplakia. There are several diverse clinical presentations including erythroleukoplakia, which is defined as a mixed white and red patch, but retaining a predominantly white colour.

The prevalence of leukoplakia varies among various scientific studies. It has a comprehensive global review point at a prevalence of 2.6% and a malignancy conversion rate ranging from 0.1% to 17.5%(7). The statistical analysis from several studies piloted on the Indian subcontinent in general and in India, in particular, concluded the prevalence of leukoplakia ranging from 0.2% to 5.2% and the malignant transformation of 0.13% to 10%(7). This alarming increase in the prevalence of leukoplakia in India could be mainly due to its cultural, ethnic, and geographic factors.

In the framework of oral epithelium, a hastened growth phase represented by augmentation of the progenitor compartment (hyperplasia) is the earlier sequelae. When the irritant persists further, the epithelium shows features of cellular degeneration, a well-characterized feature of adaptation (atrophy). When the stage of adaptation and revocable cell damage ends, the cells gradually reach a stage of irrevocable cell damage, manifesting as either apoptosis or malignant transformation.

Eliminate all contributing factors. In the case of lesions with moderate to severe dysplasia, surgical excision or laser surgery should be the treatment of choice, especially when the lesion is on the ventral and lateral borders of the tongue, soft palate, floor of the mouth, and oropharynx. Close surveillance and follow-up should be mandatory for

lesions on other anatomic locations. Surgical removal is the treatment of choice for erythroleukoplakia and proliferative verrucous leukoplakia.

Histopathology

Histologically, oral leukoplakias present as either hyperkeratosis, mild dysplasia, moderate dysplasia, severe dysplasia, or carcinoma-in-situ.

Architectural features of dysplasia comprise asymmetrical epithelial stratification, an increased number of mitotic figures in the epithelium, dyskeratosis, drop-shaped rete pegs, and keratin pearls within these rete pegs, loss of polarity of basal cells, and basal cell hyperplasia or anaplasia. The classification of mild, moderate, and severe dysplasia is applied when this architectural and cytological atypia affects less than a third, one-third to two-thirds, and more than two-thirds of the epithelium, respectively.

Physical

There are two main types of oral leukoplakia, which are homogenous leukoplakia and non-homogenous leukoplakia. Homogenous leukoplakia comprises of uniformly white plaques that are usually asymptomatic in nature. They have a lower likelihood of turning into malignancy. Whereas, non-homogenous leukoplakia, is irregular, flat, nodular, or exophytic in nature and resembles mixed red and white non-uniform patches, and has a greater probability of turning into malignancy

Management of leukoplakia

General considerations

Currently, no consensus exists on the management of oral leukoplakia, and the management algorithm is dictated by a combination of patient, clinical, and histological factors, through a shared decision-making process. This protocol emphasises the use of histological assessment and cessation of risk factors, as well as surgical excision where permissible.

Low-risk oral leukoplakias

This involves addressing known risk factors for malignant transformation, i.e., alcohol and smoking. If a patient has other risk factors, however, the risk may need to be reassessed. Photographs at each review are essential to monitor the evolution of the oral leukoplakia. Surgical removal of areas may be advocated if the dimensions are small.

High-risk oral leukoplakias

Several methods are available. Laser ablation and cryosurgery are not advised, however, as they have the significant disadvantage of causing tissue destruction, so there is no specimen available for histopathological examination. An important factor that must be considered when deciding if surgery is the best option is whether the morbidity likely to arise from the surgery is justified. Multifocal oral leukoplakia poses a particular challenge in this regard.

Challenges with leukoplakia

While clinical examination of the oral mucosa has a high sensitivity for the detection of oral leukoplakia (92%), its specificity can be as low as 30%. Meticulous screening of all patients for oral leukoplakia and recognising the need to refer to secondary care are essential to allow for early diagnosis, addressing of modifiable risk factors, and further specialist management.

Difficulties with adherence to cessation programmes are a concern for the recurrence or progression of oral leukoplakias, with up to 29,7% of patients failing to sustain smoking cessation long term.

Patients with oral leukoplakia are also at increased risk of developing OSCC in other parts of the oral cavity and upper aerodigestive tract due to field change.

Conclusion

The main strategy in the management of oral leukoplakia is early diagnosis, the addressing of modifiable risk factors, regular surveillance, and surgical management, as dictated by the clinical situation.

Leukoplakia is a serious oral disease that requires proper attention and treatment to prevent serious complications. At Myvariations, we are committed to promoting good oral hygiene through our innovative products such as sonic electric toothbrushes, dental floss, and interdental brushes. Good oral hygiene plays a key role in preventing leukoplakia and other oral diseases. Take care of your mouth with our solutions to maintain optimal oral health and prevent the risks associated with leukoplakia.

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