

Original article

Nicotinic Stomatitis in a Child Associated with Improper Use of a Matchstick: A Rare Case Report

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Abstract

Nicotinic stomatitis, also known as smoker's palate, is a reactive lesion of the oral mucosa characterized by palatal keratosis and multiple erythematous punctate areas corresponding to the openings of minor salivary gland ducts. Although it is most commonly associated with chronic tobacco smoking and heat exposure, similar palatal changes may occur following other sources of repeated thermal irritation. This report focuses on a child who presented with palatal mucosal changes clinically suggestive of nicotinic stomatitis associated with the improper use of a matchstick. The history of the unusual habit and the clinical appearance of the lesion suggested repeated local thermal irritation as a possible contributing factor. Clinical examination and a detailed history were essential in evaluating the lesion and considering alternative diagnoses. Identification and avoidance of the suspected causative habit were recommended as important steps in management

Keywords. Nicotine Stomatitis; Child; Palatal Lesion; Thermal Injury; Matchstick; Oral Mucosa

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Introduction

In addition, oral mucosa acts as the first barrier against trauma, infections, and cancer-causing substances. However, it can be affected by various lesions and disorders, some of which are benign while others could be fatal, consequently affecting the population's overall quality of life [1]. Nicotine stomatitis is a whitish papular lesion seen on the hard and soft palate in the oral cavity, possibly caused by blockage of palatal mucous glands. This specific entity usually occurs in pipe users, but is also observed in cigar and cigarette smokers and in individuals who have a hot beverage habit. So, there is a proposition that heat causes nicotine stomatitis rather than toxic materials [2,3].

Stomatitis is the inflammation of the mucosal lining of the oral cavity, including the cheeks, gums, tongue, lips, throat, and palate or floor of the mouth. It has different types in accordance with the causative factor, among which is nicotinic stomatitis, also referred to as smoker's palate, which is a pathologic condition that appears in the hard palate of the mouth as a white lesion and is induced by smoking cigarettes, cigars, or pipes. Due to the persistent heat from smoking, the palatal minor salivary glands endure a painless inflammation presented as small red dots on the palate, a characteristic clinical sign of nicotine stomatitis. Moreover, it may exhibit a cracked mud appearance in extreme cases [4,5].

Despite the well-established association between nicotine stomatitis and tobacco smoking, similar palatal lesions may develop in non-smokers following repeated exposure to local heat or chemical irritants. Such atypical presentations, particularly in children, may pose diagnostic challenges because of their unusual etiology and resemblance to smoking-related palatal lesions. The lack of awareness of alternative causes may lead to misinterpretation of clinical findings and inappropriate assumptions regarding tobacco exposure. Therefore, this case report aims to describe an unusual presentation of nicotine stomatitis-like palatal changes in a 9-year-old child associated with the habitual intraoral use of a lit matchstick, highlighting the importance of considering non-tobacco-related thermal and chemical irritation in the differential diagnosis of palatal lesions.

Case Presentation

A 9-year-old child presented to the Department of Oral Medicine, Faculty of Dentistry, Zawia University with an unusual palatal mucosal lesion. Clinical examination revealed multiple erythematous and whitish changes involving the palatal mucosa, with prominent minor salivary gland duct openings. The child's medical and social history revealed no history of smoking or tobacco use. Further questioning disclosed an unusual habit of placing and improperly using a lit matchstick inside the mouth. The lesion was clinically diagnosed as a thermal/reactive palatal lesion consistent with nicotine stomatitis-like changes secondary to repeated local heat and chemical irritation from the matchstick.

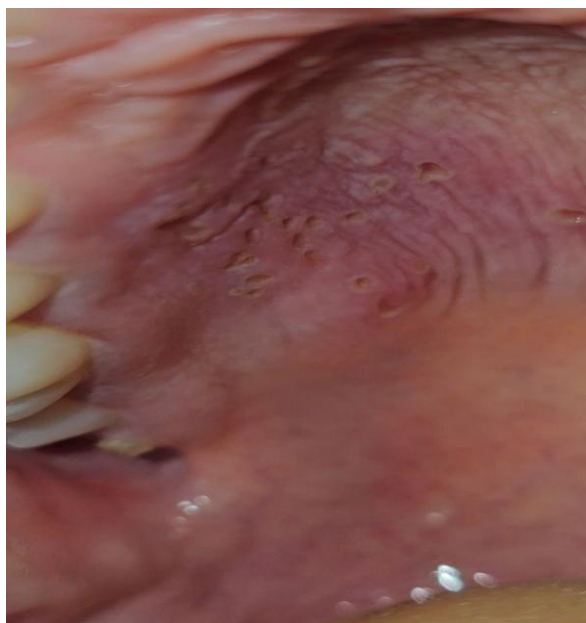


Fig. 1. Numerous whitish coalesced papules and plaques with occasional red punctate areas

Management and Outcome

The suspected causative habit was immediately discontinued. The patient and parents were educated regarding the potential hazards of placing matchsticks or other heated objects in the oral cavity. The lesion showed significant clinical improvement during follow-up after elimination of the irritant, and the patient began using Tantum Verde anti-inflammatory mouthwash 3 times a day.



Fig. 2. Normal palatal mucosa after treatment of Nicotinic stomatitis by removing the irritant factors and using Tantum Verde anti-inflammatory mouthwash

Discussion

Nicotinic stomatitis is a painless condition that was previously thought to be associated with cigars, heavy pipe, and reverse smoking only, but these days it is frequently present in cigarette smokers [6]. Nicotinic stomatitis, also known as smoker's palate, is an inflammatory reaction of the palatal mucosa that is most commonly associated with chronic exposure to heat and tobacco smoke. Although it is typically described in adult smokers, similar palatal changes may occur in children following repeated exposure to excessive heat or local thermal trauma.

In the present case, the palatal lesion was associated with the improper use of a matchstick, representing an unusual cause of nicotine stomatitis-like changes in a child. The clinical findings in this case can be explained by repeated thermal irritation of the palatal mucosa. Direct contact with a burning matchstick or exposure to its intense heat may cause epithelial irritation and inflammation. Continued or repeated thermal injury can result in erythematous changes, thickening of the palatal mucosa, and prominence of the minor salivary gland duct openings. These findings may clinically

resemble the characteristic appearance of nicotina stomatitis. The prevalence of smoking in Indonesia is very high in various levels of society, especially among men, teenagers, and adults. The smoking trend continues to rise from year to year in both men and women.

Nicotine is extracted from tobacco in the process of smoking (inhaling) or chewing. Nicotine is attached to the organic acids found within the leaves of the native plant, and if the leaves are dried slowly, the nicotine still remains. Alkaloids are stimulants that are also found in tobacco leaves and are responsible for the effects of cigarettes. Alkaloids are among many compounds found in tobacco leaves, such as nicotine, anabasine, myosmine, and others [7].

Conclusion

Nicotine stomatitis-like lesions may rarely occur in children as a consequence of non-tobacco-related thermal or chemical irritation. A detailed history is essential for identifying unusual behavioural habits and determining the underlying cause of palatal mucosal lesions in pediatric patients.

Patient Consent

Written informed consent was obtained from the patient for publication of this case report and the accompanying clinical photographs.

Conflict of Interest

The authors declare that they have no conflicts of interest related to the publication of this case report.

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