



## A Case of Smoker's Keratosis

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### Abstract

Smokers keratoses is a condition caused due to cigar or pipe smoking. It is characterized by changes in the mouth because of the chemicals, heat and friction produced by smoking. It is an asymptomatic lesion appearing as greyish changes on the hard palate, and usually combined with many erythematous dots located centrally in small elevated papule or a nodule.

**Keywords:** Hyperplasia; Smoking; Palate

### Case Presentation

Two male patients, both of them around 50-year-old came to the department with a complaint of small growths on the palate region since 5 months. Patients were medically fit and gave history of smoking tobacco in the form of beedi and cigarettes. Intraoral examination revealed a multiple small nodules on the hard palate on either sides of the mid palatine raphe measuring about 1 cm to 2 cm in extension (Figure 1). Considering the Greenburg grading Criteria, provisional diagnosis of Grade II Smokers palate was given for both the cases. Excisional biopsies of the lesion were carried out, and both the reports confirmed the diagnosis.

### Discussion

A Smoker Keratosis of the palate was first described by Thomas [1]. Mostly occurs in males who smoke pipes and cigars. The age group involved is usually above 45 years [2]. It is also known as stomatitis nicotina, smoker's palate and inflammation causing hyperplasia [3]. It was said that tobacco smoke hitting the palate was the reason for the lesion. Mainly due to the increase in melanin deposition, as a protective reaction to heat and its antioxidant properties against toxic products that are produced during combustion of tobacco within the oral cavity [2] Around, 64% of cases showed areas of focal depigmentation which is surrounded by hyper pigmentation. It is hypothesized that melanin which is a natural antioxidant, that is secreted by melanocytes plays a role in scavenging the toxic products which are produced during the combustion of tobacco. These depigmented areas are deprived of melanin defence barrier as intense toxic content over a period of time exceeds the levels of melanocytes to produce melanin or the toxic effects may lead to melanocytes function loss [2]. Orifices of the minor salivary glands of the hard palate become erythematous and the surrounding mucosa remains normal or blanches slightly. The lesions are seen in the posterior part of the hard palate mucosa. The lesion is painless, it becomes firm and the red circular area on it becomes an umbilication. The lesions may be multiple. Nicotine stomatitis can be graded as mild when red circular areas occurred over a slightly raised blanched mucosa of the glandular zone of the hard palate. The lesion is graded as moderate when papules about 2 mm to 4 mm in size with central umbilication less than 2 mm in diameter were observed in the same area. It was graded as severe, when the papules were more than 4 mm to 5 mm in size with central umbilication more

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A- Patient 1

B- Patient 2

**Figure 1:** Lesion caused in the hard palate due to smoking.

than 2 mm to 3 mm in diameter. In the hard palate minor salivary glands are many in number and are supported by bone; they can occur as papules because of hyperplasia of the glands. The lesion does not occur in the anterior half of the palate as there are devoid of minor salivary glands [1]. Tobacco smoking\cigarettes causes DNA damage leading to increased risk for oral cancer. Smoking leads to several oral diseases such as oral cancer, periodontal disease, cleft lip, cleft palate, alveolar bone loss, black hairy tongue etc. Tobacco smoking mainly increases the number of aneuploid nuclei in the oral epithelium and causes oral malignant and premalignant changes. Therefore, thorough inspection of the oral cavity for lesions caused by tobacco is the best way to start tobacco cessation [3,4]. Habit counseling plays an important role in treating these lesions. If caused by heat, the lesion is completely reversible within few weeks [3]. To conclude, tobacco is a known destroyer of human health for decades now. In spite of knowing all its ill effects, people end up consuming smoking or smokeless form of tobacco. Hence early detection, screening and

habit counselling of smokers presently play a very important role in stopping the conversion of initial mucosal changes to potentially malignant disorders and later to cancer.

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