

Smoker's Melanosis

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Updated: Jan 26, 2015

Background

The main etiologic factor responsible for melanocytic pigmentation of the oral mucosa in the white population is cigarette smoking. In his 1977 report, Hedin^[1] coined the term smoker's melanosis to describe this clinical condition.

Pathophysiology

Smoker's melanosis may be due to the effects of nicotine (a polycyclic compound) on melanocytes located along the basal cells of the lining epithelium of the oral mucosa. Nicotine appears to directly stimulate melanocytes to produce more melanosomes, which results in increased deposition of melanin pigment as basilar melanosis with varying amounts of melanin incontinence.

Epidemiology

Frequency

United States

No prevalence studies on smoker's melanosis are available in the United States.

International

In a Swedish study of 31,000 whites, 21.5% of tobacco smokers exhibited smoker's melanosis, whereas only 3% of nonsmokers had the lesion.^[2] The anterior facial gingivae was the most common site for smoker's melanosis in that study. In a study of Thai subjects and Malaysian subjects, nearly all had physiologic pigmentation, but tobacco users had significantly more oral surfaces displaying pigmentation.^[3] A Nigerian study reported a prevalence of .52% of pigmented sites in nonsmokers and 6% among smokers. The buccal mucosa was the most common site for smoker's melanosis.^[4] Studies of soft-tissue lesions in the Middle East and India report a high prevalence and suggested more healthcare attention and community awareness programs are needed.^[5, 6, 7, 8, 9]

Mortality/Morbidity

Smoker's melanosis is not associated with mortality or morbidity.

Race

Smoker's melanosis is most evident in whites because of a lack of physiologic pigmentation in the oral mucosa of this population, but some dark-skinned individuals who smoke will have more prominent pigmentation in many oral sites. A study of Turkish Army recruits revealed gingival pigmentation in 27.5% of smokers and 8.6% of those who never smoked.^[10]

Sex

Females are affected by smoker's melanosis more than males, which may be explained by the additive effects of estrogen in female smokers. Increases in estrogen levels observed during pregnancy and the use of birth control pills are linked to other hyperpigmentation conditions (eg, [melasma](#)).

Age

The incidence of smoker's melanosis increases with age, suggesting that the longer a person smokes, the more likely he or she will develop the condition.^[11]

Clinical Presentation

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Acknowledgements

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Disclosure: Nothing to disclose.

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