

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

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### Oral Medicine and Pathology Quiz – Case 4

A 33-year-old woman was referred to our clinic for evaluation of a lesion on the dorsal surface of her tongue. The lesion was first noticed by the patient three years ago and had exhibited a gradual increase in size. The medical history was non-contributory while the social history was only significant for smoking (1 ½ packs of cigarettes daily, reduced lately after medical advice). Clinical examination revealed an asymptomatic, firmly adherent, white plaque with a roughened, verrucous and fissured surface, covering a significant portion of the dorsal surface of the tongue and extending bilaterally close to the lateral borders (fig. 1). Differential diagnosis included leukoplakia, lichen planus (hypertrophic form), chronic hyperplastic candidiasis and verrucous carcinoma. An incisional biopsy of the tongue lesion revealed a verrucous surface with sharp epithelial projections, hyperkeratosis and mild dysplasia. Because of the size of the lesion, a CO<sub>2</sub> laser removal was performed leaving an erythematous base (fig. 2). However, the lesion exhibited recurrence within a few months and is currently under close follow-up.

#### Comment

According to the World Health Organization (WHO), leukoplakia is defined as a white patch or plaque of the oral mucosa that cannot

be characterized clinically or pathologically as any other disease. Therefore, other lesions possibly presenting as white patches or plaques, such as lichen planus, frictional keratosis, nicotine stomatitis and white sponge nevus, must be excluded before a diagnosis of leukoplakia can be established.

Leukoplakia has a multifactorial and not totally understood etiology; however, smoking is considered the main factor associated with its development. Other implicated factors include alcohol use, betel chewing, nutritional deficiencies, fungal or viral organisms (such as *C. albicans* and human papilloma virus) and hereditary factors. Irrespective of their exact etiology, leukoplakias are premalignant lesions, i.e. they have a greater than normal risk of transforming into malignancy. An overall malignant transformation rate of 4–6% has been reported, although the risk of cancer development varies according to the anatomic location, clinical presentation, duration and, more predictably, the histopathologic features of any given lesion.

Leukoplakia is usually detected in adults between 40 and 70 years of age. Its prevalence around the world has been reported to range from 0.2% to about 25%, depending on diagnostic criteria used, as well as the geographic location and cultural habits of the studied population group. In most studies prevalence seems

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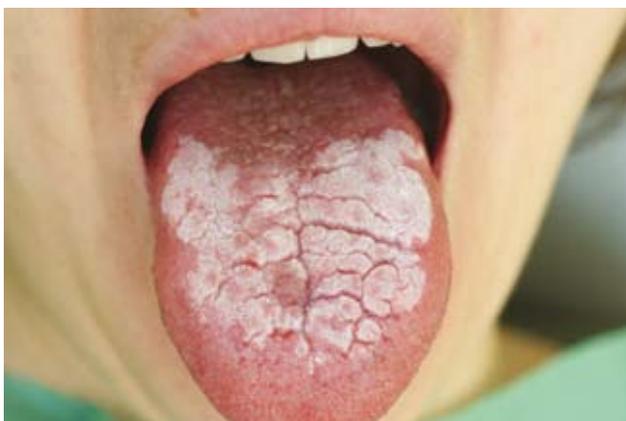


Figure 1



Figure 2

to center around 3% to 5%, making leukoplakia by far the most common form of oral precancer.

Leukoplakias may affect any site of the oral mucosa and display a range of clinical features, varying from homogeneous lesions (with smooth, flat, thin or thick surface) to heterogeneous (granular, nodular, verrucous and speckled or erythroleukoplakic) types. Heterogeneous morphology and specific localization (such as floor of mouth and ventral tongue) carry a higher risk of malignant changes. The histopathologic spectrum of these lesions is also very wide, ranging from hyperkeratosis and acanthosis, to varying degrees of dysplasia (mild, moderate, or severe), to carcinoma-in-situ. In general, higher degrees of dysplasia are associated with a significantly greater risk of malignant transformation. Rarely, histopathologic examination of a leukoplakia may already reveal features of a frankly invasive squamous cell carcinoma.

Verrucous or verruciform leukoplakias represent a clinical subtype demonstrating multiple sharp or blunt projections. The term proliferative verrucous leukoplakia (PVL) is used more strictly to describe multiple leukoplakic lesions with roughened surface and a demonstrated persistent tendency to spread with involvement of additional sites. PVL is considered a very high-risk, high-recurrence form of leukoplakia with an unusual female predilection and weak

association with the use of tobacco.

Given the premalignant nature and variety of the histopathologic features, biopsy of leukoplakias (which should include the most suspicious areas for dysplasia or malignancy) is mandatory. The treatment of leukoplakia involves avoidance of predisposing factors –e.g. smoking cessation, quitting betel chewing, abstinence from alcohol– and long term observation. The decision to surgically remove the lesion depends upon the presence and degree of dysplasia; identification of moderate dysplasia or worse usually warrants destruction of the lesions. Nonetheless, recurrences or appearance of new lesions are relatively frequent. Laser ablation represents a reasonable alternative to surgical excision, especially for the removal of large or widespread lesions; however, the risk of recurrence remains high.

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