

# Leukoplakia

**Leukoplakia** are white spots on the mucous membrane of the oral cavity that cannot be wiped off and their connection to any disease is not obvious. They are conditioned by the keratinization of the mucous membranes, normally covered by non-keratinizing squamous epithelium. They can change dysplastically or turn malignant.

## Etiopathogenesis

The etiopathogenesis of leukoplakia is unknown. Factors such as chronic irritation, smoking, alcohol, chronic hypertrophic candidosis, lack of vitamins A and B, galvanism, carious teeth, biting the cheek or ill-fitting prosthesis affect the formation. In hairy leukoplakia, the virus EBV is considered to be the causative agent.

## Location and Occurrence

Leukoplakia can be located anywhere; it is most often found on the mucous membrane of the lip, tongue, cheeks and alveolar ridges. They occur in middle-aged people, twice as often in men than in women. We do not find them in children, adolescents or young adults.

## Clinical picture

According to the macroscopic findings, leukoplakia can be divided into:

### Homogeneous leukoplakia

are found anywhere on the mucosa of the oral cavity. They are white or whitish, sharply demarcated, their surface is smooth, wrinkled, cracked or porous.

### Inhomogeneous leukoplakia

these are rarer lesions, also anywhere on the mucous membrane. It is a white or white-red speckled, sharply demarcated area. We distinguish ulcerous, verrucous and nodular type and erythroplakia.

#### ▪ Ulcerative

a red field with emerging fibrin plaques, reminiscent of ulcers, with white spots on the periphery.

#### ▪ Verrucous

raised warty to flower-like affection. Both proliferating, ever-enlarging lesions and non-proliferating lesions occur. There is a risk of transformation into verrucous or squamous cell carcinoma.

#### ▪ Nodular

white patches or nodules with a red background.

### Hairy leukoplakia

found on the tongue in immunodeficient individuals, most often in HIV-positive individuals, especially if the CD4+ T-lymphocyte count falls below 300/mm<sup>3</sup>. As it is one of the **early signs of HIV infection**, it can be its first manifestation. It is a whitish, fuzzy discoloration of the mucous membrane on the first two thirds of the edges of the tongue (*pars oralis linguae*), it occurs bilaterally. The surface of the mucous membrane is folded, arranged in the same direction. It is important to distinguish it from chronic traumatization of the tongue mucosa (e.g. by biting). Hairy leukoplakia was also demonstrated on the back and apex of the tongue, on the labial, buccal and palatal mucosa, where, however, it takes on an atypical, flat appearance.

## Microscopic image

The white color of leukoplakia is caused by abnormal keratin formation. acanthosis, hyperorthokeratosis, hyperkeratosis, parakeratosis or keratosis is present. The severity of the condition largely depends on the presence or absence of dysplasia, but the presence of dysplasia is not a condition for later malignant transformation.

- In **homogeneous leukoplakia** there is usually regular acanthosis and hyperkeratosis, dysplasia is usually not present. Malignancy occurs in 2-6%.
- Epithelial dysplasia, carcinoma *in situ* to invasive squamous cell carcinoma are often present in **inhomogeneous leukoplakia**. Malignancy occurs in 10%.
- In **hairy leukoplakia**, hyperparakeratosis, acanthosis and focal balloon-like degeneration of epithelial cells



Leukoplakia



Leukoplakia on the mucous membrane of the face

in the *stratum spinosum* are visible. Keratocytes may accumulate on the surface, which then form slender, hair-like projections.

## Treatment

**Homogeneous leukoplakia** can regress, most often on the labial and buccal mucosa. Pharmacological treatment is not effective in **homogeneous** or **inhomogeneous leukoplakia**, excision is used as part of the therapy. We perform a biopsy no later than 3-4 weeks after eliminating the presumed cause, if the leukoplakia does not decrease.

## Risk of malignancy

The risk of malignancy is higher in leukoplakias that are non-homogeneous, on the floor of the mouth and on the underside of the body of the tongue, and those that have been colonized by yeast. In the comparison of leukoplakia of smokers and non-smokers, malignancy is higher in non-smokers.

## Links

### References

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