Leukoplakia
Leukoplakia is a white patch on the oral mucous membrane, which is undeliable and can not diagnose neither clinically nor pathologically as an other disease. (Pindborg. 1978)
Precancerous lesion

Precancerosis:
is a morphologically changed area on the oral mucosal surface, on which malignant transformation develop more frequently, than on same localised apparently health areas.
Leukoplakia is the most frequent precancerous lesion on the oral mucosal surface.

In Hungary according to the data of Sugar and Banóczy (1972) the leukoplakia transform to malignant tumor in 5.6%.

This result increased to 6.6%, in 1978.
The rate of malignisation in the head and neck region (out of all malignancies)

- Hungary: 2.15%
- USA: 1.8%
- India: 3.4%
- China: 10.8%
Leukoplakia is a defense mechanism of the oral mucosa against any irritative factors. This factor in Hungary in 83.3% are Smoking (e.x. in India chewing betel nuts)
Classification and malignant transformation of leukoplakia (according to Bánóczy. 1978)

<table>
<thead>
<tr>
<th>new</th>
<th>old</th>
<th>Klinikai típus</th>
<th>Esetszám</th>
<th>Karcinóma eset</th>
<th>Karcinóma %</th>
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<tbody>
<tr>
<td>Homogen</td>
<td></td>
<td>Szimplex</td>
<td>265</td>
<td>8</td>
<td>4,6</td>
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<tr>
<td>Non-homogen</td>
<td></td>
<td>Verrucoxus</td>
<td>173</td>
<td>8</td>
<td>4,6</td>
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<td>Nodulat</td>
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<td>Specled</td>
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<td>Verrucous</td>
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<tr>
<td>Erythro-leukoplakia</td>
<td>82</td>
<td>Eróziós</td>
<td>23</td>
<td>28</td>
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</tbody>
</table>
The remaining 16,7% are bad dental appliances (filings, bridges, dentures).

Beside of the mechanical irritations the galvanism between different metals is important (saliva is an electrolite)
Cofactors

- Anemia: macro and microcyte
- Chronic Candida infections
- Ventricular ulcer

Möller-Hunter glossitis
The main sustaining factor in the smoking is not the nikotine, but the TAR and the HEAT (the chimney cleaner scrotal cancer)
Clinical forms

Homogenous Leukoplakia
Homogenous Leukoplakia
Non-Homogenous Leukoplakia (nodular form)
Non-homogenous leukoplakia
(verrucous form)
Proliferativ-Verrucous Leukoplakia (non-homogenous)
Erythroleukoplakia
Erythroleukoplakia
Squamous cell carcinoma
Diagnosis

In generally the clinical diagnosis seems to be enough.

Histology could differentiate between malignant and non-malignant disease.
Histological signs

- Hyperortho, or hyperparakeratosis
- Acanthosis (wider spongy layer)
- Intracellular hydropic degeneration (apoptosis)
- Rete pegs
- Round cell infiltration in the connective tissue (wider than the hyperkeratosis)
Further diagnostic tools

- Exfoliative cytology according to the method of Papanicolau
- Vital Paint (Toluidin Blue)
- Fluorescent diagnostic methods
- Monoclonal antibodies
Exfoliative cytology

Picture of healthy mucosa
(the epithelial cells are light)
Cytology of Lichen Oris
(the epithelial cells are light)
Cytology of hyperkeratosis
(homogenous leukoplakia, the epithelial cells are darker)
Cytology of a squamous cell cancer
(the epithelial cells are dark and you can see a cell multiplications).
Vital Paint
(OraTest)

Negative OraTest examination
Erythroleukoplakia (before painting)
After painting
(positive study)
Positive OraTest study
Human Basic Encephalitogenic Protein Monoclonal antibody in oral squamous cell cancer
Differential Diagnosis

- Stomatitis Nikotina Palati
- Lichen Oris
- Pseudomembranous Candidasis
- Morsication
- White Sponge Nevus
- Median Rhombic Glossitis
- Hand-Foot-Mouth disease
- Fox-Fordyce patches
Plaque-like form of Lichen Oris
Pseudomembranous Candidasis
Morsicatio Buccarum
White sponge nevus
Median Rhombic Glossitis
(this form only)
Oral symptom of Hand-Foot and Mouth disease
Fox-Fordyce patches
(filled sebaceous glands)
Management

All diseases in which are known etiologic factor the elimination of its is the basic point of the therapy.

The leukoplakia patients are in most of the cases indolent, not cooperate with the doctor (not an easy thing to ask them to give up they bad habit).
Therapy II.

The homogenous form is reversible (give up the bad habit: spontaneous healing).

If the patients give up the smoking need conservative therapy with „A” vitamin acid (Neotigason caps. Or HTR-4)

The best is the surgery.
The number of head and neck cancer develop from leukoplakia in our country increase continuously.
The patients need continuous follow up.
( the recurrence is very frequent)
In our days there are new immunehistological diagnostic tools by which the severe clinical forms can be recognize as early as possible by this way there is possible the early treatment.

Study of p53 gene product