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Improvement of Methods of Treatment and Prevention of Leukoplakia of The Oral Mucosa

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Annotation

Leukoplakia in the oral cavity is a chronic disease, accompanied by damage to the oral mucosa and lip border. The affected areas become inflamed, their keratinization occurs. The external pathology looks like white spots with blurred edges or plaques covered with scales.

Key words: leukoplakia, chronic, keratinization, pathology

Currently, medicine can unequivocally answer the question of the causes of the disease. It is believed that there are several of them. The most likely is the constant impact on tissues and their irritation due to constant biting, smoking, injury to the edges of teeth and prostheses, without denying the influence of endogenous factors. Among the latter, one of the first places is occupied by a violation of the immune system, pathologies of the gastrointestinal tract, vitamin deficiency, endocrine disorders, anemia, diabetes, UV exposure, resulting in a decrease in the stability of the mucous membrane and external stimuli. Leukoplakia can occur as a occupational disease. Clinically, there are flat, verricose, erosive-ulcerative, leukoplakia of smokers (Toppeiner), simple and mild forms of the disease. The frequency of tumor transformation among all forms of leukoplakia is 12.4%, but the erosive-ulcerative form of the disease has the greatest potential malignancy (25.5%). Therefore, the identification of early stages of pathogenetic features of the development of oral leukoplakia and adequate treatment is of great importance for the prevention of oncological diseases[1.3.5.7.9.11.13.15.17.19.21.23.25].

Leukoplakia of the oral mucosa is difficult to treat. The existing conservative methods are regarded as successful in 19.9% of cases, and the possibilities of the surgical method are limited by the significant spread of the lesion.

Research methods

1. Dental;
2. Clinical and functional;
3. Immunological;
4. Morphological;
5. Optical coherence tomography;
6. Statistical

In connection with the above, the search for new more effective conservative methods of treating oral

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leukoplakia is timely and very relevant.

Meanwhile, recently, the attention of scientists and practitioners has been attracted by a group of completely new pharmacological drugs (ozone, photosensitizers – photolon, photoditazine, photosense) that are taken for the treatment of other inflammatory diseases of the oral mucosa and have anti-inflammatory, decongestant, bactericidal, antihypoxic, immunocorrective and of course antiblastomogenic and antimutagen properties (S.I.Tokhmanova et al., 2017; E.A.Gaibullaev et al., 2018; A.S. Juenesi et al., 2021)

It should be noted that the danger of the occurrence of leukoplakia in the oral cavity is that in 12.4-25.5% of cases they can turn into a malignant state in a short time.

This determines the importance of an urgent in-depth study of this pathology in the oral cavity.

Currently, the problem of leukoplakia in the oral cavity has not been sufficiently studied (A.A.Bezrukov, 2017; S.I.Tokhmanova et al., 2017; A.A.Ivina et al., 2020) mainly in people living in the Russian region, that is, in other climatic and geogrophic conditions. The available individual works performed in the conditions of Uzbekistan (E.A.Gaibullaev, 2016; E.A.Gaibullaev et al., 2017,2018) relate mainly to persons living in urban environmentally friendly zones in the form of scientific articles without in-depth scientific analysis. And our contingent of patients with leukoplakia in the oral cavity is mainly persons working in environmentally harmful industrial production enterprises (JSC Navoiazot, NMMC, JSC Kizilkumcement), so there is a possibility of professional conditionality of the studied disease in the examined.

The above facts dictate to us the need to fulfill the studied problem.

The aim of the work is to increase the effectiveness of treatment and prevention of leukoplakia in the oral cavity by using pathogenetically based complex methods of treatment and prevention.

To achieve this goal , it is necessary to solve the following interrelated tasks:

1. To conduct a comprehensive examination of the oral mucosa in patients with various clinical forms of leukoplakia, depending on the age and duration of the disease.
2. To evaluate the effectiveness of local ozone therapy in patients with a flat form and after cryodestruction of foci of verrucous leukoplakia of the oral mucosa.
3. To evaluate the use of photodynamic therapy in patients with severe forms (verrucous and erosive ulcerative) leukoplakia.
4. Develop an algorithm for the treatment and prevention of leukoplakia in the oral cavity and give practical recommendations for their use.

In accordance with the purpose and objectives of the study, the planned scientific work will be carried out in 60 patients with various forms of leukoplakia in the oral cavity at the age of 30 and 60 years of both sexes.

Depending on the method of treatment, patients will be divided into 3 groups and 6 subgroups: the first group includes 20 patients with a flat form of leukoplakia, who are still divided into 2 subgroups – the main (10 people) receiving ozone therapy and comparison (10 people) receiving treatment with rosehip oil and vitamin A solution. The second group includes 20 patients with verrucous leukoplakia, who receive local ozone therapy. This group of patients is still divided into 2 subgroups – the main one (10 people), receiving local ozone therapy after destruction and comparison (10 people), receiving treatment with rosehip oil and vitamin A solution.

The third group includes 20 patients with severe forms (verrucous and erosive - ulcerative) leukoplakia, who receive photodynamic therapy. They , too , in turn are distributed to
2 subgroups – the main one (10 people), receives photodynamic therapy and comparison (10 people) receiving treatment with rosehip oil and vitamin A solution.

For absolute control, 20 practically healthy persons with a sanitized oral cavity are still being examined.

The cause of leukoplakia has not been definitively established. The main predisposing and

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aggravating factors for the course of this disease are smoking, alcohol abuse, human papillomavirus (HPV), Candida albicans, as well as other factors: mechanical trauma of the litter, lips; sharp edges of carious teeth, overhanging edges of fillings; pathological bite; poorly made prostheses; galvanism; excessive consumption of spicy, hot food. When leukoplakia is localized on the red border of the lips, chronic trauma with the mouthpiece of a smoking pipe, cigars, systematic cauterization of the red border when "finishing" a cigarette, as well as unfavorable meteorological conditions are important in its occurrence. The occurrence of leukoplakia in persons with occupational hazards (electricians, miners, oil workers, etc.) was noted. An important role in the occurrence and development of leukoplakia belongs to diseases of the gastrointestinal tract, which weaken the resistance of SOR to external stimuli and can lead to a violation of the absorption of vitamin A, which regulates the processes of keratinization. Diabetes mellitus, cholesterol metabolism disorders, hereditary predisposition to the occurrence of keratinization disorders may also play a role in the pathogenesis of leukoplakia [2.4.6.8.10.12.14.16.18.20.22.24.26].

The clinical picture and prognosis of leukoplakia is largely determined by localization. Frequent localization: corners of the mouth, cheeks, tongue, lips, the mucous membrane of the hard and soft palate, the bottom of the mouth.

As a rule, leukoplakia begins with turbidity of the SOR. Its foci are typical for smokers (leukoplakia of Tappeiner smokers). The most common is simple or flat leukoplakia. This form, as a rule, does not cause subjective sensations and is usually detected during examination. Simple leukoplakia, under favorable circumstances, may not progress for a long time.

The main sign of verrucous leukoplakia is pronounced keratinization with elevation above the level of the surrounding litter, in connection with this there is a feeling of roughness and tightness, patients complain of burning in the mouth and pain when eating, especially acute.

Erosive-ulcerative form of leukoplakia is usually a complication of simple or verrucous leukoplakia. There are complaints of pain, intensified by the action of all kinds of stimuli. Against the background of foci of simple or verrucous leukoplakia, single erosions and ulcers occur, which are poorly epithelized and often recur. The erosive-ulcerative form undergoes malignancy in 21.4% of cases. The most dangerous in terms of malignancy of the SOR zone: the sublingual area, the lateral surface of the tongue, the soft palate.

Candidal leukoplakia includes leukoplakia with the addition or prolonged existence of a chronic candida infection. Infections caused by Candida albicans contribute to the development of dysplastic changes in the epithelium. Malignancy occurs in about 10-40% of cases, which is higher than in other forms of idiopathic leukoplakia. Hairy leukoplakia is a precancerous dysplastic disease caused by the Epstein–Barr virus in individuals with a pronounced violation of the immune system, in patients with HIV infection and AIDS, in patients receiving immunosuppressive drugs during organ transplantation. It represents towering areas of grayish-white color up to 2-3 cm in size. The boundaries of the lesion are clear, the surface is rough, uneven, villous. A favorite localization is the lateral surface of the tongue [24.25.26].

Conclusion. When removing the oral mucosa affected by the verrucous form of leukoplakia, it is recommended to use a combination of Er:YAG and C02 laser radiation. First, the surface layer of the epithelium is removed by Er:YAG laser radiation in the ablation mode with a focused beam with a power of 4 watts, a pulse duration of 700 microseconds in the "long" mode, with an energy of 300 MJ,

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a frequency of 20 Hz, an exposure time of 15 seconds per 1 cm with a water-air spray with a light guide located 0.5 cm away from the wound surfaces. Next, the wound surface is coagulated by carbon dioxide laser radiation with a power of 3 watts, a frequency of 15 Hz.

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