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The Effectiveness of a New Physiological Method in the Treatment of Nicotine Stomatitis

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Abstract In recent years, there has been an increasing incidence of nicotine stomatitis among the population, which is causing medico-social, economic problems. In particular, the development of this pathology with the consumption of tobacco products occupies a special place in the fact that it creates complexity in their diagnosis and treatment. Several types of cigarettes are found. Cigarettes are distinguished by their multifaceted effect on the body. Dental diseases caused by the action of cigarettes have a special place in the prevalence, complexity in diagnosis and treatment.

Keywords Tobacco, Oral cavity, Smoking, Gingivitis, Toothpastes

1. Introduction

It is important to mention that thiocyanate causes intensive formation of nitrosamines in acidic medium. Taking into account that the amount of thiocyanate significantly increases during smoking, the authors conclude that positive conditions are created for the formation of nitrosamines and their carcinogenic effects in the body of a chronic smoker, and above all in his oral cavity. The increase in thiocyanate levels in smokers is due to the quenching of cyanide (cyanic acid anion) in its conjugation with gray thiosulfate, resulting in the formation of thiocyanate and sulfite [1,4].

There are several types of cigarettes. Cigarettes are distinguished by their multifaceted effect on the body. Dental diseases resulting from the effects of cigarettes occupy a special place due to their widespread distribution and complexity in diagnosis and treatment. Scientific sources have shown that the prevalence of oral diseases caused by cigarettes is up to 22.4%, and in combination with various syndromes - up to 39.3%. At the same time, the prevalence of nicotine stomatitis caused by cigarettes, which ranges from 19.7% to 31.4%, indicates the high prevalence of the pathology. This is explained by the fact that the initial stages of the disease proceed without clear symptoms, the lack of sufficient information about changes in both clinical and laboratory tests, and the lack of a single etiopathogenetic approach among specialists. This indicates the need to improve methods of treatment and prevention of the problem [3,5].

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2. The Purpose of the Study

To improve the modern approach to the detection, early diagnosis and treatment and prevention of nicotine stomatitis caused by cigarettes.

3. Material and Methods of the Study

The objects of the study were 115 patients with nicotine stomatitis caused by cigarettes who applied to the admission department of the CENTRAL ASIAN MEDICAL UNIVERSITY clinic, and 65 volunteers of the same age group without this disease were selected for the control group.

4. Results and Discussion

The application of the results of the study to theoretical and practical medicine will serve to increase the effectiveness of preventing nicotine stomatitis caused by cigarettes. Depending on the prevalence of nicotine stomatitis caused by cigarettes, it will be possible to improve oral hygiene, increase the effectiveness of prevention, and reduce the development of complications.

Studies conducted in different countries have shown that the mortality rate among male smokers is 70% higher than that of non-smokers. Smoking is the leading cause of death in 36.4% of all deaths in men and 7.5% of all deaths in women worldwide. Every 14 seconds, someone dies from a disease caused by smoking. Every year, 3 million people die from smoking-related diseases worldwide. The number of smokers who die from cardiovascular disease, lung disease, and cancer is increasing. The economic damage caused by the high level of disease among smokers is significantly higher than the income from the sale of tobacco products.

A smoker with 10 years of experience is 3.5 times more likely to get sick than a non-smoker, and they are 5 times more likely to miss work due to illness. Therefore, smoking is a serious socio-economic problem [3,7].

Objectives of the study:

Study of the relationship of changes in the body as a result of cigarettes with the formation of diseases of the oral cavity;

Determination of the progression of the disease by studying the leukogram in patients with nicotine stomatitis as a result of cigarettes;

Determination of the results before and after treatment of the IGK (immuno-histo-chemical) examination method in the development of the background of the main disease in patients with nicotine stomatitis;

Evaluation of the effectiveness of the development and Prevention of a pathogenetically based method of complex treatment of nicotine stomatitis as a result of cigarettes;

The gaseous phase includes hydrocyanic acid, acrolein, ammonia, acetaldehyde, formaldehyde and nitric oxide, which have an irritating and toxic effect on the cells of the ciliated epithelium of the upper respiratory tract. The nitrosamines, hydrazine and vinyl chloride, which make up the gaseous phase of tobacco smoke, have a pronounced carcinogenic effect. The solid phase consists of black oil, polynuclear aromatic hydrocarbons, B-naphthylamine, N-nitrosonornicotine, benz(a)pyrene, polonium-210 and others, which have a carcinogenic effect on the body of the smoker, while substances such as indole and carbazole accelerate the growth of various tumors in the body [1,5].

The scientific novelty of the study consists of:

Study of the relationship of nicotine stomatitis (caries, pulpitis, periodontitis) caused by cigarettes with the formation of diseases of the oral cavity;

determination of the high clinical effectiveness of this method by assessing the risk factors leading to other diseases by studying the method of examination of the leukogram in patients with nicotine stomatitis against the background of the underlying disease;

to study and practice the IGK (immuno-histo-chemical) examination method before and after treatment to determine the degree of development of the disease in patients belonging to this contingent;

To propose an algorithm for the Prevention of nicotine stomatitis as a result of cigarettes, develop recommendations for practical application. During smoking, there is a reliable increase in the amount of protein, protease inhibitors and the activity of proteolytic enzymes in mixed saliva. Some researchers suggest that the stagnation in the enzyme system in tobacco smokers may be one of the mechanisms of the development of the local inflammatory response in the oral mucosa and periodontal tissues [2,6].

When smoking, the character of salivation changes. The changes in saliva secretion that occur in this case are mainly associated with increased secretion of saliva and increased viscosity after smoking. In malignant tumors, especially when precancerous processes develop in them, reverse changes are noted, that is, saliva secretion decreases and its viscosity increases [4,6].

There are very few works dedicated to the study of morphological changes in the salivary glands of tobacco smokers in the sciences of our country and in foreign literature.

The synergistic effect of tobacco and herpes simplex virus type 1 (SGV-1) on precancerous lesions on the lips and the important role of tobacco in the pathogenesis of oral cavity tissue cancer, the molecular role of the carcinogenic effect of SGV-1 in combination with nitrosamines and other oncogenic tobaccos. As a result of inhibition of the replication of the SGV-1 genome in cells, the mentioned chemical compounds cause the appearance of virus particles with increased oncogenic ability. According to WHO data, 60 to 95% of the population in different countries of the world is infected with latent form of SGV, it is necessary to focus the attention of clinical practitioners on the role of tobacco and SGV in the occurrence and development of leukoplakia, dysplasia and OSHC cancer [2,7].

Summarizing the literature review, it can be said that the problem of smoking and related diseases is far from its final solution. The analysis of the published works allows us to draw conclusions about the comprehensive negative effects of smoking on human organs and body systems, including the oral cavity. Despite the serious risk of developing various diseases, people in all countries continue to smoke. Nowadays, cigarette consumption is increasing in the world, especially among women, youth and teenagers. If this trend continues, then in 2025, according to WHO forecasts, the number of smokers in the world will reach 1 billion 700 million, and the death due to cigarettes will be 10 million people per year in 2020, which will require a significant increase in government spending on health financing in many countries. is enough.

All this makes it possible to consider the fight against tobacco smoking as an important medical-social and socio-economic problem. More in-depth study of diseases related to smoking, especially using the complex of clinical and morphological analysis, remains relevant. Especially for a dentist, it is very important to clarify the special rules about the mechanism of the effect of tobacco smoking on the organs and tissues of the oral cavity, the mucous membrane of the oral cavity, periodontal tissues, teeth and salivary glands, depending on the duration and intensity of smoking. Currently, methods of prevention and treatment of diseases caused by smoking are not fully developed. All these issues have not yet been adequately described in the scientific literature of our country and abroad.

Thus, the results of the retrospective analysis show that the frequency of chronic catarrhal stomatitis, chronic catarrhal goitre, leukoplakia, and minor salivary gland damage among other diseases of the mucous membrane of the oral cavity is 44.3% (out of 442 patients). Associated diseases of chronic catarrhal stomatitis, chronic catarrhal gout, leukoplakia, and minor salivary gland lesions are diabetes in 14.80±2.54% of cases, thyroid diseases in 6.12±1.71% of cases; cardiovascular

pathology (atherosclerosis in 4.08±1.41% cases, hypertensive disease in 6.63±1.78% cases), diseases of the gastrointestinal tract (chronic gastritis in 15.82±2.61 cases (A, B); chronic cholecystitis in 8.67±2.01 cases; chronic hepatitis (A, B, C) in 11.22±2.25 cases; chronic pancreatitis in 6.12±1.71 cases). Diseases of the urinary system were found in 11.73±2.30% of cases. At the same time, among all forms of chronic catarrhal stomatitis, chronic catarrhal goitre, leukoplakia and minor salivary gland damage, the erosive-ulcer form was found in 33.67±3.38% (66) patients, and 68.8% in people aged 51-60 years and older. % (135) increases. The most common location of morphological elements, in 95 (48.5%) patients is the lung mucosa, in the retromolar area - 30.1% (59). Low efficiency of traditional local treatment, high tolerance to treatment of patients with chronic catarrhal stomatitis, chronic catarrhal goitre, leukoplakia and minor salivary gland lesions prompts to search for new methods and means of pathogenetic treatment.

During smoking, the organs and tissues of the oral cavity are exposed to excitatory, thermal, toxic and carcinogenic effects. The intensity of the effect is determined by many factors, including the individual morphological and functional characteristics of the oral mucosa, the duration and intensity of smoking. The physical and chemical damage caused by tobacco smoke depends on the type and quality of tobacco, its growing conditions (use of mineral fertilizers, pesticides) and drying. Temperature indicators are of great importance in the mechanism of damaging effects on the tissues of the oral cavity.

5. Conclusions

It has been proven that metaplasia of epithelial cells develops in the bronchial mucosa of smokers, the level of their expression depends on the number of cigarettes smoked. These changes are considered by many authors as precancerous changes. The risk of developing lung cancer is quantitatively related to the effects of cigarette smoke. In men who smoke one pack of cigarettes per day, this risk increases 10 times compared to non-smokers, and in those who smoke two packs per day - more than 25 times. Over the past 50 years, cigarette consumption among women has increased sharply, and currently the incidence of lung cancer among them is growing faster than that of men.

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