

## SPECIFIC ASPECTS OF ORAL FLUID COMPOSITION OF SMOKERS

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**Resume.** The condition of the oral mucosa, gums and periodontal tissues is largely determined by the quantity and quality of the oral fluid content. Many researchers have noted quantitative and qualitative changes in saliva in chronic tobacco intoxication. Thus, when smoking, there is an increase in the concentration of excess nitrites and thiocyanate in mixed saliva. When smoking, the concentration of thiocyanate in the blood serum is 2-3 times higher than its normal values. Thiocyanate is considered a strong catalyst of endogenous nitrosation of amines, in which process carcinogenic nitrosamines are formed. The presence of thiocyanate in saliva accelerates the nitrosation process.

**Keywords:** Tobacco, oral cavity, smoking, gingivitis, toothpastes.

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.

Long-term exposure to snuff and chewing tobacco also increases the amount of carcinogenic nitrosamines in saliva.

Salivary nitrites can react with a number of drugs containing secondary and tertiary amines used by the tobacco smoker. One-hour incubation of saliva with amine-containing drugs (amidopyrine, tetracycline, metacycline, oxytetracycline, chlortetracycline, piperazine) causes almost half of it to become nitrosamines. The resulting carcinogenic nitrosamines are absorbed in the intestine and spread throughout the body with the blood, where they are also partially secreted by the salivary glands. Similar changes occur in oral fluid in "passive smoking".

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.

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.

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.

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.

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