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TONGUE HYGIENE AS A PRIORITY FACTOR IN THE CONTROL OF ORAL HALITOSIS

ГІГІЄНА ЯЗИКА ЯК ПРІОРИТЕТНИЙ ЧИННИК У КОНТРОЛІ ОРАЛЬНОГО ГАЛІТОЗУ

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In contemporary sociocultural conditions, interpersonal communication has acquired particular significance [1]. In this context, breath quality represents an important factor that can influence not only the level of an individual's social activity but, in some cases, also contribute to the development of pathological conditions, as well as to social maladaptation and isolation of the individual within society [2]. In recent years, a considerable number of scientific studies have been devoted to the problem of halitosis, in which its etiology is often interpreted ambiguously [3,4].

At the same time, at the present stage it has been established with a sufficient degree of reliability that, in the majority of cases, the oral cavity is the primary source of halitosis. Only approximately 10% of individuals have persistent oral malodor caused by diseases of the respiratory system, gastrointestinal tract, kidneys, or liver, that is, of extra oral origin.

Oral halitosis is a highly prevalent condition. In most individuals, it is transient in nature and predominantly manifests in the morning after sleep, which is associated with reduced salivary flow during this period. This form of halitosis is generally effectively eliminated through adherence to adequate individual oral hygiene. At the same time, persistent halitosis may serve as a clinical indicator of the presence of inflammatory foci in the oral cavity caused by the activity of pathogenic microflora or its accumulation in dental plaque and on the dorsal surface of the tongue root [5].

Tongue cleaning is regarded as one of the most significant components in the management of halitosis, surpassing isolated tooth brushing in terms of effectiveness. Mechanical removal of plaque from the posterior third of the dorsal surface of the tongue contributes to a reduction in the concentration of volatile sulfur compounds in saliva and exhaled air by 40–80%, which in most cases of physiological halitosis leads to normalization of the organoleptic characteristics of breath. At the same time, it should be noted that the achieved effect is transient in nature.

Due to the anatomical and morphological features of the tongue surface relief and the structural organization of the plaque, mouth rinsing is a significantly less effective procedure compared with mechanical plaque removal using a toothbrush or a dedicated tongue scraper.

Most patients who perform tongue hygiene prefer to use a toothbrush, based on the assumption that the bristles are capable of penetrating between the lingual papillae and effectively removing plaque from these microspaces. When advising patients on tongue cleaning, it is important to consider the potential carcinogenic consequences of chronic mechanical irritation of the epithelium.

Studies have shown that micro-injuries, detectable by the presence of hemoglobin in saliva, can occur after just three strokes with a medium-bristled toothbrush across the dorsal surface of the tongue with an applied force of approximately 100 g. Therefore, it is recommended to use exclusively soft brushes for tongue hygiene, which are capable of preventing microbleeding even during a complete cleaning cycle. Specialized soft tongue brushes are available on the market, designed with consideration of the anatomical shape of the surface being cleaned. The use of regular toothpaste during tongue cleaning does not increase the effectiveness of the procedure, and therefore it is traditionally performed with a moistened brush without toothpaste. At the same time, the anti-halitosis effect of mechanically removing plaque from the tongue surface can be enhanced by moistening the brush with antiseptic agents. To facilitate the cleaning process and prolong its effects, the additional use of mouth rinses is advisable.

The patient should be informed that the primary goal of tongue hygiene is the removal of plaque mainly from the posterior third of the tongue, as cleaning the anterior portion does not reduce hydrogen sulfide production. The area to be cleaned should be demonstrated visually, with its distal boundary defined by the papillae surrounded by a raised ridge. By fully protruding and curling the tongue, the patient can independently visualize this boundary using a mirror – it corresponds to the terminal sulcus of the tongue. Cleaning movements should be performed strictly in one direction –

from the root of the tongue toward its tip. The pressure applied to the brush should be minimal, and special caution is required when using stiff scrapers.

One of the factors that can hinder effective tongue cleaning is a pronounced gag reflex. Mint flavoring agents in toothpaste may increase the sensitivity of the oropharynx and trigger this reflex, which is why it is advisable to clean the tongue before brushing the teeth. An additional method to reduce the intensity of the gag reflex is brief breath-holding during each brush stroke. As a rule, the intensity of this protective reaction decreases as the skill and experience of tongue hygiene are developed.

Tooth brushing and flossing have a lesser effect on the management of physiological halitosis compared to tongue cleaning; however, these hygiene practices can reduce the concentration of volatile sulfur compounds in exhaled oral air by approximately 48% and simultaneously serve as a preventive measure against periodontal diseases, which are one of the main causes of pathological oral halitosis.

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