

EXAMINATION OF THE CONDITION OF HARD TISSUES AND DENTAL PULP AFTER THE USE OF CLINICAL WHITENING METHODS

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Annotation

Mentions of the first method of teeth lightening are found in the writings of Guy de Chalice, the personal surgeon of Pope Clement VI and two of his successors - in his treatise Inventories Chirurgical is Medicine. Then the author proposed a bleaching composition based on burnt salt, wine vinegar and honey. For a long time this work remained the main guide for doctors, but with the development of science it gradually lost its relevance.

Keywords: increasing influence of the church, chlorides as bleaching agents.

Introduction

With the increasing influence of the church, dental treatment becomes a "dirty business", and general practitioners are removed from it. The prerogative passes into the hands of barbers, who always had metal tools at their disposal, with which they roughly processed teeth and covered them with nitric acid.

A fundamentally new approach began to be applied only in the XIX century: Chapel, 1877 - the use of oxalic acid; Harlan, 1884 - the use of hydrogen peroxide, which he called hydrogen dioxide. And in 1895 Garretson suggested that it was necessary to think about chlorides as bleaching agents, because they destroy organic matter, which can be the cause of discoloritis. However, the modern technique of thermocatalytic bleaching, based on the activation of hydrogen peroxide by high-intensity light, was described in 1918 by Abbott. Since 1950, this method has been studied by Pearson and used as a means to correct the color of depulped teeth. Shortly before that, Kane had been treating discolorites of teeth affected by fluorosis with an 18% hydrochloric acid solution that dissolved the surface layers of TTZ.

In 1989, Haywood and Heymann initiated a massive demand for bleaching by developing a home bleaching system. This aroused particular interest among patients, as the snow-white smile became more accessible and did not involve an expensive visit to a specialist. The innovation of the method consisted in the use of individual mouthguards, into which a bleaching solution was applied for several hours. Their

composition assumed the presence of 10% carbamide peroxide and was able to whiten the dentin of the tooth.

The color of teeth and the reasons for its change. Discolorites

The formation of tooth color is a complex mechanism that results from a combination of the internal color of the tooth and acquired external or congenital discolorites. The inner color of the tooth is formed from the color of translucent enamel and opaque dentin, which can have different densities depending on its type. Thus, it is reliably known that non-sclerosed dentin is optically anisotropic. This means that the transmission of light is greater precisely along the dentine tubes than across.

The natural color of the enamel can also be different. It ranges from pure white to yellowish or blue-white. Scientists have been trying to understand the nature of color for a long time before our era. So Aristotle believed that the reason the appearance of colors is the mixing of light with darkness. Rene Descartes, Johannes Kepler, and Roberto Hooke also made various assumptions. However, only Isaac Newton conducted the research for the first time and published a work entitled "A New theory of light and colors". So he laid the foundation for modern ideas about color. Do not forget about the work of Thomas Jung, who explained the diversity of perceived colors by the unique structure of the human eye, and also for the first time correctly indicated the triad of colors perceived by him: red, green and purple. This was later confirmed by other scientists.

At the present stage of the development of science, it is believed that the visible optical spectrum is limited to waves from about 760 to 380 millimicrons. Any colored light is reflected from white objects equally, and black ones completely absorb it.

At the beginning of the XX century, in order to correctly evaluate the results of bleaching, it became necessary to classify the colors of teeth. The first color studies in dentistry have begun. And already in 1924, the Vita Company was the first to describe the colors of natural teeth from a scientific point of view and documented in the form of color scales. In 1956, the first standardized color scale VITAPAN classical A1-D4 was released, later VITA classical A1-D4.

In it, the colors are grouped according to their shades and location in the color space of natural teeth: A1-A4 reddish-brown, B1-B4 reddish-yellow, C1-C4 gray tones and D2-D4 reddish-gray.

The active substance in the bleaching system leads to the rupture of chemical bonds in chromogens - substances that stain the tooth [67, 286]. In most systems, the active ingredient is carbamide peroxide/hydrogen peroxide [118, 151, 214]. Under the influence of a special activator, reactive oxygen species with a powerful oxidizing potential are released from hydrogen peroxide. There are two types of chromogens: large organic compounds that contain double bonds in their structure and compounds that contain metals. The target for the bleaching system is precisely the double bonds

in the organic chromogen molecule, which undergo oxidation and decay. The second type of chromogens is difficult to correct in this way.

Thus, bleaching is a change in the color of the enamel and dentin of the tooth, which occurs as a result of the interaction of perhydroxide radicals with aromatic pigment molecules, which causes a change in their chemical structure and refractive properties. Clinical bleaching can be carried out in two ways: using a special source of activation of the bleaching composition or without it. Techniques using activator lamps are the most effective today.

1.4. The concept of hypersensitivity (hyperesthesia) of teeth and methods of its elimination

1.4.1. Mechanisms of pain sensitivity

Toothache can be caused by various causes: caries and its complications, tooth trauma, non-caries lesions of enamel and dentin, hypersensitivity (HP) of teeth. Currently, there are several theories of the occurrence of TTZ sensitivity: odontoblastic, receptor, threshold, neuro-reflex, hydrodynamic.

The odontoblastic theory suggests that odontoblast cells act as receptors - they independently perceive and transmit stimuli to the endings of sensory neurons in the pulp. However, odontoblasts by their origin do not belong to the nervous tissue, and their processes do not correspond to the length of the dentine tube.

The receptor theory assumes the presence of nerve fibers in the dentine tube that directly transmit irritation to neurons in the tooth pulp. However, no practical evidence has been found for this. Nerve endings penetrate only 10-15% of the length of the dentine tubule.

Within the framework of the threshold theory, it is believed that with inflammation in the pulp of the tooth, the pain threshold of dentin sensitivity decreases. At the same time, other mechanisms of pain or their combinations are not excluded.

The neuro-reflex theory of A.Fedorov is based on the assumption that pain occurs when the mineralization of enamel is disturbed, and the pain impulse is carried out by the dentin receptor apparatus. Violation of mineralization may occur due to insufficient intake of ions into saliva, due to their incomplete assimilation by the body. However, the hydrodynamic theory has received the greatest expansion, which explains the cause of pain in the tooth by changing the fluid flow in the dentine tube, which causes irritation of the nerve fiber and the occurrence of a pain impulse [209]. Pain caused by dentin irritation is often transient in nature: it appears instantly after exposure and quickly disappears.

1.4.2. Hypersensitivity (hyperesthesia) of teeth and methods of its study

One of the complications of the bleaching procedure is an increase in the sensitivity of teeth - the occurrence of hyperesthesia of hard tissues. Hyperesthesia of TTZ is attributed to non-caries lesions that develop after teething.

It can accompany other non-carious lesions of the teeth, for example, multiple caries, as well as periodontal diseases.

Currently, for clinical teeth whitening, it is very common to use various light sources to activate the whitening gel. However, due to the fact that lamps that emit heat (for example, in the form of ultraviolet radiation) cause a noticeable increase in tooth sensitivity, and the safety and comfort of the patient are the determining factors when choosing the type of bleaching system. In recent years, a lot of new technologies and improvements to existing ones for teeth whitening have appeared on the dental market, which use "cold" LED light that does not have a thermal effect and does not provoke the appearance of sharp tooth soreness during the procedure.

Systemic mechanisms of dentin sensitivity development have a neurological nature and develop in the presence of general somatic pathology, therefore, for successful relief of toothache, it is necessary to correctly identify its source.

References

1. Nuralievna S. N., Islamovna Z. N., Rakhimovna K. D. Prediction of Premature Outflow of amniotic fluid in Preterm pregnancy //International Journal of Psychosocial Rehabilitation. – 2020. – T. 24. – №. 5. – C. 5675-5685.
2. Shavazi N. N., Lim V. I., Shavazi N. M. Influence of threats of the preterm birth to the intra and postnatal periods of infants //Journal of Advanced Research in Dynamical and Control Systems. – 2020. – T. 12. – №. 5. – C. 210-215.
3. Babamuradova Z. B., Shavazi N. N. Assessment of the efficacy and safety of biological agents in rheumatoid arthritis //Journal of Advanced Medical and Dental Sciences Research. – 2021. – T. 9. – №. 6. – C. 26-31.
4. Shavazi N. N. The nature of changes markers of dysfunction of the endothelium in blood of women with premature bursting of amniotic waters //Journal of Advanced Medical and Dental Sciences Research. – 2021. – T. 9. – №. 6. – C. 6-9.
5. Shavazi N. N., Babamuradova Z. B. Efficiency of the risk scale of extreme premature labor //Journal of Advanced Medical and Dental Sciences Research. – 2021. – T. 9. – №. 6. – C. 21-25.
6. Shavazi N. N. Management of pregnant women from a high risk group with threat and premature labor. Prevention of intra-perinatal outcomes //Journal of Advanced Medical and Dental Sciences Research. – 2021. – T. 9. – №. 6. – C. 10-20.
7. Shavazi N. N. et al. Morphofunctional Structural Features of Placenta in Women with Late Preterm Birth //Annals of the Romanian Society for Cell Biology. – 2021. – C. 3820-3823.