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Professional hygiene oral cavity: comfort before and after the procedure

Oksana Vydoynyk ^{1*}

1. Department of Pediatric Dentistry, Ternopil State Medical University of I.J Horbachevsky, Ternopil, Ukraine.

[E-mail: oksanagirk@ukr.net]

Summary: The article presents the modern data about etiology and pathogenesis of tooth hypersensitivity. The methods of cupping hypersensitivity teeth using fluorinated funds, adhesive sealants, desensitizers and also presents a new Pro-Argin technology based on arginine and preparations for the daily care of sensitive teeth at home - Colgate Sensitive Pro-Relief, which are widely used in Ukraine.

Conclusion: In pastes Colgate ® Sensitive Pro Relief™ was successfully implemented pathogenetic principle in solving problems of hypersensitivity teeth. By sharing use of professional and toothpaste for regular use has a comprehensive program for the prevention of hypersensitive teeth, which ensures quick and stable pronounced effect that eliminate dentinal hypersensitivity and effective prevention caries.

Keyword: Professional oral hygiene, Gum recession, Tooth hypersensitivity, Pro-Argin™ technology.

1. Introduction

Professional oral hygiene is an integral part of the algorithm quality dental care of the patient and is often a precondition conservation warranty before him [1, 4, 9]. Activities of professional oral hygiene include manual or ultrasonic scaling followed by the application of polishing pastes and selection of personal hygiene, appropriate dental patient's status. Regular holding of hygiene procedures is highly effective means of preventing not only caries, non-caries lesions of teeth, but also periodontal disease [2, 3, 6].

Promotion of oral health and attractiveness of the smiles gave tangible results. Every year the need for preventive procedures increases. Often, however, the dental reception we meet with failure to conduct occupational health associated primarily with its consequences in the form of appearance hypersensitive teeth. In some cases, already existing tooth hypersensitivity and the associated discomfort, and even pain sensations

are caused by poor surface hygiene, oral care, any fear, even non-invasive dental procedures and irregular visits to the dentist [3, 4, 11].

Symptoms of hypersensitivity are varied, single manifestation is the occurrence of painful reaction in response to one or several stimulus: the first all mechanical and tactile (contact with a toothbrush, dental tools, air drying); chemical and osmotic (citrus, sour or sweet products and drinks); thermal (hot or cold food, liquid or inhaled air) [1, 2, 11].

2. Materials and Methods

Despite the increasing number of schemes and integrated methods of treatment, the problem of hypersensitivity remains relevant. Modern methods of therapy hypersensitive teeth provide for the application of hygiene products with the desensitizing effect, but the effect of reducing the sensitivity in their application is not achieved immediately, but only after 4-8 weeks of regular

use. Many of the tools for reducing sensitive teeth suitable for use only in the dentist's office, for example, use of dental desensitizer as well as mechanical isolation of dentin and enamel (filling, sealing), and, in severe cases, depulpation of teeth.

Therefore, the material study was to examine methods of elimination of tooth hypersensitivity according to the data modern literature.

3. Results of the Investigation and Their Discussion

Understanding the mechanisms of development of hypersensitive teeth allows deeply and consciously approach to the selection of treatments. Today, the generally accepted theory of hypersensitivity is the hydrodynamic theory in the modification Brannstrom (1963) [1, 2], which explains the pain impulse transmission liquid displacement in exposed dentinal tubules. Acting on the bare surface of the dentin, physiological stimulus without damaging nature under normal circumstances, can cause liquid motion in open tubules, leading to activation of mechanoreceptors in the pulp, which ultimately provokes pain. In connection with this pathogenetic justified method by cupping hypersensitive teeth is use of funds with obturation mechanism of action, which involves in reduction or complete blockage of the dentinal tubule lumen open, whereby the degree of offset is limited in these liquids, and as a consequence, reduced pain response to external stimuli [2, 3]. Effect of obturation is achieved by forming the sealing layer on the exposed dentine surface. Used for this purpose preparations containing, for example, strontium salts, stannous fluoride [5, 7]. The action of these drugs is relatively weak, short effect and the layer sealing the dentinal tubules, surface. Moderately sensitive effect is traditional and fluorinated products (gels, varnishes) with high (more than 1%) fluorine content, the main indication for the use of which is the remineralization of the enamel and dentin [6, 8]. Rapid effect have adhesive sealants based on hydroxyethyl methacrylate (HEMA) and oxalate, but the effect is not lasting desensitization. Very often requires repeated application of drugs that

is unsafe because of the high risk of developing allergic reaction to the drug components [4, 9].

The mechanism of action alternative group desensitizers based on the principle of electrical conductivity reduction of nerve fibers, through which reduces the conductivity of the nerve pulse and increases pain sensitivity threshold. This group includes drugs containing potassium salts (nitrate, chloride or citrate), that are not on the cause of the hypersensitivity, but on a symptoms, providing temporary and short-term effect [3, 6].

Perennial targeted research scientists led to the creation of the new Pro-Argin™ technology on the basis of arginine- an amino acid normally present in saliva and is used by the body as a building material, and the insoluble compounds of calcium carbonate. The mechanism of action of Pro-Argin™ technology is based on the fact that a bipolar charged arginine, on the one hand, associated with the insoluble form of calcium carbonate, and on the other with the negatively charged surface of dentin [4, 5, 6]. Thus, enriched a mineral -rich layer, sealing the dentinal tubules, both outside and inside. Clinically confirmed that Pro-Argin™ technology instantly reduces tooth sensitivity, and the effect lasts up to 28 days. Moreover, enriched with calcium mineral layer has resistance to acids.

Based on Pro-Argin™ technology, company Colgate® has developed and implemented a unique two-component product in the form of paste for professional oral hygiene in the dental office and toothpaste for daily care of sensitive teeth at home - Colgate® Sensitive Pro-Relief™ [4, 7].

Algorithm of application the paste Colgate® Sensitive Pro Relief™ for professional hygiene of oral cavity in patients with hypersensitivity teeth comprises applying it with a soft cup rotor for 3 seconds on each tooth (thus possible to treat the entire dentition) at low or moderate speed of rotation to dental plaque removal procedures. A study by Hamlin d. et al. (2009) [2, 7], compared the effectiveness of reducing dentinal hypersensitivity after a single application of toothpaste Colgate® Sensitive Pro Relief™ prior to the removal of dental plaque. There was a statistically significant decrease in indicator scale

tactile sensitivity (110%) and a cold stimulus (42 %) compared to the pumice paste (16.2 % and 12.9 % respectively). Thus, the application of paste Colgate® Sensitive Pro-Relief™ prior to occupational procedure makes procedure comfortable for the patient and, in most cases eliminates the use of analgesics [8,9].

Reapply toothpaste Colgate® Sensitive Pro Relief™ after removal of dental plaque leads to a momentary reduction of hypersensitive teeth. In the current Schiff et al. (2009) [1, 2] study shows a decrease in sensitivity to tactile (by 156.2 %) and cold stimulus (44.1%) compared with the original data , and the obtained effect is saved for 4 weeks. Additionally, Colgate® Sensitive toothpaste Pro-Relief™ is not only desensitizer, but also professional polishing paste, the use of which does not change the texture of the surface of the tooth enamel and dental materials (including gold, ceramics, composites, amalgam) and takes into account the needs of patients with hypersensitivity [2, 8].

To maintain the effect of reducing the high sensitivity achieved in the dental office and the daily care of sensitive teeth, was developed toothpaste Colgate® Sensitive Pro-Relief™ for regular use. Efficient reduction dentin hypersensitivity has been demonstrated in a comparative study where toothpaste Colgate® Sensitive Pro-Relief™ was applied onto a sensitive portion tips fingers in the subsequent careful rubbing for 1 min. Toothpaste Colgate® Sensitive Pro-Relief™ is much faster and more effectively reduced the increased sensitivity compared with toothpaste containing potassium salts [1, 2, 4, 9]. To achieve permanent results need regular use (twice a day).

Another study compared the effectiveness of reducing high sensitivity toothpaste Colgate® Sensitive Pro Relief™ with Sensodine® toothpaste Rapide Relief, containing 8% strontium acetate. The effectiveness of reducing hypersensitivity compared after single finger application and subsequent of the teeth brushing twice a day for 7 days [7, 8]. When comparing rates of hypersensitivity immediately after applying the paste pronounced decrease tactile (80.5%) and cold air (41.4%) sensitivity in the group that used

toothpaste Colgate® Sensitive Pro-Relief™ compared with baseline in the group hypersensitivity, use toothpaste Sensodine® Rapide Relief. The results of the comparison after brushing your teeth twice a day for 7 days showed that the toothpaste Colgate® Sensitive Pro Relief™, significantly more pronounced and reduces increased tactile (32.1%) and air-cold (50.4%) teeth sensitivity compared with toothpaste Sensodyne® Rapide Relief [9, 10].

4. Conclusion

In pastes Colgate® Sensitive Pro Relief™ was successfully implemented pathogenetic principle in solving problems of hypersensitivity teeth. By sharing use of professional and toothpaste for regular use has a comprehensive program for the prevention of hypersensitive teeth, which ensures quick and stable pronounced effect that eliminate dentinal hypersensitivity and effective prevention caries.

5. References

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