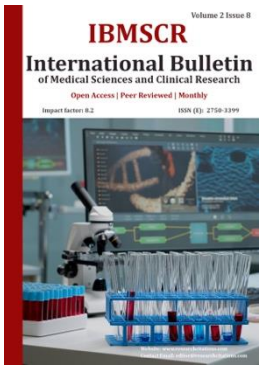

MODERN APPROACH TO THE TREATMENT OF PERIODONTAL DISEASES

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Abstract: Periodontal diseases, like the well-known caries, are widespread among the population the entire globe. According to the World Health Organization, about 95% of the adult population and 80% of children have signs of periodontal disease. Clinical forms of periodontal diseases in children differ greatly from similar conditions in adults. All pathological processes develop in a child in growing, developing and reconstructing tissues, which are still morphologically and functionally immature and may inadequately respond to similar stimuli and causal factors that cause periodontal diseases in adults. Of great importance in the pathogenesis of the development of the disease is the possibility of a disproportion in the growth and maturation of immature structures, which can arise both within the system (tooth, periodontium, alveolar bone,etc.), and in the structures and systems that provide and adapt the entire body to external conditions from birth to old age. This causes the occurrence of juvenile gingivitis, periodontitis and periodontoma, which arise as a result of temporary transient functional hypertension, carbohydrate metabolism disorders (juvenile diabetes, diencephalic syndrome, etc.).

Key words: a dental elixir, preventive maintenance, illnesses parodontic.periodontal diseases,caries,dysbacteriosis

Diagnostics of periodontal diseases in the primary dentition is further complicated by the fact that loosening of the teeth, which is the most obvious clinical symptom, is difficult to differentiate from the process of resorption during the physiological change of teeth. In primary teeth, the course of periodontal disease is in most cases slow and protracted. Due to the fact that primary teeth, even under intact conditions, fall out in 6-10 years, the clinic usually pays attention only to pronounced, severe forms. Milder cases are considered as early loss of primary teeth. In the case of periodontal disease of primary teeth, the same changes can be expected during the development of permanent teeth. Therefore, pediatric dentists sometimes have to deal with timely recognition and thorough treatment of periodontal diseases.

In the schemes of prevention and treatment of inflammatory periodontal diseases, the main role is given to professional and personal oral hygiene, given that the influence of the microbial factor in the development of the pathological process is generally recognized.

Of great importance are the processes of lipid peroxidation and the state of the antioxidant system of oral fluid, oral secretions as a system of antibacterial and antiradical protection of the body.

In addition, it is very important to use additional means and methods to prevent the development of inflammation in periodontal tissues, which must be both highly effective and safe for both adults and, to a greater extent, for children.

Most of the therapeutic and prophylactic dental elixirs and rinses presented on the Russian market contain strong antiseptics as the main ingredient: chlorhexidine bigluconate and triclosan. Such products have high antimicrobial activity, but their use leads to the suppression of not only pathogenic but also saprophytic microflora, which causes dysbacteriosis and increased resistance of pathogenic strains of microorganisms to existing antimicrobial drugs, reducing the effectiveness of treatment. Long-term use of dental elixirs with antiseptics can contribute to the exacerbation of the inflammatory process in periodontal tissues. In this regard, the development of an effective parapharmaceutical dental elixir with anti-inflammatory properties based on natural plant components is relevant. The aim of the study is to increase the effectiveness of the treatment of inflammatory periodontal diseases and dental caries through the development and clinical use of new therapeutic and prophylactic elixirs based on medicinal herbs and natural antioxidants.

As part of the implementation of the “Prevention Program dental diseases" at the Department of Dentistry of the EITI of St. State Medical University, research work is being carried out to develop new therapeutic and prophylactic agents for prevention and treatment periodontal diseases. A formula for the dental elixirs "Boyavit" and "Boyavit-E" has been developed based on an extract of medicinal herbs (broadleaf plantain, sweet clover, calendula, St. John's wort, chamomile, sage, stinging nettle, aloe juice, sea buckthorn oil, taken in a certain ratio) with a biocomplex of a natural antioxidant - an extract of hawthorn fruits and flowers ("Dental elixir for the prevention of dental caries", Russian Federation patent No. 2352351, "Therapeutic and prophylactic elixir for oral care and the method for obtaining it", Russian Federation patent No. 2334522, "Therapeutic and prophylactic elixir and the method for obtaining it", Russian Federation patent No. 2355379). The results of the scientific research were presented in the START and UMNIK competition programs (participant in the youth scientific and investment competition), held by the Foundation for Assistance to the Development of Innovative Technologies in the Scientific and Technical Sphere under the Government of the Russian Federation, under project No. 7218, application No. 07-3-N2.1-0115. By decision of the competition jury, since 2006 the foundation has been providing phased financing of scientific work in the amount of 4.5 million rubles over 3 years. These funds were used to conduct the necessary preclinical studies, certification and standardization of the developed dental elixir "Boyavit-E" (registration No. 002341/062006). The objectives of the clinical part of the study included studying the effectiveness of various dental elixirs in comparison with the developed elixir "BoyavitE". To determine the clinical and microbiological

efficiency of this therapeutic and prophylactic elixir, elixirs similar in composition and effect on periodontal tissues were selected. A total of 425 children in the age groups of 6, 12 and 15 years were examined. The study was conducted in secondary schools of Stavropol among 1st grade students, who made up the 6-year-old age group, 7th grade students - the 12-year-old age group and 9th-10th grade students - the 15-year-old age group. The initial dental status of the children was recorded in the developed card Kuban Scientific Medical Bulletin No. 6 2013 examination. To standardize and objectify the study, in all groups, discussions were held with children and parents on the rules of personal and professional hygiene, the need to use additional hygiene products, in particular dental elixirs. Personal hygiene was performed with the same toothpastes and brushes, twice a day, for at least 3 minutes. All subjects were divided into 5 groups depending on the type of dental elixir used. The first comparison group included patients who used the dental elixir "Freshness", which is one of the hygienic dental

elixirs and is intended for rinsing the mouth to cleanse the mouth from food debris, deodorize and flavor. The second group used the dental elixir "Health" (f. "Svoboda", Russia), which contains azulene, St. John's wort infusion, has an antiseptic, anti-inflammatory and astringent effect, is used for diseases of the oral mucosa. The third group included patients who used the Lacalut dental elixir, the active components of which are chlorhexidine bigluconate (CHG), aluminum lactate, allantoin and bisabolol. The fourth comparison group used the Parodontax dental elixir (Block Drug Company Inc, Germany), which contains an extract of medicinal plants rudbeckia, ratanya, chamomile, sage, mint, myrrh, caraway and cloves. Due to its antibacterial composition, it prevents plaque formation on teeth and, with regular use, helps remove existing plaque. The main, fifth group consisted of patients who used the Boyavit-E dental elixir throughout the study period. The examination was carried out using a standard method, the diagnosis was made on the basis of clinical data and the results of an X-ray examination. To assess the hygienic condition of the oral cavity and the cleaning properties of the studied dental elixirs, the Green-Vermilion hygiene index was used. The anti-inflammatory effect was assessed using the PMA index; the Pisarev-Schiller test; the bleeding index according to Muhlemann (1971). The index values were assessed before the start of the study and during control examinations throughout the study (after 1, 2, 4 and 8 weeks). After determining the initial values of the above indices and conducting diagnostic tests, the correctness of hygienic care (compliance with the technique and regimen of brushing and rinsing the teeth) was checked, and in all cases, appropriate training was provided. Children and their parents were advised to follow the technique and regimen of brushing their teeth, rinsing the oral cavity with the proposed elixirs, to refrain from using other hygiene products, as well as from taking immunostimulating and antibacterialdrugs during the study period. The antimicrobial efficiency of the mouthwashes was assessed based on the microbiological study data.Statistical processing of the obtained results was carried out using the Student criterion.

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