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## **PRACTICE OF PREVENTING DENTAL CAREES IN CHILDREN**

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**ABSTRACT:** The article substantiates the need for early prevention of dental caries in children. The most effective technologies for preventing the formation of caries include the emergence of hygienic care and the protection of dentist's recommendations from the factor of main tooth eruption. It has been shown that the use of remineralizing therapy is infinitely effective in the treatment of primary caries configurations.

**Key words:** caries prevention, bursimon dog, remineralizing therapy.

## **БОЛАЛАРДА ТИШ КАРИЭСИГА ҚАРШИ ПРОФИЛАКТИКА ҲТКАЗИШ ТАЖРИБАСИ**

**АННОТАЦИЯ:** Мақолада болаларда тиш кариесини эрта олдини олиш зарурати асосланган. Кариес ҳосил бўлишининг олдини олишнинг энг самарали технологияларига гигиеник парваришнинг пайдо бўлиши ва стоматолог тавсияларини асосий тишларнинг ёриб чиқиш омилидан ҳимоя қилиш киради. Реминерализатсияловчи терапияни қўллаш кариеснинг бирламчи конфигурацияларини даволашда чексиз самарали эканлиги кўрсатилган.

**Калит сўзлар:** кариес профилактикаси, реминерализатсияловчи терапия.

## **ОПЫТ ПРОВЕДЕНИЯ ПРОФИЛАКТИКИ ПРОТИВ КАРИЕСА ЗУБОВ У ДЕТЕЙ**

**АННОТАЦИЯ:** В статье обосновывается необходимость раннего предупреждения кариеса зубов у детей. К наиболее эффективным технологиям предупреждения образования кариеса относятся появление гигиенического обслуживания и защита рекомендаций стоматолога от фактора прорастания основных зубов. Показано, что применение реминерализующей терапии неограниченно эффективно при лечении первичных конфигураций кариеса.

**Ключевые слова:** профилактика кариеса, меловидное пятно, реминерализующая терапия.

## **RELEVANCE**

The treatment of dental caries and its complications is a complex psychological and practical task for the child, their parents, and the dentist. Therefore, the early detection of carious lesions is the most crucial and appropriate approach, allowing for the use of non-surgical methods (interceptive treatment). Early diagnosis of the enamel demineralization process allows for the application of methods that promote remineralization. Therapy must be comprehensive, including both general and local measures.

According to recent studies, there is a tendency toward an increased prevalence and intensity of dental caries in children [1]. The significant (2.5–3 times) increase in caries prevalence among young children (aged 1 to 3 years) is alarming. In various regions, the prevalence of caries up to 4 years of age ranges from 20% to 80% [1, 2].

A number of authors believe that this is largely due to the increased frequency of pregnancy pathology, genetic predisposition to caries, and environmental deterioration, resulting in a decrease in the overall resistance of the child's body [2, 3]. The forced transition of an infant from natural to artificial feeding negatively impacts the state of the child's dentoalveolar system, leading to an excessive strain on adaptation and immune mechanisms and posing a serious challenge to their immature physiological systems. The change in the nature of feeding causes a faster increase in weight-height indicators and, consequently, affects the redistribution of calcium in the body in favor of the teeth [2, 3].

The acceleration of children's physical development leads to the early eruption of temporary and permanent teeth. The tooth enamel does not "catch up" with full saturation of macro- and microelements, and after eruption, teeth in the stage of structural and functional immaturity become highly susceptible to the aggressive effects of cariogens [3, 4]. Since the susceptibility of enamel to acids is highest during the period of incomplete mineralization, a high prevalence of focal demineralization is observed during the first 2–3 years after eruption. Its likelihood increases with inadequate hygienic care of the oral cavity and high carbohydrate consumption [4, 5].

Given that the initial stage of dental caries is reversible, the importance of its timely prevention and treatment is undeniable [5]. The negative impact of the listed factors is further exacerbated by the extremely low level of oral hygiene in a large part of the population of our republic, especially in childhood.

The period of physiological maturation (mineralization) of enamel can last from 2 to 5 years, and throughout the entire period of mineral maturation (especially during the first year after eruption), the child's teeth require careful and effective care.

In early childhood caries, temporary teeth are affected almost immediately upon eruption. The first carious lesions are typically detected on the vestibular surface of the maxillary incisors in the cervical region, appearing as chalky white areas (focal demineralization). These foci quickly (in 2-3 months) acquire a light yellow color, after which carious defects appear in that location. The carious process is characterized by a rapid course, spread in width (flat caries), and multiple lesions in the order of tooth eruption (except for the mandibular incisors). The rare involvement of the mandibular incisors in this pathology is explained by better opportunities for self-cleaning (due to tongue positioning) and rinsing with abundant saliva [5, 6]. The accumulation of soft bacterial plaque on the tooth surfaces impedes the process of physiological maturation (mineralization) of the temporary tooth enamel.

Objective - The objective of the study was to evaluate the effectiveness of using calcium-containing gel for remineralizing therapy at home for treating the initial form of dental caries in children.

## **MATERIALS AND METHODS**

In a study involving 35 children aged 1 to 3 years, we conducted a staged treatment of caries at the chalky white spot stage using the gel "R.o.c.S. Medical Minerals." The clinical examination of the oral cavity was performed according to a standard protocol with the completion of an individual chart. The intensity of demineralization in caries at the chalky spot stage was assessed using the method of staining with a 2% methylene blue solution according to the Aksamin 10-point scale. The Plaque Index for young children was used to assess the hygienic status of the oral cavity [1]. Furthermore, the presence or absence of signs of catarrhal gingivitis was visually determined.

Based on the indications, the following complex of conservative therapeutic and prophylactic measures was prescribed: 1) Improvement of the oral hygiene status. 2) Normalization of the

nature and regimen of nutrition (elimination of the carbohydrate factor). 3) Local remineralizing therapy using "R.o.c.S. Medical Minerals" gel (at home). 4) Clinical surveillance.

The parents of the young patients were instructed on the principles of oral hygiene and the method of applying the highly adhesive "R.o.c.S. Medical Minerals" gel in the dental office; the gel application was performed at home. For young patients, after the evening daily hygiene routine, the gel was rubbed onto the teeth with another brush and left overnight. It was recommended to spit out the gel residue without rinsing the mouth after the procedure.

During the treatment period, fluoride-free children's toothpaste "RocS baby, Linden flavor" was recommended for hygienic care. During control examinations conducted monthly throughout the year, the areas of demineralization foci on the temporary tooth enamel were assessed.

### **RESULTS AND DISCUSSION**

During the clinical examination of patients one month after the prescribed complex of conservative therapeutic and prophylactic measures, we noted the absence of new carious cavities and no growth of demineralization foci. A restoration of gloss occurred on the existing chalky spots, and a positive sign of probe slipping was observed. Before the study, the chalky spots stained dark blue when colored with a 2% methylene blue solution (6 to 9 points), but after one month of prophylactic measures, the chalky spots remained, yet no staining occurred (0 points). Among other positive changes, the disappearance of signs of catarrhal gingivitis and a satisfactory hygienic status of the oral cavity in all patients should be noted.

As a result of the treatment, the restoration of the temporary tooth enamel structure was noted in all examined children. Thus, the use of the remineralizing gel "R.o.c.S. Medical Minerals" is an effective and safe method for treating caries at the chalky spot stage of temporary teeth. The application of the gel saturates the enamel with calcium, which promotes the remineralization of the teeth and increases their resistance to the effects of cariogenic factors. Moreover, strict adherence to oral hygiene is the guarantee of successful treatment of caries at the chalky spot stage. The conducted study demonstrated the high effectiveness of the proposed method and was highly appreciated by the parents of our patients. Increasing the level of parental awareness about new methods of treating and preventing dental caries in young children will help increase the rate of timely diagnosis of dental diseases in this age group.

### **CONCLUSIONS**

Prevention of dental caries in children is the guarantee of lifelong dental health. The correct use of special children's oral hygiene products helps to form a child's motivation for toothbrushing from the first years of life. The combination of remineralizing and antimicrobial effects in the "R.o.c.S. Medical Minerals" application gel allows for a reduction in the number of visits to the dental office in the treatment regimen we proposed, which significantly simplifies its implementation in young children.

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