Assessment Of The Oral Cavity In Children With Congenital And Acquired Heart Defects

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ABSTRACT

It is based on the correlation between clinical functional, biochemical and cytological indicators in the body and clinical symptoms of the main dental diseases in the oral cavity in children with common heart disease. In children diagnosed with a common heart defect, biophysical changes in oral fluid parameters, level of hygiene in the oral cavity, and inflammatory reaction in the periodontal soft tissues were found to be the main risk factors for the development of dental caries. High preventive efficiency of remineralizing therapy with deep fluoridation has been found. The positive effect of controlled tooth brushing, adherence to oral hygiene, selection of hygiene products, and quarterly visits to the dentist's office, which are part of the complex of treatment and prevention of dental diseases in children with common heart defects, have been proven.

Keywords: general heart disease, salivation, treatment-prevention, salivation, cytological examination, periodontal disease.

In the results of the study of children with common heart defects, a high frequency of primary dental diseases in the oral cavity was determined in a comparative study of patients with healthy children in the control group (Table 1). Indicators of primary dental diseases in children with acquired HD and in children with congenital HD showed a significantly higher frequency of major dental diseases compared to healthy children in the control group. However, the incidence in children with acquired HD is particularly high compared to both controls and children with congenital HD.

Table 1

Prevalence of major dental diseases in children with congenital heart disease and controls

Forms	Dental diseases					
	Dental caries		Gingivitis		Parodontitis	
	Number of patients	%	Number of patients	%	Number of patients	%
Congenital n=74	54	72,9	28	37,8	18	24,3
Acquired n=41	35	85,3	27	65,9	16	39,0
Control n=25	7	28,0	3	12,0	6	24,0

Due to the small number of 6-7 and 10-11 age groups in the age distribution of patients with common heart defects, we mainly selected 4-5 and 8-9 year old children for the study as the largest group, 115 children, all in-depth studies mainly this was spent with young children.

The study of the prevalence of caries in the teeth of children with congenital heart disease in comparison with healthy children of the control group revealed a reliable high prevalence of caries in the teeth of children of the 1st age group.

If the prevalence in the control group was equal to 36.67±11.88%, then it was 70.65±6.10% in the patient children. In the second age group, these indicators are significantly higher compared to the control group. However, among children with the congenital form, the results in the first age group are similar. (Table 2).

Table 2

Prevalence of dental caries in children with common heart defects

Forms	Children's group	
	1st age group, 4-5 years old	2nd age group, 8-9 years old
Congenital	80,65±7,10%	96,15±2,67%
P	<0,05	<0,01
Acquired	90,91±8,67%	100%
P	<0,01	<0,001
Control	36,67±11,88%	52,63±8,97%

The prevalence of acquired caries in children with general heart defects is significantly higher in the first age group compared to the control group and is 36.67±11.88% versus 90.91±8.67%, respectively. The prevalence of caries in sick children in the second age group is 100%, which is reliably higher compared to the control and the first age group. When the second indicator of caries was studied, its intensity showed a sufficiently large difference of these indicators in children with general heart defects compared to healthy children. In the first age group of patients with general heart defects acquired in children, this indicator was 4.85±0.08 against 2.14±0.06 in the control group. In the second age group, this indicator increased compared to the control group and the first age group (Table 3).

Table 3

Intensity of caries in children with common heart disease

Forms	Children's group	
	1st age group, 4-5 years old	2nd age group, 8-9 years old
	CPU+CP	CPU+CP
Congenital	4,85±0,08*	4,89± 0,10*
Acquired	5,19±0,10*	5,21± 0,10*
Control	2,14±0,06	1,95±0,04

The intensity of acquired caries in children with general heart defects was reliably higher in both the first and second age groups compared to the data obtained from healthy children of the control group. In the first age group, CPU+CP was equal to 5.19±0.10, in the second group - 5.21±0.10. 2.14±0.06 and 1.95±0.04 in the control group, respectively. The conducted studies proved the high prevalence and intensity of caries indicators in both groups studied in the acquired form in children with common heart defects. It should be mentioned that caries in both milk and permanent teeth is early and aggressive, and caries complications such as pulpitis and periodontitis develop in a short period of time, while the main disease is almost asymptomatic against the background of strong, anti-inflammatory therapy. It was determined that the beginning of caries disease is in the period of eruption of permanent teeth or in the first year of eruption of teeth, as well as the presence of several carious cavities in the crown parts of permanent teeth. The specificity of dental caries in children with general heart

defects, its reproductive nature, the presence of several carious cavities in 1 tooth (up to 3-4). It was found that caries is found not only in the typical dental areas, but also in the pre-neck areas.

As a result of the study, it was determined that ""C (caries) and "U" (absorption), as well as many of its complications in the form of pulpitis and periodontitis, were expressed in the KPU index studied in children with general heart defects.

Focal demineralization of the enamel (FDE), that is, the study of caries in the initial form of caries or white spot stage, indicates the active progress of the caries disease. Determining the intensity and prevalence of FDE in children with general heart defects is shown in Table 4.

Table 4

Intensity and prevalence of FDE in children with common heart defects

Forms	Study indicators	
	Spread	Intensity
Congenital	26,50±0,07***	0,38±0,02***
Acquired	34,70±2,09***	0,75±0,04***
Control	4,10±0,02	0,27±0,01

FDE was detected in children with general heart defects when the cervical, masticatory, premolar and molar, incisor teeth were studied. The spots were united in the same way, of many different shapes and sizes. Often there were many chalky spots on different surfaces of the tooth crown. The intensity of FDE is 1.2 times higher in the acquired form in children with a common heart defect compared to the congenital form, reliably higher than in the control group (3.63 times, P<0.001). In patients with congenital heart defects, the intensity of FDE is reliably 2.96 times higher than in the control group of healthy children, but lower than that of children with acquired heart defects.

In recent years, it is known that it is difficult, and sometimes impossible, to stop the development of diseases in the organs and tissues of the oral cavity only with medical measures. For this reason, it is necessary to develop measures for the prevention of major dental diseases and to implement them in practice. Despite the large number of popularized information on oral hygiene in children and adults and the availability of various hygiene products on the modern market, the state of oral hygiene remains unsatisfactory in a large part of the population. The study of oral hygiene of children with general heart defects is presented in Table 3.5. The study of the level of oral hygiene showed that most of the patient children were at a very low level in the first age group. If among children with congenital form, only 1 (3.26%) child had a good level of oral cavity, and 3 (9.68%) children had a satisfactory level, the remaining 7 (22.58%) were unsatisfactory and 11 (35.48%) had bad and 9 (27.03%) children got very bad level. The total value was 87.1%, which is more than half of the children with the congenital form, even the majority of the studied children testified to a very low level of oral hygiene.

In the second age group of children with common heart defects, oral hygiene was slightly better, 2 (3.85%) were good and 5 (9.62%) were satisfactory, but the majority of children had low or low oral hygiene. had a very low level of hygiene. Thus, an unsatisfactory level was determined in 17 (32.69%) children, a poor level in 15 (28.85%) children, and a very poor level in 13 (25.0%) children. It can be seen from the obtained data that the total number of low and very low level of oral hygiene in children of this category was 86.6%, which basically means that most children have a very low level of hygiene of the oral cavity, as in the 1st age group. In many literature sources, the dependence of dental caries and periodontal diseases in children with general heart defects on the quality of oral hygiene and, in turn, the dependence of oral hygiene on the level of hygiene knowledge and skills in children.

As a result of the questionnaire we conducted during interviews with children with common heart defects and the answers given by the

children to the questionnaire, we found out that the knowledge of the children's mouth care and prevention of dental diseases is very low. The very low level of oral hygiene knowledge of children with common heart defects prompted us to study the knowledge of parents, as well as their attitude to oral care and dental health in their children. For this purpose, a questionnaire was also conducted with parents of children with common heart defects. As a result, after studying the questionnaire, it was determined that 32.1% of parents do not need to constantly clean their children's teeth and consider that the dental care they receive when they apply is sufficient. 45.6% of parents did not know about the existence of preventive measures for diseases of the oral cavity, the importance of proper care of the oral cavity. Based on this, it became clear that not only children, but also their parents had a low sanitary culture in this topic and were not aware of existing caries prevention programs and the possibilities of hygiene culture of children and parents.

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