Improving the Effectiveness of the Study, Treatment and Prevention of Caries in Children with Type 1 Diabetes

Navruzova Ugilkhon Orzijon Kizi
Bukhara State Medical Institute named after Abu Ali ibn Sino Assistant of Pathological physiology

Sanoqulov Lazizjon Avaz Ugli
Student of Bukhara Medical Institute

Abstract: The insulin-dependent type of diabetes refers to autoimmune diseases, i.e. those caused by an aggressive immune response to the body's own cells. Unfortunately, the reasons for this reaction are still unknown. Most scientists are inclined to genetic predisposition and hereditary transmission of the disease. There is also an assumption about the viral component: people who have had serious viral infections against the background of a genetic predisposition to diabetes are at risk. Most often, type I diabetes manifests itself already in childhood or adolescence, less often in adulthood. The practical significance of the study is that based on the results obtained, the risk factors that cause major dental diseases in children with type 1 diabetes were identified.

Keywords: diabetes, gingivitis, periodontal disease, caries, oral cavity.

Relevance: The problem of diabetes is still relevant around the world. In the last 50 years, the disease has become a pandemic. According to the World Health Organization in 2012, the number of patients with diabetes in the world is 280 million, of which 480,000 are children. In Russia alone, in 2010, 3,200,000 patients were registered with the disease. 97% of them were type 2 diabetes (Petrov VI, Rogova NV, MikhailovaDO.// Bulletin of Volgograd State Medical University. - 2010. - edition. 1. - P. 28- 32).A screening questionnaire on the risk of diabetes, produced by the Volgograd Medical Prevention Center in 2009, estimated that 11.25% of those surveyed had type 2 diabetes [Sabanov V. I., Dyachenko T. S., Berdnik E. Yu. // Bulletin Roszdravnadzor. - 2012. - № 2. - p. 49-53.].As a result of diabetes, the structural structure of the salivary glands changes, which in turn leads to a violation of salivation and biochemical composition of saliva. The result is the development of xerostomia and multiple caries, candidiasis, halitosis [Carda C., Mosquera-Lloreda N., Salom L., et al. // Med. Oral. Patol.Oral.Cir. Bucal. - 2006. - Vol. 11 (4) .– R. 309–314.]Diabetes remains a pressing problem for the healthcare sector around the world. This is one of the main reasons for the increase in early disability and high mortality among children. Despite the adoption of national programs to combat diabetes in most countries around the world, its prevalence is increasing not only among adults but also among children.

Known as diabetes mellitus or insulin-dependent diabetes, this disease is the most common type of diabetes in children and adolescents. Diabetes has a significant effect on the condition of the oral cavity. Therefore, pediatric dentists need to be aware of the complications and specific features that this disease can cause in the oral cavity [Nirmala SVSG, Saikrishna D., 2016].

The prevalence of diabetes in all age groups worldwide was 2.8% in 2000 and is expected to increase to 4.4% by 2030 [World Health Organization, 2018]. Diabetes mellitus is a

multifactorial disease characterized by chronic elevated blood glucose levels or hyperglycemia and impaired insulin secretion, as well as insulin dysfunction. Called diabetes as a peaceful epidemic, the disease is a major problem of the health organization and it accounts for 9% of all deaths in the world [NazirMA, AlGhamdiL, AlKadiM, AlBeajanN, AlRashoudiL, AlHussanM., 2018].

Diabetes is one of the most common metabolic diseases in the general population and causes a variety of related diseases and complications that affect overall health. Chronic hyperglycemia is a chronic feature of diabetes, affecting various organs and tissues, especially organs rich in capillaries, leading to retinopathy, neuropathy, nephropathy, and vascular disease [J.L. Harding, M.E. Pavkov, D.J. Magliano, J.E. Shaw, E.W. Gregg, 2019].

According to the World Health Organization (WHO), health education is the best and most effective way to provide medical care to people. Medical education is the foundation of diabetes management. Research in this area shows that medical education is effective in controlling and treating this disease, and proper selection and planning of disease treatment can reduce the complications of diabetes 28 6 by 80% [RochaRB, SilvaCS, CardosoVS., 2019, MalekmahmoodiM, ShamsiM, RoozbahaniN, MoradzadehR. , 2020].

In the care of children with diabetes should take into account the dental indications of the oral cavity. Oral dental indications in patients with this disease can have a significant impact on their overall health and disease progression. Periodontal disease and dental caries are the most common chronic diseases in patients with diabetes. Inflammatory processes in periodontitis can be not only limited to the oral cavity, but also lead to systemic consequences. Gingivitis and periodontal disease (PC) are more common in patients with type 1 and type 2 diabetes (QD 1, QD 2) than in other dental diseases. as a result, the periodontal condition worsens. Paradont inflammation has a negative effect on glycemic control and other complications caused by diabetes, and there is a general conclusion that treatment of periodontitis can have a positive effect on this negative effect.In addition, pediatric caries (BC) is a common dental disease in obese and diabetic patients, and its causes depend on a variety of factors, but studies do not provide definitive information on its prevalence. There is no significant difference in the course of gingivitis, periodontitis and caries, for example, the origin of these diseases is caused by failure to follow the rules of oral hygiene and proper nutrition. Failure to brush your teeth regularly and excessive consumption of sugary foods can have a more detrimental effect on the condition of the oral cavity.Maintaining oral health can help prevent chronic dental disease and alleviate the effects of chronic inflammation.

The purpose of the study: To study the incidence, treatment, and prophylactic efficacy of caries in children with type 1 diabetes**.**

Objectives of the study: to identify and assess various risk factors that may cause dental disease in children with type 1 diabetes; To study the occurrence of caries in children with type 1 diabetes; Conducting dental clinical examinations in children with type 1 diabetes;Evaluate the effectiveness and prevention of caries in children with type 1 diabetes; The object of research was selected 131 patients with type 1 diabetes mellitus treated in the Bukhara Regional Medical Center of Endocrinology.

Methods of examination: clinical-dental, laboratory.

Clinical examination methods basic and additional: objective and subjective data were collected on the basic examination methods.

Subjective examination data were obtained primarily from the patient himself or from his or her parent or relative, with anamnestic data relevant to the patient's medical history.Objective

examination included examination of the patient's external vision, facial-jaw area and oral cavity, palpation of facial soft tissues and jaws, as well as instrumental examination of oral cavity organs, such as percussion and similar examination techniques.

Methods of laboratory tests: general analysis of blood, biochemical analysis. Research methods. general clinical, dental, and statistical research methods were used.

Scientific novelty of the study: Risk factors for the development of dental diseases in children with type 1 diabetes were identified; The incidence of caries in children with type 1 diabetes was studied; The prevention and efficacy of caries in children with type 1 diabetes were evaluated; Scientific and practical significance of the results of the study: The scientific significance of the study is that it opens up new promising opportunities for children with type 1 diabetes in the presence of dental disease.The practical significance of the study is that based on the results obtained, the risk factors that cause major dental diseases in children with type 1 diabetes were identified. Accordingly, endocrinologists, dentists, pediatricians, and general practitioners should determine the tactics of treatment of dental caries, choose the optimal method of treatment, measures to improve the quality of prevention of dental diseases in this category of patients, as well as dental diseases in children with type 1 diabetes. based on maintaining the principle of continuity in their management, if any.

The results of practical work help to increase the accuracy and speed of diagnosis, as well as to prevent caries in children with type 1 diabetes, which allows to reduce direct and indirect costs for diagnosis and treatment of sick children, dental caries in this category of children. through timely treatment serves to prevent a number of diseases in this category of children.

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