



## ETIOPATHOGENESIS OF HERPETIC STOMATITIS IN CHILDREN WITH CONGENITAL CYTOMEGALOVIRUS INFECTION.

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### Abstract.

This article indicates that one of the relevant scientific directions is the introduction of the practice of improving the treatment of diseases of the oral mucosa and herpetic stomatitis in children with congenital cytomegalovirus infection.

**Keywords.** Cytomegalovirus, herpetic stomatitis, periodontitis tissue, immunological, dental, clinical and functional, laboratory, statistical method.

In recent years, the incidence of herpetic stomatitis has been increasing among the population, which causes medical, social, and economic problems. A special place is occupied by the development of this pathology in children with congenital cytomegalovirus infection, which creates difficulties in their diagnosis and treatment. Scientific research aimed at improving the methods of diagnosis and treatment of diseases of the oral mucosa and herpetic stomatitis in children with congenital cytomegalovirus infection is conducted in leading scientific centers and higher educational institutions of the world, including the Tashkent State Dental Institute (Uzbekistan).

In studies to improve the treatment of diseases of the oral mucosa and herpetic stomatitis in children with congenital cytomegalovirus infection, a number of scientific results have been obtained, including: "the importance of any disease in modern society is determined by the prevalence of this disease among the population, the severity and severity of the consequences, the economic losses of the patient and his family or society as a whole". According to the World Health Organization, one of the important problems that seriously affect health are outbreaks of viral diseases.

Cytomegalovirus is characterized by a violation of the functions of various systems and organs of the body, as well as an adverse effect on periodontal tissues (Mukhamedzhanova L.R., 2015; Shtorina G.B. and co-author., 2015; Povoroznyuk V.V. and co-author., 2018), as a result, this cause in combination with other adverse factors leads to premature tooth loss. The level of timely diagnosis and treatment among children infected with cytomegalovirus remains low. Each of the existing methods of systemic diagnostics is aimed at determining the indicator of the structure or function of body tissues. It should be borne in mind that in clinical practice, the examination of children is relatively rare. In 50% of cases, flare infection is asymptomatic (Franke Yu., Range G., 2015; Rozhinskaya L.Ya., 2018).

In cytomegalovirus, the epidemic process is characterized by the absence of a well-defined periodicity, seasonality, and cyclicity. The frequency of asymptomatic forms and the impossibility of differential diagnosis only by the clinical manifestations of the manifested forms have led to the fact that the data of the official census of the incidence of cytomegalovirus infections do not reflect their actual distribution among the population, make it difficult to timely make adequate management decisions, carry out preventive and

antiepidemic measures.

The reliability of the research results is confirmed by the use of modern, complementary dental, clinical and functional, laboratory, immunological and statistical methods used in research work, obtaining a sufficient number of children diagnosed with herpetic stomatitis with the detection of cytomegalovirus, theoretical and practical confirmation of the presented results, their reliability in comparison with the data obtained by domestic and foreign by researchers, the validity of the presented conclusions., and also on the basis of approval by authorized organizations.

Practical results of the study: The most frequent localization of herpetic stomatitis in cytomegalovirus infection on the oral mucosa is included in the topogram scheme in ascending order of prevalence: sublingual, convex, retromolar region, gum, tongue, hard palate, soft palate, lip; the cytomegalovirus trigger factor in the pathogenesis of herpetic stomatitis is based on; Children with herpetic stomatitis who have cytomegalovirus infection cytokines IL-4 and IL-8 in blood serum, determination of IgE indicators has been proven to increase the effectiveness of early diagnosis in children in dental practice; the complex use of stomasphere in early diagnosis and complex treatment of herpetic stomatitis against the background of cytomegalovirus in dental practice has shown low effectiveness of the traditional method treatment.

Herpetic stomatitis in children is manifested by fever, lymphadenitis, nausea, vesicular rashes, erosions and aphthae in the oral cavity, loss of appetite. The diagnosis of herpetic stomatitis in children is based on anamnesis, clinical picture, cytological examination, rifa, PCR, ELISA. Treatment of herpetic stomatitis in children includes antiviral, desensitizing, immunocorrection therapy, local oral therapy, and physiotherapy. Herpetic stomatitis in children-herpes is a viral infection that occurs with a predominant lesion of the mucous membrane of the oral cavity and the phenomena of general intoxication. In pediatrics and pediatric dentistry, herpetic stomatitis ranks first among inflammatory diseases of the oral cavity in children, accounting for almost 80% of cases. Herpetic stomatitis is considered as a manifestation of the first contact of the child's body with the herpes simplex virus. Herpetic stomatitis is most often found in children aged 1 to 3 years, which is associated with their age-morphological characteristics, a decrease in the level of transplacental antibodies and the maturation of specific immunity. Herpetic stomatitis can also be observed in children of the first year of life who are on artificial feeding from the first months.

The source of the pathogen is children with acute herpetic stomatitis, adults with recurrent herpes and virus carriers. Herpetic stomatitis is very contagious: healthy children can be transmitted through home contact (through toys, household items) and airborne droplets (when coughing and sneezing), vertical transmission from mother to fetus is possible (recurrence of herpes with viremia in a pregnant woman). Depending on the clinical signs, herpetic stomatitis in a child can occur in mild, moderate and severe forms; in its development, there are incubation, prodromal periods, peak of the disease (catarrhal, period of rashes), the period of disappearance and clinical recovery. Mild and moderate forms of herpetic stomatitis are more common in children. The latent period of herpetic stomatitis in children ranges from 2 to 14 days. In the prodromal period, the child becomes restless, moody, cries, refuses to eat, sleeps poorly. Salivation, nausea, vomiting, enlargement and soreness of the submandibular and cervical lymph nodes are noted.

Herpetic stomatitis in children begins with acute fever (up to 38-40), there is a deterioration in the general condition. In the acute period of the disease, catarrhal manifestations are added: acute gingivitis, runny nose, cough, sometimes conjunctivitis. The child's gums are hyperemic, swollen and bleeding. Single or grouped vesicular rashes appear on the mucous membrane of the oral cavity in the form of thin-walled bubbles 2-3 mm in size, which are easily opened by painful erosions and the formation of aphthae (shallow ulcers covered with a whitish coating). Herpes rash is most often localized on the gums, hard and soft palate, back of the tongue, cheeks and lips. The formation of bubbles lasts 2-4 days and is accompanied by severe pain. However, the rash can occur at different stages of development. Aphthae and erosions gradually peel off and stretch without scarring. For herpetic stomatitis in children, an undulating character is characteristic: the appearance of rashes with fever ends with a short stable period, then a new appearance of rashes begins with another increase in temperature.

The disease is caused by herpesvirus type 5 — Cytomegalovirus hominis. It has 6 strains: Davis, AD 169, Kerr, C87, Esp, Towne, and a child can be infected with several subtypes of the pathogen at once. Cytomegalovirus (CMV) has a DNA genome, is characterized by slow replication and relatively low virulence. It is thermolabile, destroyed at temperatures above 56 °C, but remains viable for a long time in room conditions. With congenital CMI, transmission of the virus to the fetus occurs transplacentally, with perinatal infection — through contact with the mother's vaginal secretions, breast milk or blood preparations. The risk of infection increases if a mother with an acute form of the disease does not receive specific treatment. In the postnatal period, a child is most often infected from close relatives and peers by airborne droplets or household contact.

Once in the blood, the virus replicates in leukocytes, monocytes and macrophages and later it persists for life in lymphocytic organs. Often, the process is expressed in the form of a latent infection, in which the child has no symptoms and does not require treatment. The activity of cytomegalovirus depends on the state of immunity: with physiological immune deficiency, which is observed in young children, the risk of manifest cytomegalovirus infection increases significantly. When the body's protective factors (interleukin system, T-lymphocytes) are suppressed, the pathogen spreads with blood to different organs. The cells of the salivary glands are most sensitive to it, where specific pathomorphological changes often occur. The disease is characterized by the formation of large cytomegalovirus cells ("owl's eye"). In addition, fibrosis of glandular organs and calcification deposition are possible with CMVI.

With a decrease in immunity and the addition of a secondary bacterial infection, pustular lesions of the mucous membrane and skin occur. Acute herpetic stomatitis in children, depending on the severity and effectiveness of treatment, can last from 7 to 14 days. Acute herpesvirus infection can have a dangerous course in the first months of a child's life due to generalization, the risk of developing a septic condition, damage to internal organs and serous membranes of the brain. In the uncomplicated course of herpetic stomatitis, outpatient treatment is required, in complicated cases, hospitalization may be required in children of the first three years of life. Children with herpetic stomatitis are shown bed rest, copious drinking, insatiable food, the use of separate dishes and hygiene products.

The level of timely diagnosis and treatment among children infected with cytomegalovirus remains low. Each of the existing methods of systemic diagnostics is aimed at

determining the indicator of the structure or function of body tissues. It should be borne in mind that in clinical practice, the examination of children is relatively rare. In 50% of cases, flare infection is asymptomatic. In cytomegalovirus, the epidemic process is characterized by the absence of a well-defined periodicity, seasonality, and cyclicity. The frequency of asymptomatic forms and the impossibility of differential diagnosis only by the clinical manifestations of the manifested forms have led to the fact that the data of the official census of the incidence of cytomegalovirus infections do not reflect their actual distribution among the population, make it difficult to timely make adequate management decisions, carry out preventive and antiepidemic measures.

Comprehensive treatment of herpetic stomatitis in children (general and local) is selected depending on the period of the disease and the severity of symptoms. For fever and pain, paracetamol and ibuprofen are prescribed; antihistamines (Clemastine, hyphenadine) are used to relieve swelling. Systemic etiotropic therapy (Acyclovir, interferon) is more effective in the initial period. For the purpose of immunocorrection, injections of lysozyme, thymus extracts and gamma globulin are prescribed. Local treatment of herpetic stomatitis in children is carried out by a pediatric dentist and a pediatric periodontist. Daily treatment of the oral mucosa with antiseptics, herbal decoctions, lubrication with antiviral drugs is carried out. With an average form of herpetic stomatitis in children, solutions of proteolytic enzymes (trypsin, chymotrypsin) are used to clean the mucosal surface from necrotic masses. Keratoplastic agents (vitamins A, E, Rose) are used for epithelialization of erosions. Physiotherapy of herpetic stomatitis in children is prescribed from the first days of the disease (UV, infrared radiation). With recurrent herpetic stomatitis in children, courses of general remedies (vitamins C, B12, fish oil), a high-calorie diet are indicated.

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