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About the State of Oral Cavity Tissues of Patients with Specific Immunodeficiency Conditions of the Body
(Literature review)

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Abstract: In the article, the authors conducted a detailed analysis of the literature data on the problems of HIV infection in general and in dentistry in particular. The general directions that are the least illuminated and require further, more in-depth study are identified. The data on the pathogenesis of HIV infection were studied in detail, with an emphasis on its manifestations in the oral cavity. Modern methods and materials used to provide dental orthopedic care to such patients. In conclusion, the directions and tasks, tangents of methods and materials that are the most promising for studying and further implementation in the practice of dentistry are identified, as a result of which it is possible to predict an increase in the quality of dental treatment, which will undoubtedly improve the quality of life of such patients.

Keywords: dentistry, acquired immunodeficiency syndrome (AIDS), HIV infection, new methods and devices, periodontal tissues.

Relevance. Everyone knows that acquired immunodeficiency syndrome (AIDS) by the beginning of the XXI century has become one of the most common infectious diseases and has taken an independent and significant place in the overall morbidity and mortality of the world's population. Also, an extremely important and dangerous feature of the human immunodeficiency virus (HIV) epidemic is that almost all of it is concentrated in the youngest, most capable and most active part of our society. At the same time, the infection is registered mainly among people from 20 to 49 years old [2]. The further development of the HIV epidemic leads to an increase in the number of HIV-infected people and increases the likelihood of a dentist meeting with these patients. Dentists, as well as other specialists, need to participate in the diagnosis, treatment of HIV-infected people and preventive work. This requires a dentist to know the symptoms of damage to the oral mucosa (SOPR) and periodontal tissue in HIV infection [7, 22]. Despite the research work carried out on the problem of providing dental care to patients with AIDS, there is still often insufficient awareness of specialists about the features of the course of lesions of the oral cavity (RP) in the contingent of HIV-infected people and an insufficient number of scientifically-based methodological recommendations prevent the necessary treatment. All of the above determines the relevance, medical, social and economic significance of the problem and justifies the continuation of scientific research in this area.

The goal. The aim of the present study is to study the literature materials on the dental condition of the oral cavity (PR) of patients associated with the pathology of AIDS and to form plans and

methodology for further continuation of research work to develop and offer optimized methods of prevention and treatment.

Materials and methods of research The study and analysis of previously conducted research works devoted to the etiology, pathogenesis, clinic, treatment and prevention of the pathology of AIDS served.

The results of the analysis of materials. It is known that PR diseases against the background of HIV infection have vivid manifest manifestations, sometimes with a typical course. In patients with a reduced immune status, which include HIV-infected, there is a high probability of the simultaneous existence of several infections, including in the maxillofacial region (CHLO), which significantly complicates the diagnosis of diseases. At the same time, periodontal diseases are one of the typical manifestations in patients infected with HIV, and one of the main causes of premature tooth loss and destruction of the dentition system [7, 17].

On the modern aspects of the pathogenesis of HIV infection and the peculiarities of the course of PR lesions in HIV carriers: HIV causes an anthroponotic infection with a predominance of the contact mechanism of transmission of the pathogen. Infection is characterized by progressive damage to the immune system, leading to the development of AIDS and death from secondary diseases [15, 24]. Once in the human body, HIV affects various organs and tissues, but first of all - cells carrying the CD4 marker.

According to a number of authors, additional mechanisms of CD4-cell damage, such as programmed early death, production of anti-lymphocytic antibodies, are aggravated over the years. The achieved balance shifts in an unfavorable direction for the body. The number of CD4 cells is gradually decreasing. When the number of CD4 cells is reduced to a certain level, infectious processes caused by opportunistic pathogens begin to develop in HIV-infected people. The etiology and severity of these lesions are determined by the prevalence of the pathogen, the degree of immunity reduction, and the level of preventive measures [13, 14].

Today, everyone knows that HIV transmission is carried out by the following mechanisms: natural - contact, vertical and artificial, while the ways of implementing the mechanisms of transmission of the pathogen are diverse: sexual, transplacental, parenteral [3].

In dentistry, most manipulations are invasive, which makes the artificial mechanism of HIV transmission quite real, and the parenteral one is the leading way. Knowledge of the symptoms of the lesion of PR at various stages of the clinical course of HIV infection is necessary for the dentist. The presence of these symptoms, along with other signs indicating a possible immunodeficiency, may contribute to clarifying the diagnosis [25].

Manifestations of HIV infection in PR are key indicators of the development of the disease. Such lesions occur in approximately 30-80% of HIV-infected patients. Factors predisposing to the appearance of PR lesions include the number of CD4 cells less than 200 in µl, viral load (VN) over 3000 kop/ml, xerostomia, poor hygienic condition of PR, the presence of bad habits [24].

According to the Order No. 480 of the Ministry of Health "On improving preventive measures and organization of medical and social assistance in connection with HIV infection in the Republic of Uzbekistan", 2007, the WHO classification of clinical stages of HIV infection in adults and adolescents is in effect in our country [19].

A number of literature and regulatory documents recommend the following for specialists, especially for dentists:

- In the case when the HIV status of the patient is not known, the lesions of the PR may indicate the presence of HIV infection. It is reasonable to refer such a patient to a general practitioner to establish the systemic cause of the lesions of the PR;
- In patients with an established diagnosis of HIV infection, who do not show symptoms of the disease and, therefore, do not take antiretroviral drugs (ARVs), the presence of PR lesions may

signal the development of the disease. It is shown that the patient is referred to an infectious disease doctor to measure the level of high blood pressure and determine the immune status:

- In the event that patients take ARVP, the presence of lesions of the PR may indicate the ineffectiveness of treatment. The referral of the patient to an infectious disease doctor for the correction of antiretroviral therapy (ART) is shown [3, 4, 5]. Defects of dentition as a consequence of untimely treatment of diseases of hard tissues of teeth and periodontal in HIV-infected patients lead to a significant decrease in the quality of life of patients. Thus, the expediency of disclosing the issue covering these diseases is beyond doubt.

A number of authors indicate that periodontal tissue lesions are one of the typical manifestations in patients infected with HIV. HIV-associated periodontitis has been designated in recent years as necrotizing ulcerative periodontitis (necrotyzing ulcerative periodontitis, NUP). Clinical observations indicate that they occur in forms that are sharply different from those in HIV-negative patients. Linear gingival erythema is included in the 1st group of lesions of PR, often associated with HIV infection. NUP is characterized by the development of pronounced inflammatory changes with a rapid transition to necrosis of soft tissues and bone with its sequestration [13, 14]. At the same time, the specificity of the development of NUP depending on the damage to the immune system is so great that its appearance is considered as one of the first signs of the deepening of such a lesion in patients, which precedes many other clinical manifestations of AIDS. In particular, it has been proven that in patients with rapid development of NUP, the mortality rate within 24 months exceeds 70% [16].

About the state of local immunity in HIV-infected patients: it is known that local immunity is the first immunological barrier that protects the body from various antigenic effects. Many immune processes take place in the oral fluid (RV) of a sick person. In HIV infection, the local immunity of the SOPR is directly involved in these processes [14]. The main entrance gate of HIV infection is CO, however, COD has a unique resistance to HIV-1. Since neither infection nor transmission of HIV infection occurs through RP. The study of the factors that ensure resistance to HIV-1, especially the components of nonspecific immunity and the mechanisms of their action, may open up new opportunities to prevent infection with this virus through other CO.

It is also known that secretory immunoglobulin class A (sIg A) plays a significant role in antiviral and antibacterial immunity. It protects the body from the penetration of viruses into the blood, neutralizing them at the entrance gate of infection, preventing the attachment of bacteria to epithelial cells due to its anti-adsorption properties.

According to the author [21], in the development of PR diseases in HIV/AIDS is a state of deficiency of sIg A and lactoferrin in the secret of the parotid salivary gland (LV). Another author, [23] believes that, at the initial stages of HIV infection, there is an increase in the level of sIg A, which is a short-term compensatory and nonspecific process. The third author [26] believes that HIV stimulates the production of saliva enzymes: with a decrease in immunity, the concentration of lysozyme and peroxidase activity in unstimulated saliva compensatorily increases, which reflects an increased host response and indicates the activation of local antimicrobial protection.

About the peculiarities of providing dental care to patients with HIV infection: it is known that the main stream of patients with HIV infection goes to or visits ordinary dental offices without indicating their diagnosis. In this regard, a dentist should know the clinical signs of HIV infection in PR, which will reduce the risk of cross-infection with HIV at a dental appointment, as well as diagnose an infectious disease at an early stage, i.e., an HIV-infected patient will receive adequate therapy in a timely manner, which will improve his quality of life.

Dentists serving patients with HIV infection should know the stage of the disease, the level of CD4 lymphocytes and VN in the blood, register their recommendations in writing, know the basics of medical and social counseling, and know the peculiarities of patients' psychosomatics. In order to optimize the work of a dentist providing therapeutic and preventive care to HIV-infected patients [22], an algorithm for providing outpatient care has been developed; including:

- collection of anamnesis, initial examination of the patient by a dentist:
- assessment of the state of PR, registration of HIV-associated diseases;
- diagnosis and additional examination; preparation of a treatment plan, including a dispensary; indications, setting the timing and scope of therapeutic and preventive measures, taking into account the stage of HIV infection;
- Provision of dental care, including medical examination.

Currently, most of the HIV-infected are or in the near future will move to advanced stages with a variety of clinical manifestations. These patients seek medical help in various medical and preventive institutions with manifestations of HIV infection for surgical, dermatovenereological and, including dental care. In this regard, methodological recommendations have been prepared and patents have been obtained, including issues of HIV prevention in dental practice. When organizing work for doctors of any specialties, and for dentists, there are a number of features, including the presence of caps, masks, protective glasses and face screens covering the face to the chin or masks in combination with protective glasses equipped with side shields [3, 4, 5].

Knowledge of various clinical manifestations of HIV infection in PR and secondary diseases arising on its background is necessary for the prevention of infection of patients and medical personnel, timely diagnosis of HIV infection and optimization of its treatment [20]. A number of authors claim that the treatment of PR diseases in HIV-infected people is complicated by the state of progressive immunodeficiency caused by the carrier of HIV against the background of the pressure of concomitant infections, the massive use of antibiotics and other chemotherapeutic agents [17] and has its own characteristics: prescribe large doses of drugs, increase the duration of their use, carry out targeted preventive administration.

However, the analysis of the above literature shows that the issues of providing orthopedic dental care to people living with HIV continue to remain little or almost unexplored. Due to the fact that the provision of dental care to HIV-infected patients should be carried out with minimal invasive interventions due to the high risk of transmission of the pathogen during manipulation, it seemed very relevant to us to consider the provision of orthopedic treatment using modern materials that do not have irritating, toxic and allergic effects on the SOPR, and also do not require the manufacture of prostheses additional preparation of teeth.

It should be emphasized that nylon materials are completely devoid of impurities of monomers, have extremely high elasticity and strength, as well as excellent aesthetic characteristics - color and texture, approaching the natural for SOPR. An important advantage of nylon materials in the manufacture of partial dentures is the possibility of their use without metal fixing devices. It turned out that hooks and clamps made of nylon with the highest strength are low-traumatic and highly aesthetic due to the fact that they are practically indistinguishable from the gum. However, laboratory and materials science studies devoted to the study of the clinical efficacy and safety of nylon prostheses have not been conducted in Uzbekistan. In this regard, domestic clinicians have to judge the qualitative characteristics of these materials mainly by information from foreign sources, and, what is alarming, by the releases of manufacturers and suppliers, which, as is known, are far from objectivity. Taking into account the above, filling the information gap in relation to nylons, namely, the study of the clinical effectiveness of the use of dentures made of this material, at the present stage of development of domestic orthopedic dentistry should be recognized as relevant.

Modern approaches to the application of modern medical technologies, materials and methods in dental practice: A number of dental materials proposed by the authors [18]. It was found that the presence and severity of the torus affects the effectiveness of a complete removable prosthesis, taking into account the level of pain sensitivity. We have proposed a clinical classification of torus: type I (class), low pain sensitivity of the SOPR in the torus area, estesiometry indicators of more than 10g/cm2. when pressing the torus, it is painless. Type II –class), soreness of the torus is moderate. Pain with strong pressure estesiometry indicators up to 10g / cm2. III - type (class), highly sensitive SOPR in the torus area. Estesiometry indicators are 0-1.0g/cm2. pain when touching.

To diagnose and determine the role of genetic factors in chronic generalized periodontitis with connective tissue dysplasia, in order to improve the prevention and treatment of patients.

In dental practice, such complex preparations as Traumel C, Osteochel C, Calcochel have been used, while Calcochel improves metabolism and contributes to the normalization of calcium homeostasis, and Osteochel has a positive effect on the metabolism of bone and connective tissue (CT). Publications devoted to this problem are few [12, 15]. Thus, clinical and experimental periodontology is waiting for a solution to its problem.

In recent years, a number of scientific studies [9, 11] have recommended methods of diagnosis and treatment of dental pathologies to HIV-infected patients, as well as new materials with special properties and corresponding to the requirements of technical characteristics. [8, 10].

Discussion. The literature materials studied above and their analysis show that the treatment planning of HIV-infected patients should be based on the joint work of all medical services, i.e. the improvement of dental care should be carried out along the way of improving the quality of treatment of major dental diseases against the background of pathogenetically and symptomatically justified therapy. Also, the clinical and laboratory data obtained by a number of authors on the condition of periodontal tissues, prosthetic beds allow us to recommend prostheses made of thermoplastic materials for the replacement of dentition defects to people living with HIV, their use significantly increases the effectiveness of orthopedic measures.

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