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### STRUCTURE OF MORBIDITY OF THE ORAL MUCOSA

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#### **ABSTRACT**

This article describes the prevalence of diseases of the oral mucosa, accompanied by erosive-ulcerative and hyperkeratotic lesions.

**KEY WORDS:** prevalence, oral mucosa, relapse, diagnosis, treatment.

#### **DISCUSSION**

Over the past decade, the problem of prevention and treatment of chronic diseases of the oral mucosa has received considerable attention from domestic and foreign researchers [1, 2, 3, 4, 5, 6, 7, 8]. This is primarily due to an increase in the negative impact of immunosuppressive environmental factors on the human body, and the widespread and not always justified use of medicines with antibacterial properties [9, 10, 11, 12, 13, 14].

In everyday clinical practice, patients who seek dental care for diseases of the oral mucosa (OM) represent one of the most difficult problems in dentistry due to difficulties in diagnosis and treatment [15]. The problem is further complicated by the fact that so far no measures have been developed for the communal prevention of SOPR diseases [16].

Chronic recurrent aphthous stomatitis (CHD) is considered one of the most common diseases of the oral mucosa. It was found that the age of most patients ranges from 20 to 40 years. Before puberty, people of both sexes are equally often ill, but women predominate among adults (cited by L. G. Borisenko, 2003).

Currently, due to the lack of special epidemiological studies, information about the pathology of the oral mucosa is practically not found in the literature.

The etiology and pathogenesis of chronic recurrent aphthous stomatitis have not been definitively elucidated. It is established that a significant role in the pathogenesis of chronic inflammatory processes belongs to the state of microbiocenosis of the oral mucosa [17, 18, 19, 20].

Its participation in the processes of metabolism, vitamin synthesis, formation of immune status and nonspecific resistance has been proven. The role of gastrointestinal pathology and liver diseases in the pathogenesis of CHD is evidenced by clinical and experimental data [21, 22]. The question of the allergic genesis of the disease is widely discussed [23, 24]. It is known that disorders of the immunological status can affect the course and prognosis of chronic diseases of the oral mucosa [25, 26,27,28,29]. Human herpetic infection is currently one of the most common. Up to 95% of the world's population is infected with the herpes simplex virus. The herpes simplex virus can infect almost all human organs and systems, causing various clinical forms of infection. Among the diseases of the oral mucosa, the leading role belongs to the pathology of herpetic nature. The most common diagnosis is acute herpetic stomatitis, which accounts for 85% of all diseases of the oral mucosa [30].

Today, it is important to study the level of prevalence of diseases of the oral mucosa accompanied by erosive-ulcerative and hyperkeratotic lesions, analyze the provision of diagnostic methods and therapeutic and preventive measures, which determines the relevance of scientific research.

The most common lesions of the human body are dental diseases. A special place among them is occupied by diseases of the oral mucosa. Diseases of the oral mucosa remain one of the urgent problems of therapeutic dentistry [21,22,23,24]. Diseases of the oral mucosa are leading among the main problems of modern dentistry. There is no such organ and tissue where a greater number of diseases occur than on the oral mucosa [35]. Diseases of the oral mucosaare a



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section that requires a dentist to have extensive knowledge not only in a narrow specialty, but also knowledge of general clinical disciplines, which is the main thing in the diagnosis and treatment of this category of patients. The list of diseases that appear on the oral mucosa is quite diverse [16, 17]. For quite a long time, the epidemiology of diseases of the oral mucosa was overshadowed by large-scale studies of these diseases. One of the largest studies on the epidemiology of more than 70 diseases of the oral mucosa was conducted in the 70s of the last century by the Swedish scientist Dr. T. Achell. These studies allowed us to identify and identify further study of the structure of dental morbidity of the oral mucosa with the participation of the World Health Organization (WHO)[18, 19, 20].

The high prevalence, tendency to progression, and multi-faceted impact of adverse environmental factors on the dentoalveolar system and the body as a whole, as well as ambiguous treatment results, make it possible to classify inflammatory diseases of the oral mucosa among the most urgent problems of modern dentistry. Multicenter studies conducted in 53 countries of the world indicate a high level of spread of diseases of the oral mucosa in the form of white manifestations-candidiasis, leukoplakia, lichen planus red46 %.

In addition, the urgency of this problem is caused by the escalation of environmental problems that evolve under the influence of multi-factor technogenic pressure, an excess of chemicals in food products, bad habits (smoking, alcohol intake), and the prevalence of infectious diseases.

Diseases, immunodeficiency states. allergization of the body, irrational use of active antibacterial physiological agents, restructuring of the body and psychoemotional stress. In this regard, the number of dental diseases caused not only by pathogenic, but also by "normal" or conditionally pathogenic microflora increases, which under the influence of the above factors receives a change in typical morphological properties. Normally, populations of microorganisms present in the oral cavity can be considered as continuously changing self-regulating "living" systems in physiological and morphological terms. All this, while reducing the levels of local resistance and increasing psychoemotional stress, leads to a predisposition to the development of inflammatory periodontal diseases (ADDS) and COP in young people. One of the leading etiological factors in the development of diseases of the oral mucosa is considered to be the microflora of the oral cavity.

It is known that microflora plays an important role in the formation of oral pathology and the occurrence of various somatic diseases [18, 19]. It has been shown that among the bacteria that colonize the human body, there are many microorganisms

with a high pathogenicity potential that can cause diseases of various localization or complicate their course [11-0]. Most diseases of the oral mucosa occur against the background of impaired microbiocenosis [11, 12].

Among diseases of the oral mucosa, herpes virus infection occupies a certain specific weight. According to WHO, about 90% of the world's inhabitants are infected with the herpes simplex virus, and 25% -30% of them have clinical manifestations of the disease that are not recognized in time. Chronic recurrent aphthous stomatitis is a widespread disease worldwide, accompanied by the appearance of painful afts on the oral mucosa. Data from various studies of the prevalence of CHD are highly variable (from 5% to 60%) and depend on the population studied, environmental factors, and diagnostic criteria.

According to various authors, chronic recurrent aphthous stomatitis affects from 5 to 50 % of the population [14, 15, 17, 18, 19].

In recent years, the number of patients with autoimmune diseases, such as lichen planus, leukoplakia, erythema multiforme, etc., has increased in dental practice. Although these diseases are systemic, they are most often locally manifested in the oral cavity. Therefore, dentists are among the first to diagnose this pathology and start the necessary medical measures in a timely manner, involving other specialists in the work. Such autoimmune diseases include pemphigus. The disease has a long-term chronic course with remissions of varying severity and duration. The development of this pathology can be triggered by infectious, viral, and chronic somatic diseases, periodontitis, as well as food and drug poisoning and occupational hazards. Lichen planus erythematosus (CPL) is a chronic inflammatory, immune-dependent disease of the skin and mucous membranes with a characteristic papular rash [10, 11, 12]. In the general structure of dermatological morbidity, it ranges from 1.5 to 2.4%, among all diseases of the oral mucosa (SOPR) — 3035% [11, 14]. Patients with isolated lesions of only the oral mucosa are described by dermatologists much less frequently, while dentists note a large percentage of isolated forms of CPL-from 50 to 75% [15]. According to G. D. Savkina (1978), only the oral mucosa was affected in 78% of patients with CPL [16]. Rashes on the oral mucosa can long precede the appearance of rashes on the skin or remain the only sign of the disease. When the SOPR is affected, 62-67% of patients are women aged 40-60 years [11-7].Mashkillayson (2001) considers CPL SOPR as a special form of the disease that develops mainly in women during the menopausal period and menopause [18]. Systematizing the existing classifications of CPL, we can distinguish: typical form, which occurs in approximately 45% of patients, exudative -



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hyperemic — in 25%, erosive-ulcerative — in 23%, bullous — in 3%, hyperkeratotic — in 2%, atypical-in 2%[19]. The infiltrative form of CPL is rare, and only 11 patients with this form of the disease were observed for a number of years [11-0].

To date, about 80 genotypes of human papillomavirus (HPV), which belongs to the Papovaviridae family, are known. Some of these viruses are constantly present in the epidermis of a healthy person. Under the influence of a number of factors — immunosuppression, stress, smoking, etc. pathogen causes conditional epithelial hyperplasia of such areas of the mucous membrane and epidermis as anal-genital, face, oral cavity, pharynx, skin of fingers, feet, sole, etc. For example, HPV DNA was found in 92% of gingival hyperplasia biopsies in patients with kidney transplantation [11-1]. Today, there is an obvious need for predictive ranking of those factors that initiate and contribute to the progression of malignant transformation of the epithelium. The introduction of the term "precancer" into medical theory and practice in 1965 gave a powerful impetus to the further development of the precancer theory by clinicians and pathologists [1, 2]. In Russia, the incidence of lip cancer is 3-4 people per 100 thousand population, or 3% of all malignant tumors (8th-9th place). The incidence of lip cancer in men is 6-7 times higher than in women, according to the literature [83]. Leukoplakia is a type of keratosis characterized by a chronic course and affecting the oral mucosa and the red border of the lips. The factors leading to the development of leukoplakia are polyethological. These are smoking, injuries of mechanical, chemical, thermal origin, and genetic predisposition. At the same time, leukoplakia is associated with chronic candida infection and diseases of the gastrointestinal tract [14, 15]. Leukoplakia is characterized by the presence of foci of hyperkeratosis with the phenomena of chronic inflammation in areas that are normally not subject to keratinization [11-6]. It is generally recognized that leukoplakia belongs to precancers as long-existing atrophic-degenerative proliferative changes in the tissue of a non-specific nature.

A. L.Mashkillayson in 1970 proposed a classification in which he identified 4 clinical forms of leukoplakia: flat, verrucous, erosive and leukoplakia smokersTappainera of (nicotine stomatitis) [17]. Verrucous leukoplakia has a significantly higher potential malignancy than squamous leukoplakia — up to 20% of cases [88]. In erosive leukoplakia, erosions are different in shape and size and are formed in the foci of flat and verrucous leukoplakia. Erosive leukoplakia is considered the most malignant (25.5% of cases). Most often, lesions of the mucous membrane of the cheeks and the bottom of the oral cavity are noted. LeukoplakiaTappainera is described in the literature

as an independent clinical form of the disease, never undergoing malignancy and quickly passing after smoking cessation.

violation of the integrity of all layers of the mucous membrane, which has a bottom and edges, is called an ulcer, healing occurs with the formation of a scar [89]. Aphthous lesions of the oral mucosa occur in both adults and children, more often in women. Long-term course, periodic exacerbations, accompanied by these factors, which are associated with severe pain syndrome and worsen the quality of life of patients, together with the variety of existing theories of the origin and mechanisms of the disease development, indicate the need to search for new approaches to the treatment of CHD [19, 20]. Recently, there has been an increase in the number of inflammatory diseases of the oral mucosa [22-1]. This is due to both an increase in the number of unfavorable factors affecting the (environmental degradation, chronic stress) and a decrease in the standard of living [2, 2]. Actually, diseases of the oral mucosa are caused by various etiological factors, and the features of the structure and functioning of the oral cavity create conditions for the impact of traumatic factors, pathogens or viruses on the mucous membrane. At the same time. the severity and prevalence of the disease is determined by the nature of the etiological factor and the intensity of aggression. In the case when the aggressiveness of the factor is insignificant, the body reacts by mobilizing a complex of non-specific defense reactions and the disease does not occur. Despite the variety of etiological factors of influence, there are general patterns in the development of the pathological process [11-7].

Erosive and ulcerative diseases of the oral mucosa are sources of constant discomfort associated with pain syndrome, which complicates a full meal, communication with others and thereby significantly reduces the quality of life. Some of them, especially chronically and permanently occurring with the phenomena of pronounced inflammation and tissue destruction, contribute to the formation of chronic foci of intoxication and sensitization [28].

With incorrect diagnosis and the lack of timely rational treatment measures, the disease often recurs, the course becomes prolonged and severe, causing various complications in the body, up to chronic viral sensitization and intoxication [11-9], which subsequently leads to the occurrence of autoimmune diseases such as pemphigus and lichen planus.

If earlier it was considered that diseases of the oral mucosa are a local process and the approach to their treatment and prevention was carried out only from a local point of view, now they are considered in an inseparable connection with the body as a whole. The oral mucosa may reflect metabolic



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disorders, pathology of individual organs and systems of the body. Changes in the oral mucosa can be strictly specific, when it is already possible to establish a diagnosis and determine treatment tactics based on the appearance of the mucosa. However, in most cases, the diagnosis of diseases that manifest on the mucous membrane is difficult, since the clinical picture is non-specific and often burdened with additional unfavorable local (insufficient hygienic care, trauma, secondary infection) and general (hypovitaminosis, somatic pathology) factors [12, 13]. Diagnosis of these diseases is complicated by the lack of clear ideas about their etiology and pathogenesis, significant clinical similarity of these diseases, as well as the presence of various manifestations of pathological changes. At the same time, the clinical picture of the course of many diseases of the oral mucosa, which has changed recently, also makes it difficult to diagnose. Often, the appearance of primary morphological elements on the oral mucosa can be the first symptom that appears long before the general clinical symptoms of the underlying disease, pathology even before its objective symptoms appear, and patients can seek help first of all in dental institutions [23, 25, 26]. Chronic diseases of the oral mucosa are manifested by functional disorders that can lead to anatomical changes in the tissues of the oral cavity. Edema, erosion, atrophy, hyperplasia, and sclerosis of the oral mucosa, which are manifested by primary and secondary elements on the mucous membrane of the cheeks, palate, tongue, gums, and in the corners of the mouth, create unfavorable conditions for the use of dentures, fixation of orthopedic structures, and hygienic care [14, 15]. Diseases of the oral cavity, especially those that are accompanied by aphthous rashes and erosive-ulcerative lesions, are a fairly common dental pathology, which affects from 8 to 60 % of the population and is a serious problem [3, 4, 5, 6]. Such diseases include lichen planus, aphthous stomatitis. They are characterized by a torpid course, polymorphism of clinical manifestations, complexity of diagnosis, and low efficiency of treatment [5, 10, 17]. In recent years, there has been a tendency to increase and develop complications in these diseases. This poses a problem

treatment of inflammatory diseases of the oral cavity is one of the most complex and important tasks of modern dentistry. The most studied and scientifically based immune theory is considered to be related to disorders of local and general cellular and humoral immunity. The conducted immunological studies of SOPR confirm that the development of aphthous elements is associated with circulating immune complexes, where the antigens are microorganisms or cells of the mucosa itself, and the antibodies are immunoglobulins [8, 11]. In the structure of diseases of the oral mucosa, lichen

planus is from 2 to 17 % [2,3,4,5], and as an isolated lesion only of the oral mucosa occurs in 70-75 % [116,117].

Pemphigus can be benign (non-acantholic) or true (acantholic). Acantholytic pemphigus is a serious disease characterized by the formation of blisters on the skin, as well as on the mucous membrane: the mouth, nose, pharynx, larynx, conjunctiva of the eye, in the gastrointestinal tract (esophagus, stomach, large intestine), on the mucous membrane of the bladder and genitals (cervix, urethra). In this case, the central nervous system may be affected [18].

Leukoplakia is white formations in the form of spots or plaques that are not scraped off by the instrument during examination, and differ in size, shape, and consistency on palpation [19, 20]. For the diagnosis of leukoplakia, it is necessary to have a clear understanding of the influence of causal factors on the oral mucosa, taking into account the localization of lesions, and changes in both the structural features of the SOPR and physiological processes should be taken into account. The physiological process of keratinization (exfoliation of the surface cells of the epithelium of the oral mucosa), as a rule, is expressed unevenly. In response to various types of stimuli, the oral mucosa is capable of forming and accumulating keratin due to the pronounced granular layer in the multi-layered keratinizing epithelium, which leads to thickening of the whitish epithelium. At the same time, in areas of non-keratinizing epithelium with a pronounced submucosal layer, the peeling of the surface layers increases under the influence of constant trauma, and this also leads to a violation of the keratinization process [21]. In both cases, we are talking about a keratotic type of inflammation due to a violation of the keratinization process-leukoplakia is clinically diagnosed in the form of white non-scraping mucosal lesions [12].

Exudative erythema multiforme (SOPR) is a complex multifactorial acute inflammatory disease characterized by polymorphic rashes on the oral mucosa, genitals, and skin, and is prone to relapses. EE is based on such etiopathogenic significant components as the patient's genetic characteristics, exposure to environmental factors, inflammatory and immune-inflammatory reactions, sensebilization (toxic-allergic and infectious-allergic forms), as well as dysbiotic disorders in the body [22, 23].

The effectiveness of the organization of dental care and its planning depend on studying the structure of morbidity of the oral mucosa depending on gender and gender characteristics [24]. Treatment of diseases of the oral mucosa and prevention of their relapses present significant difficulties and are often ineffective [11, 12, 13, 14].



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It should be noted that an increase in the number of relapses contributes to the transition of the disease to more severe forms, which are subsequently difficult to treat. In this regard, prevention of relapses of diseases of the oral mucosa is considered not only as a dental problem, but also as part of a comprehensive system of human health improvement [24, 25]. Therefore, pathogenetic approaches to relapse prevention should be applied, based on a deep knowledge of the mechanisms of development of pathological processes.[21, 22, 23, 26, 27]. Based on the data on the mechanisms of development of the pathological process in the oral mucosa, the main provisions of the strategy of therapeutic and preventive measures necessary to prevent or reduce the intensity of the pathological process are formed [9, 12].

A particular problem is the treatment of diseases of the oral mucosa, accompanied by the development of erosive and ulcerative elements of the lesion and characterized by a chronic or recurrent course. These diseases include some forms of lichen planus and chronic recurrent aphthous stomatitis. The development of these diseases is accompanied by an inflammatory reaction of the mucous membrane. significant soreness and torpidity of the course, polymorphism of clinical manifestations and low effectiveness of treatment, as evidenced by numerous studies [28, 29, 30]. In the modern specialized literature, issues of improving conservative, medical, or less often physiotherapy treatment of diseases of the oral mucosa are more often addressed [24]. According to the literature data, oral mucosal diseases are detected 3.3 times more often in patients with complete removable lamellar prostheses than in individuals with preserved dentition on both jaws [13]. The ultimate goal of complex conservative and prosthetic treatment of patients should be to improve the quality of life of a patient with chronic pathology of the oral mucosa [5]. The epithelium of the oral mucosa is a traditional object of cytological studies, which allow detecting the development of precancerous processes, impaired cell differentiation, and infectious lesions [6].

The epithelium of the oral mucosa serves as the most important barrier to entry of antigens, allergens and carcinogens into the body, as well as an area of probable introduction of microorganisms [7,8]. A characteristic feature of the CPL is prolonged relapsing course, the possibility of transition from one form to another, the probability of malignancy of individual forms, the difficulties in the choice of methods of treatment and resistance to drug therapy [1, 2, 3]. High protection effect of the oral cavity provides the immune system including specific and nonspecific cellular and humoral factors that function in a close relationship [11]. In the study of protection factors in oral flushes, neutrophilic

granulocytes (NG) are of great importance [12]. Local immunity, which reflects the overall immunological reactivity at the SOPR level, is also manifested by the production of antibodies [14]. Chronic diseases of the SOPR are accompanied by significant changes in the microflora, which are characterized by dysbiosis. These data can serve as confirmation of the weakening of the functional activity of local protective factors in such patients [14, 15].

#### LIST OF LITERATURE

- Samoilov K. O., Shkurupiy V. A., Vereshchagina G. N. Ultrastructure of endothelial cells of blood capillaries of the gums of patients with chronic catarrhal gingivitis on the background of connective tissue dysplasia. Stomatologiya, 2004, No. 4, pp. 9-12.
- 2. Sarap L. R., Butakova L. Yu., Zenkova Yu. A. etal . Prevention of pathology of the oral mucosa in patients with removable dentures // Clinical Dentistry. 2007. No. 1. p. 44-46.
- 3. Yanochkina N. S. Complex application of magneto-laser therapy and solcoseryl dental adhesive paste солкосерилаfor the prevention and treatment of chronic recurrent aphthous stomatitis: abstract . dis. . Candidate of Medical Sciences, Moscow, 2006, 26 p.
- Ashley R., Waid A., Corey L. Cervical antibodies in patients with oral herpes simplex virus type 1 (HSV-1) infections: local anamnestic responses after genital HSV-2 infections // J. Virol., 1994.-Vol. 68. - №8. - P.5284-5286.
- Slomiany B.L., Piotrowski J., Slomiany A. Role of endothelin-1 and interleukin-4 in buccal mucosal ulcer healing: effect of chronic alcohol ingestion // Biochem. Biophys. Res. Commun. - 1999. - №2. - P.373-377.
- 6. Maksimovsky Yu. M., Chirkova T. D., Ulyanova M. A. Features of the activation composition of periodontal immunocompetent blood cells in catarrhal gingivitis. Dentistry. 2003. No. 5. p. 45-47
- 7. Maksimovsky Yu. M., Chirkova T. D., Ulyanova M. A. Features of cellular immunity in catarrhal gingivitis (Report 2).Dentistry.- 2003. No. 3. p. 6-8.
- 8. Maksimovsky Yu. M., Chirkova T. D., Frolova T. A. etal . Clinical and immunological features of the pathogenesis of catarrhal gingivitis (Report 1)//Dentistry.- 2003. No. 3. p. 24-27.
- Savichuk N. O., Savichuk A.V., Pyankova A.V. Novy farmakoterapevticheskiy podkhod v lechenii khronicheskikh stomatitov [A new pharmacotherapeutic approach in the treatment of chronic stomatitis]. - 2003. - № 3.- From.34-36.
- 10. Biagioni P.A., Lamey P.J. Acyclovir crem prevents clinical and thermographic progression of recrudescent herpes labialis beyond the prodromal stage // Acta. Derm. Venereol. 1998. Vol. 78. №1. P.46-47.



## EPRA International Journal of Research and Development (IJRD)

Volume: 6 | Issue: 6 | June 2021 - Peer Reviewed Journal

- 11. Campisi G., Di Liberto C., Iacono G. et al. Oral pathology in untreated coelic disease // Aliment. Pharmacol. Ther.- 2007.- №11-12. P.26.
- 12. Lewkowicz N., Lewkowicz P., Kurnatowska A. et al. Innate immune system is implicated in recurrent aphthous ulcer pathogenesis // J. Oral. Pathol. Med.- 2003.- N 8,- P.475-481.
- Lichon J.F. Treatment of recurrent oral aphthous and herpetic ulcerations // Dent. Today. 1994,-Vol. 13,- N 10,- P.88-89.
- Natah S.S., Hayrinen-Immonen R., Hietanen J., Malmstrom M. Factor XHIa-positive dendrocytes are increased in number and size in recurrent aphthous ulcers (RAU) // J. Oral. Pathol. Med.-1997.- N 9,- P.408-413.
- Riggio M.P., Lennon A., Wray D. Detection of Helicobacter pylori DNA in recurrent aphthous stomatitis tissue by PCR // J. Oral. Pathol. Med.-2000.- N 10.-P.507-513.
- 16. Kuzmina E. M. Profilaktika stomatologicheskikh zabolevaniy [Prevention of dental diseases]. Poli-Media Press, 2001, 216 p.
- 17. Aliaga L., Cobo F., Mediavilla J.D., et al. Localized mucosal leishmaniasis due to Leishmania (Leishmania) infantum: clinical and microbiologic findings in 31 patients // Medicine (Baltimore).- 2003,- N 3.- P. 147-158.
- 18. Thomas S., Kolumam G.A., Murali-Krishna K. Antigen presentation by nonhemopoietic cells amplifies clonal expansion of effector CD8 T cells in a pathogen-specific manner // J Immunol.- 2007,- N 9> P.5802-5811'.
- 19. Stomatology / Ed. by V. N. Tregubov, S. D. Arutyunov / M., 2003. 576 p.
- Patil C.S., Kirkwood K.L. MAPK signaling in oral-related diseases // J Dent. Res.- 2007,- N 9,-P.812-825.
- Slomiany B.L., Piotrowski J., Slomiany A. Role of endothelin-1 and interleukin-4 in buccal mucosal ulcer healing: effect of chronic alcohol ingestion // Biochem. Biophys. Res. Commun.- 1999 N 2,-P.373-377.
- Storck C. Aphthae of the oral cavity: differential diagnostic considerations concerning a case report // Schweiz. Med. Wochenschr.- 2000,-Suppl.- 125.-P.127S-130S.
- Yadav M., Nambiar S., Khoo S.P., Yaacob H.B. Detection of human herpesvirus 7 in salivary glands // Arch. Oral. Biol.- 1997,- N 8,- P.559-567.
- Davydova T. R., Karasenkov Ya. N., Khavkina E. Yu. On the problem of dysbiosis in dental practice. Stomatologiya, 2001, No. 2, pp. 42-45.
- Rabinovich I. M., Banchenko G. V., Rabinovich
  O. F. Experience of clinical application of
  solcoseryl dental adhesive paste in the treatment
  of aphthous and dental stomatitis / / Klin,
  stomat., 1998, No. 4, pp. 49-52.
- 26. Lipsker D., Chosidow O. White lesions of the oral mucosa // Rev. Prat.-2002.-N2,- P:389-393.,
- 27. Serra-Guillen C., Requena C., Alfaro A. et al. Oral involvement in lymphomatoidpapulosis // ActasDermosifiliogr. 2007. N 4. P.265 -267.

- 28. Toche P.P., Salinas L.J., Guzman M.M.A., Afani S.A. Recurrent oral ulcer: clinical characteristic and differential diagnosis // Rev. Chilenalnfectol. 2007. N 3.- P.215-219.
- 29. Vaillant L., Fontes V. Bullous diseases of the oral mucosa // Rev Prat. 2002. N 4. P.385-388.
- 30. Orekhova L. Yu., Levin M. Ya. Indicators of cell sensitization in inflammatory periodontal diseases. // New in dentistry. 1998. No. 7. pp. 71-74.