### Guidelines for independent work of students for preparation for a practical lesson and during the practical studies

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<tr>
<th>Academic discipline</th>
<th>Therapeutic dentistry</th>
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<tr>
<td>Module number 4</td>
<td>Diseases of the oral mucosa</td>
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<tr>
<td>Topic of the lesson 23</td>
<td>Chronic recurrent aphthous stomatitis, Behchet's syndrome. Pathogenesis, clinical manifestations, diagnosis, treatment and prevention.</td>
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<td>Course</td>
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<td>Faculty</td>
<td>Foreign students training faculty (dentistry)</td>
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Poltava 2020
1. **Actuality of theme.** Chronic recurrent aphthous stomatitis - a chronic inflammatory disease of the oral mucosa, which is characterized by recurrent rash, prolonged course with periodic exacerbations.

The disease affects 20% of the population and accounts for 90% of all lesions of oral mucous membrane. Leading role in the pathogenesis of this disease is given an infectious-allergic factor. There is a change in reactivity, it’s sensibilisation, which is evident in the increased susceptibility to Proteus, Staphylococcus, Streptococcus, Escherichia coli. No small roles in the occurrence of this disease have precipitating factors: poor nutrition, functional disorders of the central and autonomic nervous system, receiving various drugs, chronic physical diseases, hypo – and deficiency diseases, as well as a local infection.

2. **Specific goals.**
- Know the clinical manifestations of chronic recurrent aphthous stomatitis and Behcet's syndrome.
- To analyze methods of laboratory research of patients with chronic recurrent stomatitis and Behcet's syndrome. Make a survey plan.
- Explain the principles of treatment and prevention of this pathology.
- Justify the list of prescribed drugs and conduct therapeutic manipulations.
- Offer an individual treatment regimen for patients with this nosology.

3. **Base knowledge, abilities, and skills, necessary for a study theme (interdisciplinary integration).**

<table>
<thead>
<tr>
<th>Name of previous disciplines</th>
<th>Acquired skills</th>
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<tbody>
<tr>
<td>Normal anatomy</td>
<td>Anatomical structural features of the mucous membrane</td>
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<tr>
<td>Pathological anatomy</td>
<td>Navigate to pathological changes at inflammation and malnutrition</td>
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<tr>
<td>Pathophysiology</td>
<td>Types and stages of allergic reactions</td>
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<td>Propaedeutic dentistry</td>
<td>Methods of examination of dental patients</td>
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<tr>
<td>Internal Medicine</td>
<td>The main clinical manifestations of immediate allergic type reactions. Recognize the symptoms.</td>
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<tr>
<td>Pharmacology</td>
<td>Pharmacodynamics of drugs to prescribe prescriptions.</td>
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4. **Tasks for independent work in preparation for the lesson and in the lesson.**
4.1. The list of basic terms, parameters, characteristics that a student must learn in preparation for the lesson:

<table>
<thead>
<tr>
<th>Terminology</th>
<th>Definition</th>
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<tr>
<td>Allergies</td>
<td>This immune reaction to exogenous antigenic substances or haptennoyi nature, accompanied by lesions of the structures and functions of cells, tissues and organs.</td>
</tr>
<tr>
<td>Sensibilization</td>
<td>This process of acquisition of the organism with increased sensitivity to allergen. It can last several weeks, months, years or a lifetime.</td>
</tr>
<tr>
<td>Allergen and antigens</td>
<td>Substances which are signs of alien genetic information and the introduction into the body cause the development of specific immunological reactions in response to antigen.</td>
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<tr>
<td>Antibodies (reagin)</td>
<td>Reagin is an important type of antibodies involved in the development of immediate type reactions of people; they belong to the immunoglobulin E and G. Their feature is the ability to sensitize the mucous membrane and skin.</td>
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<tr>
<td>Chronic recurrent aphthous stomatitis</td>
<td>It is a chronic inflammatory disease of the oral mucosa, which is characterized by recurrent rash, prolonged course with periodic exacerbations</td>
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<tr>
<td>Behcet's syndrome</td>
<td>Aphthous lesion of the mucous membranes of the oral cavity, external genitalia and eyes.</td>
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4.2. Theoretical questions for the lesson:
1. What are the etiological factors and pathogenesis of chronic recurrent aphthous stomatitis and Behcet's syndrome?
2. What are the clinical manifestations of chronic recurrent aphthous stomatitis?
3. What are the clinical manifestations of Behcet's syndrome?
4. Explain the diagnostic algorithm for chronic recurrent aphthous stomatitis and Behcet's syndrome.
5. Describe the general principles for the treatment of chronic recurrent aphthous stomatitis and Behcet's syndrome.
6. Prescribe topical treatment for chronic recurrent aphthous stomatitis and Behcet's syndrome.
7. Prescribe a physiotherapeutic treatment for chronic recurrent aphthous stomatitis and Behcet's syndrome.
8. Indicate measures for the prevention of chronic recurrent aphthous stomatitis and Behcet's syndrome.

**4.3. Practical work (tasks) that are performed in class:**
1. Supervise the dental patient and collect an allergic history.
2. Work out training on the diagnosis of chronic recurrent aphthous stomatitis (business game).
3. To make a treatment plan for chronic recurrent aphthous stomatitis, taking into account the etiology, pathogenesis, severity, general condition of the body of a thematic patient.
4. To work out the stages of diagnosing Behcet’s syndrome and tactics of managing a patient with this diagnosis (business game).
5. Write out recipes for assistance and treatment.
6. Obtain medical records.

**5. The content of the topic:**

**Chronic recurrent stomatitis** (stomatitis chronica aphtosa recidiva) is a chronic inflammatory disease of the oral mucosa, characterized by recurrent rash of aphthae, a prolonged course with periodic exacerbations.

The disease occurs in 20% of the population and accounts for 90% of all ulcerative lesions of the oral mucosa. In most cases, a genetic predisposition to this disease has been established. The etiology of chronic recurrent aphthous stomatitis is still a controversial issue. There is an opinion that the cause of the disease is adenovirus, herpes viruses, L-forms of staphylococci, allergies. Most researchers recognize the close relationship between chronic recurrent aphthous stomatitis and the presence in the patient's body of foci of chronic focal infection (sinusitis, tonsillitis, pyelonephritis), gastrointestinal tract pathology, functional disorders of the central and autonomic nervous system, hypo- and vitamin deficiency.

Pathogenesis. In modern concepts of pathogenesis, decisive importance is attached to disorders in the immune system. With this disease, patients change the indicators of non-specific humoral and cellular defense. As a result, the protection of the oral mucosa from the influence of microorganisms is impaired. With a change in the number and species composition of resident microflora (staphylococci, streptococci, bacteroids), the number of microbial associations in the oral cavity increases, their virulence increases, and the bacterial sensitization of the patient's body increases, which causes frequent relapses of the disease.

Chronic recurrent aphthous stomatitis can develop according to the type of delayed hypersensitivity, as well as a mixed type of allergy, in which reactions of types II and III are observed.

In the pathogenesis of chronic recurrent aphthous stomatitis, an important role is played by the cross-immune response. It is believed that the microflora of the oral cavity (Streptococcus mutans, sanquis, salivarius, mitis) has antigenic
similarity with the cells of the oral mucosa. It has been established that the mucous membrane of the mouth is capable of depositing antigens, therefore, antibodies that are produced on bacterial antigens erroneously attack COPR epithelial cells. Since in patients with chronic recurrent aphthous stomatitis, impaired recognition of target cells by T-lymphocytes is genetically determined, the mechanism of antibody-dependent cytotoxicity is activated, which leads to the onset of the disease. In this type of reaction (cytotoxic (II)), the antigen is always associated with the cell membrane and proceeds with the participation of complement, which damages the cell membrane.

With the immunocomplex type (III) allergic reaction, immune complexes form in the vascular bed with a sufficiently large intake of antigen in the body. Immune complexes settle on the cell membranes of blood vessels, thereby causing epithelial necrosis.

With this type of reaction, the L-form of Streptococcus sangvis streptococcus a-hemolytic plays an important role in the pathogenesis of the disease. During the multiplication of microorganisms, an excess amount of antigens accumulates, and the cellular component of immunity is stimulated. With an excess of antigen, an antigen-antibody complex forms on the walls of blood vessels, activates the complement system, blood coagulation, and leads to the formation of thrombosis, ischemia and necrosis (Arthus reaction).

Recently, a fairly large number of works have appeared in the literature confirming the stress mechanism of the development of chronic recurrent aphthous stomatitis. The stress factor leads to the release of norepinephrine and dopamine, ischemia of acute respiratory infections, and further to destruction with the formation of deep aphthae and ulcers.

In addition, the deep hypovitaminosis C developing during chronic recurrent aphthous stomatitis is considered one of the triggers of numerous metabolic disorders. Against the background of hypovitaminosis C, the collagen formation process, and, consequently, the development of granulation tissue, is primarily suppressed.

The etiology and pathogenesis of the disease are extremely relevant, since only the determination of etiological factors and pathogenetic chains makes it possible to carry out adequate diagnostic and therapeutic measures and prevent relapses.

Clinically the severity and duration of the disease corresponds to the severity of sensitization of the body by antigens. Patients seek help during exacerbation. The occurrence of aphthae, severe pain, apathy, sleep disturbance, headache, carcinophobia lead to a decrease in the quality of life of patients.

According to a number of authors, the disease has three main clinical manifestations in the oral cavity: small aphthae (Mikulich aphthae), no larger than 10 mm, large aphthae (Seton's disease), herpetiform ulcers - multiple aphthae. Chronic recurrent aphthous stomatitis may be one of the symptoms of generalized
aphthosis (Touraine major aphthosis) and a sign of Behcet's disease.

According to the WHO classification, the following forms of the disease are distinguished:

- fibrinous form of chronic recurrent aphthous stomatitis (apha Mikulichu);
- necrotic periadenitis (Seton apha);
- herpetiform stomatitis;
- symptom in Behcet's disease.

Features of the treatment of chronic recurrent aphthous stomatitis.

Chronic recurrent stomatitis due to its etiology is difficult to treat. The first step of the dentist is to educate the patient. It is necessary to inform about the nature of aft, their non-contagiousness, the effectiveness of treatment in close contact with other specialists. Treatment must necessarily be comprehensive (local and general) and will consist of etiotropic, pathogenetic, symptomatic. Given the multifactorial etiology and pathogenesis of chronic recurrent aphthous stomatitis, complex therapy provides the following areas.

1. Remediation of foci of chronic infection in the oral cavity.
2. The use of drugs (general and local).
3. Therapy of identified organ pathology.
4. Diet therapy.

Before treating patients with chronic recurrent stomatitis, it is necessary to conduct a thorough clinical and immunological examination with general specialists to identify concomitant pathology, especially the gastrointestinal tract, foci of chronic infection, as well as the state of the body's immune system. Treatment is mainly aimed at the correction of immunity and the rehabilitation of foci of inflammation. Sanitation of the oral cavity is carried out in the inter-relapse period, by itself means the elimination of traumatic factors and foci of chronic infection.

Behcet's disease is manifested by damage to the mucous membrane of the oral cavity, external genitalia and eyes. Etiological factors consider it viruses, infectious allergies, genetic conditionality.

The clinically Behcet's disease usually begins with malaise, which may be accompanied by fever and myalgia. Over time, aphthae appear on the mucous membrane of the oral cavity and external genitalia. There are many AFTs, they have a diameter of up to 10 mm, surrounded by an inflammatory rim of bright red color. The surface of the aphthae is made with a yellowish-white fibrinous coating, they heal without a scar. Most often, aphthae are localized on the mucous membrane of the lips, tongue, gums, pharynx, rashes accompanied by an increase in the salivary and lacrimal glands. Aphthae are localized on the external genitalia, and in some cases heal by scarring. Eye damage is manifested by severe bilateral iridocyclitis with hypopion and opacification of the vitreous body. This leads to the gradual formation of synechiae, pupil fusion, progressive decrease in vision, and
sometimes to complete blindness.

In some cases, polymorphic rashes appear on the skin of the body and limbs in the form of papules, pustules, pyoderma, erythema nodosum, and hemorrhagic elements. Among other symptoms of Behcet's syndrome, most often a lesion of the digestive tract, vasculitis of various locations.

Laboratory indicators in this case in most cases are not changed. Anemia, an increase in the content of fibrinogen, and the level of immunoglobulins in blood serum are often detected.

Treatment. There are currently no generally accepted treatments for Behcet's syndrome. Depending on the degree of the inflammatory reaction, broad-spectrum antibiotics and non-steroidal anti-inflammatory drugs, plasma transfusions, multivitamins are prescribed. It is advisable to carry out nonspecific desensitizing therapy and detoxification hemosorption with mandatory immunocorrection.

Local treatment of lesions of the oral mucosa is carried out according to the principles of treatment of ulcerative necrotic lesions of the oral mucosa.

6. Materials for self-control:
A. Test tasks for self-control:
1. How many clinical forms of chronic recurrent aphthous stomatitis are classified according to the WHO classification?
   A. Three
   B. Four
   C. Two
   D. Do not emit
   E. Five
2. What element of the lesion is characteristic of chronic recurrent aphthous stomatitis?
   A. Afta
   B. Spot
   C. Vesicles
   D. Pustule
   E. Ulcer
3. What is the maximum size of aphthae in the oral cavity observed with chronic recurrent aphthous stomatitis?
   A. 15 mm
   B. 5 mm
   C. 2-3 mm
   D. 7 mm
   E. 10 mm
4. What drug is used to accelerate healing at the final stage of treatment with chronic recurrent aphthous stomatitis?
A. Solcoseryl
B. Trypsin
C. Chlorhexidine
D. Metrogil
E. Linkomycin

5. What disease is considered a severe manifestation of chronic recurrent aphthous stomatitis?
A. Stevens-Johnson Syndrome
B. Merkelson-Rosenthal Syndrome
C. Behcet's Disease
D. Lyell's disease
E. Greenspan Syndrome

6. What does Behcet's syndrome include?
A. Damage to osteoporosis, joints, skin
B. The defeat of SRO and conjunctiva
C. Damage to the conjunctiva, genitals, oral mucosa
D. Damage to the skin, oral mucosa, joints
E. Damage to all mucous membranes, skin and joints

7. What is the primary element of the lesion observed in chronic recurrent aphthous stomatitis?
A. Afta
B. Spot
C. Vesicles
D. Ulcer
E. Papula

8. What physiotherapeutic treatment is used at the initial stage of treatment with chronic recurrent aphthous stomatitis?
A. Darsonval
B. Hypothermia
C. Ultraviolet radiation
D. Electrophoresis
E. UHF therapy

9. Which of the following drugs should be prescribed to a patient with chronic recurrent aphthous stomatitis in order to hyposensitize?
A. Omez
B. Fluconazole
C. Bischofite
D. Erius
E. Dekaris

10. Which of the following drugs should be used in severe conditions of chronic recurrent aphthous stomatitis?
A. Solcoseryl gel
B. Levomycetin ointment
C. Metrogil denta gel
D. Levomekol ointment
E. Hydrocortisone ointment

**B. Tasks for self-control:**

1. The patient is 40 years old, complains of the periodic appearance of ulcers in the oral cavity, is sick for 4 years with an exacerbation of 3-4 times a year. On examination: on the mucous membrane of the cheek, a defect in the round-shaped epithelium 0.5 cm in size, covered with fibrinous coating with a contour of hyperemia. The crown of the 36 tooth is destroyed by 1/3. Probable diagnosis?
   A. Chronic recurrent stomatitis
   B. Traumatic ulcer
   C. Herpetic stomatitis
   D. Exudative erythema multiforme
   E. Afta Setton

2. A 42-year-old patient complains of periodic appearance in the oral cavity of ulcers that heal in a week. Objectively: an oval-shaped erosion with clear boundaries surrounded by a corolla of hyperemia was found along the transitional fold in anticipation of the oral cavity. After the examination, a diagnosis was made - chronic recurrent stomatitis. Which of the following symptoms determines the severity of the disease?
   A. Number of aft
   B. Aft size
   C. Relapse rate
   D. General condition
   E. Laboratory research

3. A 56-year-old patient turned to the dentist with complaints of discomfort during a meal, which appeared a few days ago. On the transitional fold in the area of tooth 2.6, the dentist discovered a superficial round-shaped epithelial defect with a rim of hyperemia around it. A preliminary diagnosis was made - chronic recurrent stomatitis. What is the maximum size of aphthae in chronic recurrent stomatitis?
   A. 2-3 mm
   B. 10 mm
   C. 5 mm
   D. 7 mm
   E. 20 mm

4. A 27-year-old patient consulted a dentist with complaints of pain in the oral cavity while eating. Two aphthae were found on the mucous membrane of the lower lip. A thorough examination of the patient was carried out, after which a diagnosis was made - Behcet's syndrome. What does this syndrome include?
   A. Damage to the oral mucosa, eyes
   B. Damage to the skin, oral mucosa, joints
C. Damage to the salivary glands, oral mucosa, conjunctiva  
D. Damage to SOP, joints, skin  
E. Damage to the conjunctiva, genitals, oral mucosa  

5. A 30-year-old patient complains of a deterioration in general condition, an increase in body temperature, which are associated with the appearance of ulcers in the oral cavity. In the history of 10 years on the mucous membrane appear seals, which gradually increase and turn into ulcers. Objectively: on the mucous membrane of the cheeks on the left and on the tongue, ulcers with raised densified edges, covered with fibrinous coating, sharply painful when touched. What is the most likely diagnosis?  
A. Stomatitis Seton  
B. Traumatic ulcer  
C. Tuberculosis ulcer  
D. Behcet's disease  
E. Secondary syphilis  

6. A 39-year-old woman complains of mouth ulcers up to 3-4 times a year for 4 years. Objectively: at the tip of the tongue there is a surface defect of the epithelium of a round shape, 0.3 mm in diameter, covered with a yellowish coating, surrounded by a bright red rim. Sharp pain when talking and eating. What examinations should be done to prescribe treatment?  
A. Cytological  
B. Immunological  
C. Histological  
D. Luminescent  
E. Microbiological  

7. A 39-year-old patient was diagnosed with Seton's stomatitis, which was characterized by the formation of deep sharply painful ulcers on the mucous membrane of the cheeks and under the tongue. What threatens the patient with the formation of ulcers in the corners of the mouth?  
A. Constant jamming  
B. Cracking  
C. Maceration  
D. No threat  
E. Microstome development  

8. A patient with a diagnosis of a deforming form of chronic recurrent aphthous stomatitis has been treated repeatedly in the hospital of the allergy department. The last time a dentist conducted a course of complex therapy in an outpatient setting. What drugs are the means of choice for local therapy?  
A. Antibiotics  
B. Keratoplasty  
C. Keratolytics  
D. Corticosteroids
E. Vitamins

9. A 39-year-old patient complains of mouth ulcers that periodically occur for 4 years. Objectively: on the lateral surface of the tongue, the atra is covered with a grayish-white coating, surrounded by a corolla of hyperemia. What is the most likely mechanism for the development of this disease?
A. Autoimmune disorders
B. Viral infection
C. Staph infection
D. Allergic reaction
E. Mechanical injury

10. A woman aged 33 years complains about the periodic appearance of ulcers in the oral cavity. Sick 5 years. It is registered at the general practitioner for chronic colitis. Objectively: on the lateral surface of the tongue, a round-shaped surface defect of tissues with a diameter of 0.5 cm with clear contours, covered with fibrinous coating, which is difficult to remove, is found. The element of the lesion is surrounded by a corolla of hyperemia, sharply painful when touched. What is the element of defeat?
A. Atra
B. Erosion
C. Ulcer
D. Crack
E. Lichenization

7. Literature.

Basic sources

Additional sources

**Electronic resources:**
2. Electronic resource: [https://www.booksmed.com/stomatologiya](https://www.booksmed.com/stomatologiya)
3. Electronic resource: [https://studfile.net/search/?q](https://studfile.net/search/?q)

Guidelines prepared
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