

Federal state Autonomous educational  
institution of higher education  
"Kazan (Volga region) Federal University"  
Institute of fundamental medicine and biology



**CLAIM**

Head. the Department Khafizov R. G.

**METHODICAL DEVELOPMENT NO. 4**  
**PRACTICAL CLASSES**  
**ON DISCIPLINE "STOMATOLOGY"**  
**SECTION "THERAPEUTIC DENTISTRY"**  
**4 YEAR (8 SEMESTER)**

**The THEME: Allergic diseases.**

**Goal:** To learn how to diagnose the clinical manifestations of immediate hypersensitivity: anaphylactic shock, angioedema, urticaria, and related to them change (abnormal) mucous membranes of the mouth. **Educational objective:** To master the methods of emergency medical care for these conditions.

**Forming of cultural competence:**

- ability and willingness to analyze socially significant problems and processes, practical use of methods of humanitarian, scientific, biomedical and clinical Sciences in various professional and social activities (QA-1);

- ability and willingness to carry out its activities taking into account the accepted in the society moral and legal standards, abide by the rules of medical ethics, laws and regulations on handling confidential information, maintain patient confidentiality (OK-8).

**Forming of professional competence:**

- ability and readiness to carry out professional dental procedures (PC-18);

- ability and willingness to make a diagnosis based on International statistical classification of diseases and related health (ICD) (PC-23);

- ability and willingness to diagnose the typical diseases of dental hard and soft tissues of the oral cavity, dentoalveolar and facial anomalies in patients of all ages (PK-24);

- ability and willingness to analyze the effect of drugs on the totality of their pharmacological properties in the treatment of various diseases, including dental (PC-28);

- ability and willingness to the treatment of diseases of hard dental tissues in patients of different age groups (PK-30);

- ability and willingness to undertake simple endodontic treatment diseases of pulp and periodontium in patients of different age (PK-31).

**THE DURATION OF THE CLASSES:** 4 academic hours.

**MATERIAL SECURITY:** sets dental trays of instruments for the reception of patients and work on phantoms; dental filling materials; supplies; videos, tests, situational tasks; presentations for the multimedia projector.

**LOCATION:** phantom study of the Department of implantology and dentistry.

## **LITERATURE:**

### **Fundamentals of literature**

1. Yanushevich O. O., preventive dentistry [Electronic resource] / O. O. Yanushevich, Y. M. Maksimovskaya, L. N. Maksimovskaya, L. Smith, Y. - M. : GEOTAR-Media, 2016. - 760 p. - ISBN 978-5-9704-3767-4 - Mode of access: <http://www.studmedlib.ru/book/ISBN9785970437674.html>
2. Barer G. M., operative dentistry. In 3 parts. Part 3. Diseases of the oral mucosa. [Electronic resource] : the textbook / Under the editorship of G. M. Barere - 2-e Izd., Rev. and extra - M. : GEOTAR-Media, 2015. - 256 S. - ISBN 978-5-9704-3460-4 - Mode of access: <http://www.studmedlib.ru/book/ISBN9785970434604.html>
3. Makeeva I. M., diseases of teeth and mouth [Electronic resource] : a textbook / Makeeva I. M., In S. T., Alimov M. I. and others - M. : GEOTAR-Media, 2012. - 248 S. - ISBN 978-5-9704-2168-0 - Mode of access: <http://www.studmedlib.ru/book/ISBN9785970421680.html>

### **Further reading**

1. Dentistry. Record and case management : the manual / Under the editorship of V. V. Afanas'eva, O. O. Yanushevich. - 2nd ed. Rev. and extra - M.: GEOTAR-Media, 2013. - 160 p. [http://www.studmedlib.ru/ru/book/ISBN: 5970431648](http://www.studmedlib.ru/ru/book/ISBN:5970431648) ISBN-13(EAN): 9785970431641.html
2. Plans for the management of patients. Dentistry / O. Yu. Atkov [et al.] ; under the editorship of O. Y. Atkov, V. M. Kamenskikh, V. R. Bezakova. - 2nd ed. Rev. and extra - M. : GEOTAR-Media, 2015. - 248 p. [http://www.studmedlib.ru/ru/book/ISBN: 978-5-9704-3400-0.html](http://www.studmedlib.ru/ru/book/ISBN:978-5-9704-3400-0.html)
3. Dictionary of dental terms professional: proc. manual / E. S. Calibration, E. A. Bragin, S. I. Abakarov, and others - M.: GEOTAR-Media, 2014. - 208 p. <http://www.studmedlib.ru/ru/book/ISBN9785970428238.html>

### **QUESTIONS TO IDENTIFY INITIAL LEVEL OF KNOWLEDGE:**

1. Pathological physiology of allergic reactions immediate and delayed type.
2. Measures emergency medical assistance in acute cardiac not sufficient, anaphylactic shock.

### **TEST QUESTIONS ON THE LESSON:**

1. What are the main clinical symptoms of anaphylactic shock.
2. Tactics of a dentist in case of anaphylactic shock  
the patient in the dental office in various fields.
3. List the possible pathological changes of the mucous membrane  
the mouth of the patient undergoing anaphylactic shock  
different degrees of severity.
4. List the main clinical manifestations of angioedema.  
Features of clinical edema of soft tissues of face, neck.
5. Define the event emergency medical  
assistance to the patient with angioedema of the face and neck.
6. Differential diagnosis of immediate allergic reactions  
from similar clinical conditions: psychogenic, pain shock,  
disturbance of microcirculation of the brain, and congestive heart  
failure, ischemic condition.
7. Prevention of allergic reactions immediate type  
dental patients.
8. Describe the clinical manifestations on the oral mucosa  
mouth, caused by an allergic reaction of type IV.

9. Explain features of treatment of dental patients with allergic lesions of delayed hypersensitivity type. Write down the medications.

In modern conditions the dentist should deal with issues early diagnosis, therapy and prevention of allergic reactions and diseases of allergic origin. The basis of all allergic reactions are immune mechanisms, however, unlike the latter, completed they are the processes of damage tissues of the body.

**Hypersensitivity immediate type.**

**Anaphylactic reaction** — allergic reaction of the first type develops no later than two hours after re-exposure to the allergen in background prior sensitization. Reaction caused by antibodies, - specific immunoglobulin E and immunoglobulin G accompanied by the allocation of the first mediators (histamine, serotonin, heparin, hyaluronic acid, etc.) and second order (prostaglandins, kinins).

***Clinical symptoms of anaphylactic shock*** — headache, dizziness, nausea, numbness of the lips, tongue, itchy skin, feeling compression in the chest. The skin is hyperemic, cold sweat, different types of rash. Possible sudden deterioration of vision, congestion the ears, paresthesia of the skin of the extremities. Noisy breathing, wheezing. Pulse frequent, thready, a sharp decrease in blood pressure, heart tones are deaf. Pain stomach. Mild chills alternating with profuse sweat. Can appear cramps in certain muscles. The function of the sphincter can be broken and when clear consciousness. In severe cases, loss of consciousness.

The speed of the reaction from the moment of contact with the possible allergen evidence of the severity of allergic reactions.

Anaphylactic shock should be differentiated from:

a) cardiogenic shock (collapse). Symptoms: acute left ventricular failure, its types, cardiac asthma, pulmonary edema;

b) diabetic coma. Symptoms: collapse, arrhythmias, tissue hypoxia;

C) uremic coma. Symptoms: oligoanuria, thirst, itchy skin, nausea, vomiting, sudden dry mouth. Possible complications — hypertension, convulsions, gastrointestinal bleeding;

d) hemorrhagic shock (a state of hypoperfusion arising again in connection with a reduction in effective circulating blood volume; trigger mechanism — syndrome of small emission).

**Compensated reversible shock** — consciousness is retained, the skin pale, limbs cold, zapustevayut saphenous vein on hand becomes thready, pulse weak filling. May develop stages of shock decompensated reversible, then irreversible shock.

**Emergency treatment of anaphylactic shock.**

Immediate cessation of further arrivals in the bloodstream allergen, if possible, apply a tourniquet proximal to the injection site. The area of injection to make injections of 1.0 ml of 0.1% solution of epinephrine, to reduce suction of the allergen. To suppress the allergic response — intravenous glucocorticoid hormones: 30-60 mg or more of prednisone or 125-250 mg hydrocortisone; antihistamines — 2.0 ml of 2% solution of suprastin.

For high blood pressure — 2.0 ml of 10% solution of sulfokamfokain, 1.0 ml of 20% solution kordiamin.

With the development of clinical death, resuscitation at conventional scheme.

**Allergic — angioedema, angioedema** — limited, with clear edges swelling with predominant localization of the face (cheeks, neck, bottom of the mouth, tongue — webs that have fiber). Often combined with

food, medicinal Allergy, bronchial asthma. Maybe

be accompanied by headache, itching, nausea.

**Treatment** — effective use of antihistamines. Clinical

symptoms disappear within 1-2 days.

Allergic reactions may be accompanied by bubble-cystic

lesions of the mucous membrane of the oral cavity. The pathological elements

located intraepithelial filled with serous contents,

tense, fast transformirovalsya in erosion. Epithelialization occurs on the 3

4 day relief of allergic reactions.

Reaction II type III lead to the development of pathological changes in the mucous membrane of the oral cavity.

Pathology	The type of immunological reaction
Allergic stomatitis (serous, bullous, erosive-ulcerative), eczematous cheilitis.	Reaction induced by E. immunoglobulinom
Drug Allergy (stomatitis, cheilitis), ulcerative-necrotic gingivo-stomatitis Vincent, MEE, contact stomatitis, cheilitis (swelling, erythema, papules, vesicular rash).	The cytotoxic effect of antibodies Ig G and Ig M with the activation of complement components C8, C9, and without complement.
The clinic, which is characteristic for lichen planus, chronic lupus erythematosus.	Part of antibodies (Ig G, Ig E, Ig M) and immune complexes (IC).
Chronic recurrent aphthous stomatitis, vasculitis (Wegener, Selana-Schonlein purpura).	IR and activation of compliment C3 and C5.

### **Hypersensitivity delayed type (DTH)**

— the reaction that develops not earlier than through 24 hours after re

contact with an allergen. The formation of DTH in direct contact



mucosa and red border with the antigen: soluble proteins, antigens

microbial cells and products of its activity, antigens of viruses

low molecular weight chemicals conjugate with proteins.

The combination of HRT with other forms of immunological response.

HRT is implemented by inflammation of the mucosa and red border in the zone of contact with allergen. Allergic mechanisms are sensitized

the lymphocytes, the basophils, mast cells, and vasoactive amines

implemented proliferative inflammation with infiltration of private and

the submucosal layer of the mucous membrane of the oral cavity, mainly mononuclear cells.

**Diagnosis.** Basic methods of diagnosis - lab - reaction

inhibition of migration of macrophages and the response of leukocytes blast transformation (Rbtl). Of some importance are the cutaneous and intradermal tests.

**Clinic** — inflammation of the mucous membrane of the mouth and red border in the area of contact with the allergen (dentures, fillings, gum, birth control oral agents, medications, etc.).

**Treatment.** The cessation of contact with the allergen leads to the elimination of the inflammatory process. If the sensitizing agent is supplied to the body orally or by other means (excreted by the salivary glands), happens acanthomatous process (cheilitis) or erosion, ulceration of the mucosa at a certain location (often the cheeks, bottom of the cavity of the mouth).

Topically effective use of corticosteroids in different dosage forms method of applications or injections of a solution into the zone of inflammation.

**Differential diagnosis of:** HRT should be distinguished from:

- a) electroplating syndrome
- b) paresthesia of the mucous membrane of the oral cavity (primary and secondary),
- C) dysfunction of the joints of the lower jaw, deep mycosis of the mucosa,
- g) injuries to the oral mucosa functionally defective dentures.

## SITUATIONAL TASKS

1. Patient 41 years, by profession a pharmacist. In a few minutes after treatment of pathological periodontal pockets with a solution of trypsin felt ill, developed shortness of breath, anxiety, cold clammy sweat, the sharp decline of cardiac activity, reduction indications venous pressure.

Put the diagnosis. What needs to be taken to emergency help the patient?

2. Patient 32 years, occasionally used rinse solution tincture of eucalyptus about inflammation of the mucosa of the nasopharynx. After one such procedure, felt a burning sensation of the mucous membrane mouth, metallic taste, and the tension in soft tissue lips. The latter circumstance was the reason for seeking a dentist.

Objectively: the Soft tissue of the lower third of the face is swollen, lip is increased in the size, the mucosa turned outward the faces. On palpation of skin and subcutaneous tissue lips dense, painless.

Put the diagnosis. Treatment plan this patient. Invite events prevention of disease recurrence.

- Make a scheme of differential diagnostics of the urgent conditions.
- Make a chart of the approximate basis of the action (CCCS) urgent

assistance to the patient with anaphylactic shock of medium severity.

ОРИГИНАЛ  
ПРАКТИЧЕСКОГО ЗАНЯТИЯ