Federal State Autonomous Educational
higher education institution
"Kazan (Volga) Federal University"
Institute of Fundamental Medicine and Biology

I affirm

Head Chair Khafizov R.G.

METHODOLOGICAL DEVELOPMENT № 1
PRACTICAL LESSON
ON THE DISCIPLINE "DENTISTRY"
SECTION " THERAPEUTIC DENTISTRY "
4 COURSE (8 SEMESTER)

TOPIC : **Examination of a patient with diseases of the oral mucosa.**

Purpose: - To master the basic and additional methods of examining patients with diseases of the oral mucosa. Learn to differentiate primary and secondary rash elements of the oral mucosa.

Educational goal: to study the tactics of the doctor during the examination and the patient with diseases of the oral mucosa.

Formed general cultural competencies:

- the ability and willingness to analyze socially significant problems and processes, to put into practice the methods of the humanities, natural sciences, biomedical and clinical sciences in various types of professional and social activities (OK-1);
- the ability and willingness to carry out their activities, taking into account the moral and legal standards adopted in society, to comply with the rules of medical ethics, laws and regulatory legal acts on working with confidential information, and to keep medical confidentiality (OK-8).

Formed professional competencies:

- the ability and willingness to conduct dental professional procedures (PK-18);
- the ability and willingness to make a diagnosis, taking into account the International Statistical Classification of Diseases and Health Problems (ICD) (PK-23);
- the ability and willingness to diagnose typical dental diseases of hard and soft tissues of the oral cavity, dentofacial anomalies in patients of all ages (PK-24);
- the ability and willingness to analyze the effect of drugs on the basis of their pharmacological properties in the treatment of various diseases, including dental (PK-28);
- the ability and willingness to treat diseases of hard tissues of teeth in patients of different ages (PK-30);
- the ability and willingness to conduct simple endodontic treatment of pulp and periodontal diseases in patients of different ages (PK-31).

LESSON DURATION: 4 academic hours.

MATERIAL PROVISION: sets of dental trays with tools for receiving patients and working on phantoms; dental filling materials; expendable materials; videos, tests, situational tasks; Presentations for multimedia projectors.

VENUE: Phantom room of the Department of Implantology and Dentistry.

LITERATURE:

Basic literature

1. Yanushevich O.O., Therapeutic dentistry [Electronic resource] / O.O. Yanushevich , Yu.M. Maksimovsky , L.N. Maksimovskaya , L.Yu. Orekhova - M.: GEOTAR-Media, 2016 .-- 760 p. - ISBN 978-5-9704-3767-4 - Access mode: http://www.studmedlib.ru/book/ISBN9785970437674.html
2. Barer G.M., Therapeutic dentistry. In 3 parts. Part 3. Diseases of the oral mucosa. [Electronic resource]: textbook / Ed. G.M. Barera - 2nd ed., Ext. and reslave . - M.: GEOTAR-Media, 2015 .-- 256 p. - ISBN 978-5-9704-3460-4 - Access mode: http://www.studmedlib.ru/book/ISBN9785970434604.html
3. Makeeva IM, Diseases of the teeth and oral cavity [Electronic resource]: textbook / Makeeva IM, Sokhov S.T., Alimova M.Ya. et al. - M.: GEOTAR-Media, 2012 .-- 248 p. - ISBN 978-5-9704-2168-0 - Access mode: http://www.studmedlib.ru/book/ISBN9785970421680.html

additional literature

1. Dentistry Recording and maintaining a medical history: manual / Ed. V.V. Afanasyev, O.O. Yanushevich . - 2 nd ed. Ispra . and add. - M.: GEOTAR-Media, 2013 .-- 160 p. http://www.studmedlib.ru/en/book/ISBN: 5970431648 ISBN-13 (EAN): 9785970431641.html
2. Management plans for patients. Dentistry / O. Yu. Atkov [et al.]; under the editorship of O. Yu. Atkova , V. M. Kamenskikh, V. R. Besyakova . - 2 nd ed. Ispra . and add. - M.: GEOTAR-Media, 2015 .-- 248 p. http://www.studmedlib.ru/en/book/ISBN: 978-5-9704-3400-0.html
3. Dictionary of professional dental terms: textbook. allowance / E.S. Kalivrajiyan , E.A. Bragin, S.I. Abakarov et al. - M.: GEOTAR-Media, 2014 .-- 208 p. http://www.studmedlib.ru/en/book/ISBN9785970428238.html

QUESTIONS FOR IDENTIFYING THE INITIAL LEVEL OF KNOWLEDGE:

1. List the clinical and morphological signs of inflammation.
2. Anatomy and physiology of teeth.

QUESTIONS ON THE TOPIC OF THE LESSON:

1. Scheme for examination of patients with diseases of the oral mucosa.
2. Inspection of the dental patient according to the WHO method.
3. Scheme for describing the pathological elements of the oral mucosa.
4. Clinical methods for examining the patients with mucosal diseases of the oral cavity.
5. Additional methods for examining patients with diseases the mucous membrane of the mouth.

METHODOLOGICAL RECOMMENDATIONS FOR THE LESSON:

The issues of diagnosing diseases of the oral mucosa remain the most difficult for the dentist. This is due to the similarity of the clinical symptoms of many diseases manifesting on the oral mucosa. In addition, even elements of a lesion in the oral cavity that are strictly specific for a particular pathology can change due to trauma and secondary infection. Diagnosis of diseases of the oral mucous membrane is also hindered by factors of the general condition of the body — hypovitaminosis, chronic pathology of the organs of the gastrointestinal tract, metabolic disorders, etc.

Examination of patients with mucosa diseases diseases is a set of studies that include subjective and objective examination of the patient, analysis of the results of auxiliary methods with the aim of making a final diagnosis, predicting the outcome of the disease, assessing the course of the disease and choosing a rational treatment method.

Examination of patients with mucosa diseases is carried out according to a certain scheme:

1. The survey.
1.1. Complaints
1.2. Anamnesis of life.
1.3. Medical history.
1.4. Allergic history.
2. Inspection.
2.1. Visual inspection.
2.2. Inspection of the oral cavity.
2.2.1. General examination of the oral cavity:
• smell from the mouth;
• saliva;
• oral hygiene.
2.2.2. Detailed examination of the oral cavity:
• red border of the lips, corners of the mouth, the mucous membrane of the lips;
• the vestibule of the oral cavity and the mucous membrane of the cheeks;
• tongue, sublingual region, bottom of the oral cavity;
• soft and hard palate, pharynx;
• gums;
• teeth.

Survey of the patient (collection of complaints and anamnesis) is the initial stage of the examination. During the survey, the data of the passport part of the medical history are revealed: age, profession of the patient and social conditions of his life. The survey must be conducted in an active form, directing the patient's story in the right direction with additional questions. Find out the nature of subjective sensations: pain, burning, numbness, bad breath, dry mouth, increased salivation, discomfort, foreign body sensations (carcinophobia), etc. If there are complaints of pain, the doctor should clarify its nature of occurrence (independent or causal). It is necessary to determine the localization and distribution of pain, its duration, time of occurrence, reaction to external influences (increased pain from mechanical stimuli, sour, hot).

In addition, the nature of the course of the disease (acute, chronic, recurrent) is clarified . Figuring out the history of the development of the disease, it is necessary to determine how long it began, what were its first symptoms, what signs have added over time; whether there were similar manifestations before; whether the treatment was carried out, and what were its results; how the body carries drugs or certain foods.

The survey establishes: the level of motivation for oral hygiene; bad habits - biting the cheeks, tongue smoking, drinking alcohol; occupational hazards - work in chemical plants, contact with radioactive substances, heavy metals, pesticides; work on the street. It is necessary to assess the level of general health, to find out the presence of systemic diseases, allergic history , hereditary factor, past diseases.

Inspection is the first stage of an objective examination, which allows you to identify macroscopically visible changes in the maxillofacial region, as well as elements of damage to the COP. It consists of an external examination and examination of the oral cavity. The doctor draws attention to the general view of the patient, his constitution, physical activity, facial expression, features of articulation, the color of the sclera and the visible surface of the skin.
Examination of the facial region and oral cavity is carried out according to the generally accepted methodology recommended by WHO. A clinical assessment of the condition of the facial region and oral cavity is carried out by sequentially performing the examination stages - **extra** - **oral** and **intraoral** . Carrying ektraooralnogo inspection - survey
skin of the face of the oral mucosa, tissues of the lips (**perioral examination**), palpation of the lymph nodes. Carrying out an intraoral examination:
• Visual inspection of the mucous membrane sequentially by
anatomical and topographic areas of the oral cavity, the definition of occlusion, the severity of the frenum, the condition of saliva.
• Assessment of hard tissues of teeth (indicators of the CPU index).
• Assessment of the condition of periodontal tissues (indicators of GI indices,
KPI, CPITN).
• Hygiene assessment (OHI-S index indicators).

Inspection of soft tissues is carried out with two mirrors with a wide open oral cavity. The examination begins with the area of commissures, lips, cheeks (right and left), then passes into the oropharynx - the back wall of the pharynx, tonsils, soft and hard palate, palatine surface of the gum of the upper jaw, then - the retro - molar region, tongue, bottom of the oral cavity and lingual surface of the gums on the lower jaw.

Reduced sebaceous glands (Fordyce grains) can be located along the closing line of the teeth, the posterior third of the hard palate - these are pale yellow nodules with a diameter of 1-2 mm that do not rise above the surface of the mucous membrane.

Inspection of the COP begins with an examination of the red border of the lips. It is necessary to pay attention to the condition of the corners of the lips. Then, CO is thoroughly and thoroughly examined throughout the entire oral cavity, and not just the areas in which the patient complains of pain. It is important to consider that
if there are painful ulcerations or other lesions on the COP, the examination must be carried out very carefully. You should also not force the patient to open his mouth excessively. Consistently examining the COP, the doctor needs to identify signs of a violation in the state of the mucous membrane. Inspection makes it possible to determine changes in color or topography, moisture of the mucous membrane, the presence of strata or limited accumulations of exudate, proliferation or defects of COP. The excretory function of the salivary glands is also examined.

In the diagnosis of diseases of the mucous membrane of the mouth, lips and tongue, the correct determination of the elements of the lesion, understanding the characteristics of the clinical course, knowledge of the morphofunctional features of these anatomical formations are important the relationship of the pathology of the oral mucosa with diseases of blood formation, metabolism, endocrine system, gastrointestinal tract , etc., immune lesions and mental effects. According to the diagnosis of these diseases it is necessary not to exercise
only on the basis of clinical data (where the main differential sign are the elements of the lesion as factors in the manifestation of the pathological process), but also taking into account the results of cytological, biochemical, microscopic, immunological research methods.

When describing the elements of the lesion, one should adhere to a certain system and sequence:
1) localization with reference to nearby organs and tissues of the oral cavity;
2) type (papule, erosion, etc.);
3) dimensions (mm, cm);
4) color;
5) surface (smooth, rough, granular);

6) boundaries (clear, unsharp , even, scalloped, dentate);
7) relief;
8) attitude to the surface of the surrounding tissue (“plus or minus fabric”);
9) type of plaque (fibrinous, bladder cover, necrotic, purulent, etc.; is it possible to remove plaque, if possible , it is necessary to determine the nature of the surface that has opened);
10) when describing an ulcer, its bottom (smooth, granular, covered with granulations) and its edges (undermined, smooth) are characterized;
11) the presence of background changes in the mucosa and / or red border (hyperkeratosis, congestive or bright hyperemia, lichenization);
12) the consistency of the edges and base (dense, soft);
13) soreness.

The prevalence, symmetry of localization, color and relief of the mucous membrane of neighboring parts of the oral cavity are also noted . Of great importance is the location of the elements of the lesion in relation to each other. It is also necessary to establish whether there are primary elements of the same species (monomorphic rash) or rashes are diverse (polymorphic rash).

Identified changes in color, gloss, and the nature of the surface of the mucous membrane should be supplemented with data on the location of the elements of the lesion and their extent. The correct definition of the element of the lesion helps in the diagnosis. In addition, for the differential diagnosis of the disease, it is necessary to take into account the prevalence of the elements of the lesion, their number, symmetry, mono- or polymorphism, the location of the elements in relation to each other, and the tendency to merge.

Diagnosis of the affected areas of the mucosa is carried out according to the assessment of clinical criteria: localization, color, relief, size, shape, consistency, violation of integrity.

During the interview and examination are very important to determine the patient's violation of salivation, which manifests itself in the form of hyper -or hypoptyalism . Xerostomia is dryness in the oral cavity caused by a decrease in salivation, the severity of which varies in different patients. Dryness is often combined with burning and tingling in the tongue, lips, gums; difficulty talking, chewing, swallowing; hypersensitivity to spicy food; violation of taste; sometimes accompanied by itching and burning in the genitals or other parts of the body. On examination: mild hyposalivation is accompanied by a clinically normal oral mucosa. With persistent xerostomia, the oral mucosa is dry, shiny, swollen, hyperemic, especially on the tongue (papillae are smoothed, atrophied, erythema, cracks can occur). Along with this, paresthesia may occur.

Causes of xerostomia (acute and chronic):
• congenital maldevelopment or aplasia of the salivary glands;
• inflammation of the salivary glands (mumps, tuberculosis, sarcoidosis , actinomycosis);
• tumors;
• obstruction (formation of stones, tumors, inflammatory changes);
• atrophic changes in the salivary glands (age-related, post-radiation);
• autoimmune diseases (Sjogren 's syndrome, Mikulich syndrome)
• medicines (used for hypertension disease, coronary heart disease; anticholinergic, opiates).
• other factors - dehydration, hypovitaminosis, sugar diabetes, hypothyroidism, anemia, atherosclerosis, emotional disorders (depression), etc.

Increased saliva secretion may be physiological condition, as well as observed during pregnancy due to hormonal and neurovegetative changes occurring in this period. However, a number of pathological conditions are accompanied by hypersalivation :
• infections among the main pathological causes (often acute stomatitis is associated with reflex hypersalivation , which are sometimes accompanied by pain and difficulty swallowing;

• may be a symptom of trauma to the mucous membrane of the cavity
the mouth;
• intoxication with salts of heavy metals (mercury, arsenic, lead);
• diseases of the central nervous system;
• some drugs.

The most informative method of clinical examination of soft and underlying tissues of the oral cavity is **palpation** . During palpation at the beginning, the state of normal tissues is determined , then the affected areas, and with 2
parties. Palpation determine:
1) soreness or painlessness of soft tissues;
2) the consistency of the mucous membrane;
3) tissue turgor (compliance of the superficial layers of the mucosa
shells);
4) the mobility of the mucous membrane;
5) area of lesions;
6) the volume, depth of the lesions;
7) the condition of the underlying tissues.

Bimanual palpated soft tissues of the cheeks, floor of the mouth, lips, tongue, by pressure of the index finger to the mucosa palpated retromolar , submaxillary, mandibular area.

The choice of additional examination methods, their orientation and volume are determined by the expected type of pathology, stage of the disease and the general state of health of the patient. To additional methods for examining patients with mucosal diseases
oral membranes include:
• methods of dyeing tissues;
• luminescent methods;
• cytological;
• histological;
• microbiological;
• virological;
• immunological;
• allergological ;
• serological;
• biochemical research (blood test, saliva).

Tissue staining methods

Schiller-Pisarev test and iodine number of Svrakov . To determine the depth of the inflammatory process, Svrakov and Pisarev proposed lubrication of the oral mucosa with iodine-iodine-potassium solution. The method is carried out as follows. Dry the investigated area of the gingival mucosa, isolate it from saliva, and treat with a small cotton swab moistened with a solution containing 1 g of crystalline iodine, 2 g of potassium iodide and 40 ml of distilled water, while its color varies depending on the intensity of the inflammatory phenomena.

With a healthy periodontium , the mucous membrane of the gums is colored straw yellow. Under the influence of chronic inflammation in the gums
glycogen, stained with iodine in brown, which varies from light brown to dark brown, due to the degree of the inflammatory process. According to the intensity of staining, a negative sample (straw-yellow color), weakly positive (light brown) and positive (dark brown) are distinguished . After the course of treatment or during the course of the sample should be carried out in the same areas.
This gives a comparative analysis of the sample before and after treatment, allows you to judge the effectiveness of anti-inflammatory treatment.

The Schiller-Pisarev test for objectification can be expressed in numbers (points), evaluating the color of the papillae at 2 points, the color of the edge of the gum at 4 points and the color of the

alveolar gum at 8 points. The resulting total score should then be divided by the number of teeth in which the study was conducted (usually 6):

$$\text{Iodine number} = \frac{\text{Sum of scores for each tooth}}{\text{The number of teeth examined}}$$

Thus, it is possible to determine the digital value of the sample or the iodine number of Svrakov in points.

Evaluation of the values of the iodine number of Svrakov : mild inflammation - up to 2.3 points; moderate inflammation from 2.67 to 5.0 points; intense inflammatory process - from 5.33 to 8.0 points.

The hematoxylin test consists in a varying degree of staining of the mucous membrane, depending on its condition. The technique is based on the ability of nuclei of atypical epithelial cells to intensively perceive a dye consisting of 1 g of hematoxylin, 10 ml of ethyl alcohol, 20 g of alum triamides , 200 ml of distilled water. The alum solution is prepared by heating, then filtered and mixed with the hematoxylin alcohol solution. A saturated aqueous solution of potassium permanganate was added to the resulting mixture , brought to a boil, cooled and filtered. This solution is lubricated for 2-3 minutes in the oral mucosa. Normal epithelial cells acquire a pale purple color, atypical become dark purple. Sites of hyperkeratosis do not absorb the dye , and therefore do not change their appearance. The highest intensity of staining is characteristic of cancer cells due to hyperchromic nuclei. In this test, as in the Schiller test , three degrees of negativity of the color of the mucosa are distinguished.

With hyperkeratosis, staining does not occur.

A sample with toluidine blue the surface of the unchanged mucous membrane after treatment with a 1% toluidine solution appears blue, but after application of 1% acetic acid, the staining of the mucous membrane disappears. In the presence of pre - malignant and malignant changes in the mucous membrane, the blue color of the coloration persists, the atypical ones become deep blue . Persistent staining of the mucous membrane in the presence of hyperkeratosis and epithelial dysplasia can be observed.

Staining methods can clearly determine the boundaries of lesions, serves as a guideline for surgical procedures and biopsies.

Luminescent methods are based on the use of the effect of fluorescence - the luminescence of tissues under the influence of ultraviolet rays (Wood lamp). For luminescent diagnostics , instruments (OLD-41) and microscopes are used.

Studies using fluorescent technology are carried out in a darkened room after the eyes have adapted to the dark. The investigated surface is illuminated at a distance of 20-30 cm.

A healthy mucous membrane gives a pale bluish-purple glow; keratosis has a dull yellow hue; bluish- violet glow is characteristic of hyperkeratosis; bluish - violet - for inflammation; erosion and ulcers look dark brown . A snow-white glow is distinguished by a spot with lupus erythematosus.

The language of a healthy person fluoresces in shades from orange to red. In some people this is noted throughout the language, in others - only in the front of it.

The glow of the tongue in bright blue indicates the appearance of leukoplakia. The lesions with a typical form of lichen planus produce a whitish-yellow glow, areas of hyperkeratosis with lupus erythematosus, even poorly distinguishable visually, are snow-white and bluish. Foci of congestive hyperemia on the red border of the lips acquire a dark purple color, hyperkeratic scales look whitish-blue.

Luminescent research is widely used in the diagnosis of hyperkeratosis, since it has a high degree of reliability. It should be remembered that many cosmetic substances (creams, lipsticks) and topical drugs (solutions of methylene blue, eosin, riboflavin) also have the ability to give a glow in the rays of Wood, which can be misleading.

In addition to visual assessment of changes in lesions in Wood's rays, luminescent histological diagnostic methods are used using a fluorochrome and a luminescent microscope.

A cytological study evaluates cell changes.
The cytological analysis of prints from the affected sections of the COP gives valuable information about the morphofunctional state of the mucosa in its various lesions. The basis of the study is a comparison with intact cells located nearby. Material intake
for research can be carried out in various ways: swabs , smears, smears, fingerprints, scraping and puncture, usually use non-invasive methods - prints and smears. The resulting material is placed on a glass slide, examined natively or in a stained preparation. The advantages of a cytological study are atraumatic taking of material for research and obtaining results in a short time.

In a cytological study, the processes of differentiation of COP are assessed. In accordance with the cytological classification, basal, parabasal , intermediate, and surface cells are isolated in the COP epithelium, and horny scales are isolated in areas subjected to keratinization. Intermediate cells predominate in a smear with normal COP . The maximum level of maturation of the non-keratinizing epithelium corresponds to the appearance of surface cells, and
the keratinizing epithelium corresponds to horny scales, the content of the latter increases sharply with hyperkeratosis. For quantification
the nature of cells in a cytological smear using various indicators (maturation index, eosinophilic, etc.).

A change in the nature of differentiation, which is normal in a norm for a particular area of COP, indicates local or systemic disorders. The presence of signs of cell atypia with a high degree of probability indicates the development of precancerous changes in COP. Changes in the differentiation of the epithelium of COP can also be a consequence of metabolic and hormonal changes, the action of mechanical factors and chemicals.

Cytological research methods are widely used in the diagnosis of diseases of the mucous membrane. Fence material can be produced in various ways. The Yasinovsky test , which studies the migration of leukocytes into the oral cavity and the number of desquamated epithelium, involves a series of successive swabs followed by counting of living and dead blood cells (leukocytes).

On an empty stomach, after brushing, fractionally rinse the oral cavity with 10 ml of saline, 2 ml for a single rinse for 30 seconds. The intervals between rinses are 5 minutes. The first 3 servings of the flush are poured, the latter are collected for research. The rinse is diluted 3
times with physiological saline and centrifuged. The resulting precipitate was stained with a 1% aqueous solution of trypan blue and a 1% aqueous solution of congorot , 1 drop each. Then they fill the Goryaev's chamber with a pipette and determine the number of living and dead white blood cells, as well as squamous cells.

The calculation is carried out according to the formula:

$$X = \frac{A * B}{B * g}$$

G de :
x is the number of shaped elements in 1 mm3 flush;
a - the number of shaped elements counted in the chamber;
b - the number of counted squares;
c - flushing dilution;
g is the volume of the camera above the square.
The volume of a small square is always 1 / 4000mm ^{3}. When dividing a by b, we find out how many cells are in 1 small square, that is, 1/4000 1 mm ^{3}, 1 mm ^{3}will be 14000 times more.
We make a correction for breeding (c) I get the number of uniform elements in 1mm ^{3}. Normally, 90-150 leukocytes are detected, of which 20% are dead, and 25-100 epithelial cells.

A smear is performed more often with the mucosa of the posterior parts of the oral cavity, which allows to evaluate the microflora of the pharynx and other areas. From the surface of the lesion, including from the bottom of the ulcer,
cytological material is taken using *smears of prints* . If necessary, studies of deeper layers can be scraped.

Puncture allows you to study cells derived from deep sections of cavitary lesions.

Laboratory studies require special preparation of cytological material (fixation, staining) and subsequent study using technology: from conventional optical devices to sophisticated electron microscopes.

When **histological examination** under a microscope examine the removed parts of the tissue. The fence is carried out by biopsy. Material for research should be taken from the border area between healthy and pathological tissues. In this case, the transition of healthy to pathological tissue is better visible. Preparations are obtained by the method of thin and ultrathin sections after fixation, followed by staining of cell structure elements. **A biopsy** is the main diagnostic procedure for differential diagnosis in patients with chronic recurrent diseases of unknown etiology, when a correct diagnosis can be established by histological and (or) immunofluorescence studies of tissue samples.

Contraindications for biopsy include: acute viral diseases of the oral mucosa, ulcerative gingivostomatitis , bleeding, hemangioma , malignant melanoma.

A biopsy is performed with a scalpel, needles of various designs, trepanodissectors under local anesthesia, in compliance with the rules of asepsis and antiseptics. The biopsy specimen should include not only the causative site, but also clinically normal tissue. The excised tissue is immediately placed in one of the fixing solutions (ethyl alcohol or 10% formalin solution) and sent to the pathomorphological laboratory.

In order to differentiate cystic lesions, confirm the diagnosis of lichen planus, sometimes it is necessary to perform an examination with unfixed tissues using the direct immunofluorescence method to prove the presence of autoantibodies .

A needle biopsy is called a puncture. Puncture is used, if necessary, to obtain material from the compaction site, enlarged lymph nodes, etc. This manipulation is carried out with a 5-10 ml syringe, which after normal sterilization is dehydrated with 96% alcohol, and an injection needle 6-8 cm long . The path of the injection needle should be the most short and safe. When performing a puncture of superficially located neoplasms and lymph nodes, they are fixed with the thumb and forefinger of the left hand, and the end of the needle is inserted to the desired depth. After that, the area of tissue, clamped by the fingers of the left hand, is slightly kneaded, which contributes to obtaining more material. Then the piston is retracted by 1-1.5 cm, the syringe with the needle is disconnected, after which the piston is returned to its original position and all is repeated again 2-3 times at first. After receiving the puncture, the syringe with the needle is disconnected and the latter is removed from the tissue or the syringe with the piston retracted 1-1.5 cm is removed along with the needle, and then the contents of the needle are squeezed onto a glass slide. One or two drops of the obtained material is usually enough to study the cellular composition of the studied area. When containing a significant amount of blood, smears are done immediately, since it is difficult to prepare satisfactory preparations from coagulated contents .

A biopsy should be performed in the following cases:

1) the alleged neoplastic processes: malignancy (compaction, vegetation, ulceration);
2) ulcers on the oral mucosa with a persistent, prolonged course;
3) combined red and white lesions;
4) difficulties in the differential diagnosis of diseases, in the detection of combined lesions of the mucous membrane.

The microscopy method is a reliable source of information about morphological changes in the mucous membrane.

Microbiological studies are conducted to analyze the microbial and fungal flora obtained from the lesion site.

The most commonly used bacteriological method. For the fence

The following methods are used for the material: smears, fingerprints, smears, reprints , scrapings, smears, smears, scrapings, etc. When taking the material, certain rules are observed: do not use antiseptic rinses, do not brush your teeth, do not eat,

immediately before taking smears - rinse the mouth with warm water. The material is taken by a microbiological loop, sterile turundas, paper hygroscopic pins. The material is placed in containers with transport media, in
laboratories for the isolation of aerobic, facultative anaerobic and anaerobic microorganisms sowing is carried out on various environments. Identification of isolated cultures of microorganisms is carried out by staging biochemical tests using commercial test systems.

Recently, molecular biological methods of diagnosis (hybridization method
and Polymerase Chain Reaction) are widely used .
In allergic diseases, in vivo and in vitro studies are carried out : skin tests, blood cell counts, tests with a standard set of allergens.

Allergological studies are conducted with impaired immune status. Diagnosis of allergies in dental practice includes:
1. history and clinical symptoms; anamnesis is the first stage of the examination, which has a very important, and sometimes the main role in the diagnosis of drug allergies.
It is a correctly collected history that allows you to establish the presence of an allergen and correctly justifies the subsequent stages of an allergological examination;
2. skin (epicutane) tests, skin (application, drip, scarification) tests, intradermal tests; These samples are carried out by specially trained nurses in outpatient and inpatient settings in the respective laboratories;
3. exposure test;
4. histamine test;
5. reaction of inhibition of leukocyte migration;
6. reaction of blast transformation;
7. " in vitro " immunodiagnostics methods , tests with a standard set of antigens.

When collecting an allergic history, find out:
1. Does the patient or his relatives suffer from allergic diseases (bronchial asthma, hay fever, or hay fever, eczema, rheumatism, etc.);
2. whether the patient has previously received medications;
3. what medicines the patient has taken repeatedly; it is important to find out which drug the patient took for a long time or often, since an allergic reaction can most often occur with reusable drugs;
4. the patient is asked about the presence of fungal lesions of the skin and nails such as epidermophytosis and trichophytosis. It is known that in 8–10% of patients with these lesions, acute allergic reactions to the first injection of penicillin may occur due to the general antigenic properties of trichophyton and epidermophyton with penicillin and possible latent sensitization to it.
5. allergic reaction to food, household, cosmetic allergens;
6. whether immune sera and vaccines have been administered;
7. professional contact with medicines, chemicals ;
8. if an allergic reaction occurred, how it manifested itself and after what time.

In the presence of complaints or objective changes from the mucous membrane in patients with prostheses in the oral cavity, studies of the level of metals in the blood are carried out in addition to allergological studies.

Immunological methods are necessary for the diagnosis of autoimmune diseases (bullous dermatoses, manifestations of allergic reactions in the oral mucosa). Methods are used: direct fluorescence reaction, immunohistochemical studies - allow to detect autoantibodies (IgA , IgG), fixed in certain antigenic structures of the skin and epithelium (desmosomes, basement membrane, etc.); indirect fluorescence reaction, enzyme immunoassay, immunoblotting , immunoprecipitation reaction - autoantibodies to specific antigens in the patient's blood serum are determined .

Study of the general condition of the patient

According to certain indications, patients are prescribed a blood test, saliva, urine. The most commonly prescribed blood test (general and biochemical analyzes).

General clinical analysis includes determining the amount of hemoglobin, the number of red blood cells and white blood cells, a color indicator, and the calculation of the white blood cell count. Indications for this method are the presence of ulcerative necrotic processes of the mucous membrane in the oral cavity , which do not heal ulcers for a long time, and also if there is a suspicion of a disease of the blood forming organs.

A biochemical study of blood, urine, etc. (glucose content) is carried out if diabetes is suspected (dry mouth, chronic recurrent candidiasis of the oral mucosa, inflammatory periodontal diseases).

CLASSIFICATION OF MORPHOLOGICAL ELEMENTS OF DEFEAT.

1. Primary morphological elements:

a) inflammatory (infiltrative, exudative);

b) non-inflammatory

2. Secondary morphological elements.

Primary infiltrative elements include the following:

SPOT (macula) - a limited area of the mucosa changed in color membranes of an inflammatory or non-inflammatory nature. Inflammatory spots are observed, for example, with multiforme exudative erythema. Non-inflammatory spots result from deposits of dyes endogenous and exogenous origin (pigmentation with jaundice, when exposed to occupational hazards, etc.).

NODE (papula) - a barren infiltrative formation of a size from pin head up to 10 mm in diameter, slightly rising above the level mucous membrane. The process is localized in the epithelium: acanthosis , a granular layer appears , hyperkeratosis, parakeratosis . After healing, the nodule of scars, as a rule, does not happen. An example is lichen planus.

BUMBLE (tuberculum) - a barren infiltrative formation that rises above the level of the mucous membrane. Infiltrate captures all layers of the mucous membrane, quickly disintegrates and leaves a scar after resolution of the process. An example is tuberculous lupus, tubercular syphilis.

NODE (nodus) - a large oval formation located in all layers mucous membrane. The node either rises above the level of the mucous membrane, either palpable in its thickness. When suppuration fistula may form. After permission leaves a scar. An example is leprosy, tertiary syphilis.

Primary exudative elements.

BUBBLE (bulla) - a limited cavity formation, different from large bubble size. It is located inside or subepithelially . An example is pemphigus.

PUS (pustula) - abdominal mass with purulent contents. Example - urticaria, dermatitis Dühring.

KISTA (cysta) - a cavity formation lined with epithelium and having connective tissue membrane. Content is inconsistent and may be muco -seroznym, serous or hemorrhagic. Cyst rises above mucosal surface. An example is retention cysts on the lips and cheeks.

Secondary elements include:

SCALES (squama) - with partial keratinization - parakeratosis of the mucosa shells appear flakes. They are defined as mica translucent plates fixed in the middle to the red border of the lips. An example is exfoliative cheilitis .

EROSION (erosio) - a mucosal defect within the epithelium. Heals erosion without scars. An example is trauma - an undeveloped development of primary elements.

EXCORIATION (excoriatio) - abrasion, traumatic erosion, damage deeper layers of the epithelium up to the papillary layer.

ULCER (ulcus) - mucosal defect, capturing its own layer mucous membrane or deeper lying tissue, the bottom and edges of the ulcer have different character. An ulcer after healing leaves a scar. Example - decayed gum, tuberculous ulcer.

CRACK (snagdes) - a linear mucosal defect. An example is jamming .

AFTA (aphta) is an oval-shaped epithelial defect with clear boundaries. On the dense fibrinous plaque at the bottom. An example is chronic aphthous stomatitis.

Crust (crysta) - is formed due to drying on the mucous membrane, more often a red border of serous exudate or blood.

Cicatrix (cicatrix) - is a replacement of destroyed tissue connective tissue. It is inferior in structural and functional regarding fabric. By consistency, the scars are dense and soft. Soft thinned, slightly sagging scars are called atrophic.

VEGETATION (vegetatio) - proliferation of the papillae of the own layer of the mucosa shells on the surface of papules, erosion of inflammatory infiltrates.
An example is papillary hyperplasia of the mucous membrane as a result of a chronic prosthetic injury.

PIGMENTATION (pigmentatio) - arises on the basis of previous inflammatory changes in which hemorrhage in the tissue occurred subsequent color changes according to the shades that take blood coloring matter.

Test control:

1. What causes the color of the mucosa to normal?
    1. vascularization
    2. age-related changes
    3. physiological processes of keratinization
    4. race
    5. to all of the above.
2. By what clinical criteria are lesions of the oral mucosa examined?
    1. color;
    2. view;
    3. dimensions;
    4. localization;
    5. form;
    6. consistency;
    7. surface;
    8. borders;
    9. relation to the surface of the surrounding tissue;
    10. All of the above.
3. Indicate the sequence of stages of the examination of the dental patient according to WHO recommendations:
    1. level of general condition, history of dental health; examination of the skin of the face of the oral mucosa, lip tissue, palpation of the lymph nodes; visual inspection of the mucous membrane sequentially according to the anatomical and topographic areas of the oral cavity, bite determination, frenum severity, saliva status , evaluation of hard tissues of teeth, assessment of periodontal tissues, assessment of hygiene.
    2. visual inspection of the mucous membrane sequentially according to the anatomical and topographic areas of the oral cavity, determining the occlusion, the severity of the frenum, the condition of saliva, the assessment of hard tissue of teeth, the assessment of the condition of periodontal tissues,

hygiene assessment; examination of the skin of the face of the oral mucosa, lip tissue, palpation of the lymph nodes; level of general condition, history of dental health.

3. level of general condition, history of dental health; examination of the skin of the face of the oral mucosa, lip tissue, palpation of the lymph nodes; determination of occlusion, severity of frenum, saliva condition, assessment of hard tooth tissues, assessment of periodontal tissue condition, assessment of hygienic condition, visual inspection of the mucous membrane sequentially by anatomotopographic areas of the oral cavity.

4. Specify the method of palpation examination of the elements of damage to the oral mucosa:

1. from healthy tissues to pathologically altered;
2. from pathologically altered to healthy tissues.

5. Specify additional research methods when examining a patient with diseases of the oral mucosa:

1. staining of tissues;
2. cytological;
3. histological;
4. microbiological;
5. allergological tests;
6. biochemical studies;
7. all of the above.

6. In what cases is a tissue biopsy performed?

1. alleged neoplastic processes: malignancy (compaction, vegetation, ulceration).
2. ulcers on the oral mucosa with a persistent, prolonged course
3. difficulties in the differential diagnosis of diseases, in the detection of combined lesions of the mucous membrane.
4. all of the above.

7. Indicate possible complaints in a patient with diseases of the oral mucosa:

1. pain;
2. burning;
3. numbness;
4. parasthesia ;
5. dry mouth;
6. increased salivation;
7. bad breath;
8. discomfort (feeling of roughness);
9. violation of taste sensitivity;
10. all of the above.

8. Indicate the purpose of the cytological examination:

1. to assess the degree of differentiation of the cells of the oral mucosa;
2. analysis of microbial and fungal flora;
3. determining the boundaries of the lesions of the mucous membrane;
4. diagnosis of autoimmune diseases.

9. In the case of the merger of the elements of the lesion, note:

1. number of elements;
2. polymorphism;
3. propensity to merge;
4. all of the above.

10. When staining with toluidine blue the surface of the mucous membrane in pre - malignant and malignant conditions :

1. The blue color of the color remains after application with 1% acetic acid, with microscopy, the atypical ones turn dark blue;
2. staining of the mucous membrane disappears after application with 1% acetic acid.

11. What kind of glow is formed during a luminescent study of a healthy oral mucosa
    1. pale bluish-purple glow;
    2. snow-white glow;
    3. brown glow;
    4. yellow glow.
12. Indicate the criteria for evaluating the elements of mucosal damage
oral cavity during palpation:
    1. determination of pain or painlessness;
    2. size, borders;
    3. consistency, turgor;
    4. state of underlying tissues;
    5. attitude to surrounding tissues (plus, minus fabric);
    6. all of the above.
13. Indicate possible complaints of a patient with xerostomia:
    1. dryness, burning, itching;
    2. the formation of erosion, blisters on the mucous membrane;
14. For what purpose are immunological diagnostic methods used:
    1. diagnosis of autoimmune diseases, manifestations of allergic reactions to the oral mucosa;
    2. In order to analyze the microbial and fungal flora obtained from the lesion site.
15. What is the purpose of diagnostic staining of the oral mucosa?
    1. determine the depth, area of the inflammatory process;
    2. diagnostics of pre - malignant and malignant conditions;
    3. diagnosis of bladder lesions.
16. Indicate which of the following is a take of material for cytological examination:
    1. flushing;
    2. smears;
    3. puncture;
    4. scraping;
    5. all of the above.
17. For what purpose are microbiological diagnostic methods used :
    1. analysis of microbial and fungal flora;
    2. diagnosis of a specific disease;
    3. determination of sensitivity to antibiotics;
    4. clarification of the diagnosis;
    5. All of the above.
18. Which of the following research methods are used to diagnose bullous dermatoses:
    1. cytological;
    2. immunological;
    3. histological;
    4. all of the above.
19. Indicate what glow gives a healthy mucous membrane when examining its surface in the rays of a Wood lamp.
    1. pale bluish-purple glow;
    2. whitish-yellow glow;
    3. dark brown;
    4. snow-white and bluish.