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ACUTE AND CHRONIC DISEASES OF THE LARYNX

STUDY GUIDE

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The study guide covers the etiology and pathogenesis of diseases of the larynx in the field of otorhinolaryngology, clinical manifestations and surgical tactics of modern diagnosis, comparative diagnosis and treatment. The study guide contains the necessary information that students need to learn theoretical and clinical skills. The publication focuses on the prevention of possible complications in the treatment of laryngeal trachea and bronchial diseases. The study guide is recommended for postgraduate residents of medical universities, students of medical and professional education faculties.

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1 Chapter. BRIEF HISTORY OF ENT DEVELOPMENT OF OTORINOLARINGOLOGY

Subject of study of otorhinolaryngology - diagnosis, treatment and prevention of diseases of the upper respiratory tract and ear depending on the pathology of internal organs, as well as physiology and pathology of the nose, throat, larynx and ear with all their organs and systems. is scientific research about the secret. As an independent medical science, otorhinolaryngology has existed recently, because some modern methods of examination of the ear, throat and nose were known only in the 20th century. In the middle of the 19th century, when medicine already had a history of development, the science of ear, nose and throat diseases did not yet exist.

This does not mean that there were no patients with diseases of the ear, throat and nose, but doctors did not have the opportunity to conduct a simple examination of the ENT organs during the patient's life, at least with a simple eye, due to the fact that they are located in the pit were Doctors were also not aware of the functions of a number of organs or formations. Thus, the role of the tympanic membrane was not clear at the beginning of the 19th century, and although there were "ear doctors" at the time of Galen, no one knows for sure its ability to treat patients with many diseases of the auditory organs. In the writings of Hippocrates, you can find a description of some of the medical techniques used at that time for injuries and diseases of the ear, throat and nose. Some of these methods have common features with modern methods of surgical treatment of ENT patients. For example, Hippocrates recommended removing nasal polyps with a silk thread and a piece of sea sponge. Pulling the polyps from the nasal part of the larynx - through the nasal cavity - Hippocrates separated the polyps from their attachment point. He also knew how to remove tonsils with his index finger. However, Hippocrates, in addition to such practical valuable recommendations, believed that mucus from the nose is a secretion of the mucous membrane of the brain, and it is dangerous to stop it, because it can cause side effects.

The formation of otorhinolaryngology took place step by step and it emerged as an independent medical science, mainly from surgery and therapy. General practitioners were engaged in the treatment of patients suffering from diseases of the ear, throat and nose. It should be noted that at that time, diseases of the ear were mainly the domain of surgeons, and nose, larynx and larynx were the domain of therapists. As information about the

structure of the ENT organs gradually expanded, the need for doctors dealing with diseases of the ear, throat and nose was felt.

The formation of otorhinolaryngology as an independent medical science was helped by mature discoveries of anatomists, physiologists, surgeons and therapists. So, Fallopius (1523-1562) described the labyrinth of the ear, its two windows, the semilunar canals, and the canal of the facial nerve; Eustachius (1563) described the auditory tube, the tube connecting the tympanic cavity with the nasal part of the larynx. He showed the process of eruption of teeth, as well as the structure of milk and permanent teeth. A. Valsalva (1704) studied in detail the structure of the outer and middle ear, described for the first time a disease that causes deafness - otosclerosis, proposed a method of blowing the middle ear. In 1851, A. Corti first described the microscopic structure of the shell's receptor apparatus. In the second half of the 19th century, G. Helmgols formulated the spatial theory of hearing, and G. Bekeshi proposed the hydrodynamic theory of hearing, which has not lost its importance today.

By the end of the last century in Europe, centers for the study of ear, throat and nose pathology began to form. Until now, when talking about some symptoms, methods of researching patients or methods of treatment, the names of Politzer, Toynb, Weber, Mener and others are mentioned, because they made a lot of contributions to the emergence of otorhinolaryngology.

It is impossible not to mention the discovery made in England in 1854 by music teacher M. Garcia. It was he who created the method of examining the larynx in people. Before that, doctors could not examine the vocal cords, the nasal cavity, or the nasal part of the larynx. There was also no otoscopy to examine the eardrum. The method proposed by M. Garcia was accepted by doctors, and it was on the basis of the study of the larynx that the department of laryngology appeared in otorhinolaryngology. Later, methods of using artificial lighting were proposed, which made it possible to examine the depth of the nasal cavity - rhinoscopy began to be performed, and at first a more complicated method - posterior rhinoscopy was proposed, and only after that a nasal mirror (nasal dilator) was invented and another branch of rhinology appeared. Othiatrics was formed later, and at first these specialties existed independently. However, the close genetic, anatomical, and functional interrelationships of the ear, throat, and nose forced these specialties to merge later. Russian physician FK Anrepa's (1884) research on the use of cocaine as a local anesthetic stimulated the further development of otorhinolaryngology. It was anesthesia that made it possible to take a step in

the direction of endoscopic methods of studying the trachea, bronch and esophagus. These research methods and created equipment are associated with the names of V. Brunings, G. Killian. Czech scientist YA. Purkine in 1820 proved the connection between nystagmus of the eyeballs and vertigo, and in 1824 Flurans established the dependence of balance on the position of the semicircular canals of the inner ear. The Viennese scientist F.Politzer (1835-1920) is the founder of the formation of otorhinolaryngology in Europe. G. Schwarz (1835-1910) developed the technique of trepanation of the mastoid septum, and in 1889 E. Küster and E. Saufal completed the development of radical ear surgery, which is still used today.

In Russia, the first major manual covering some issues of ear, throat and nose pathology was written by Professor IFBush of the St. Petersburg Medical and Surgical Academy (1806). He allocated beds for ear surgery patients in the surgical department. It should be noted that the number of patients with ear diseases in Russia was very high. In pre-revolutionary Russia, about 15% of army recruits were rejected precisely because of ear diseases. At that time, patients with diseases of the ear, nose and throat were not given practical help, but at the end of the 19th century, there were already separate specialized clinics in Europe. Practitioners in Russia were very ignorant of the nature of ear diseases. Among them, there was an opinion that it is impossible to stop pus from the ear, otherwise an intracranial complication may occur. NI Pirogov in his book "The beginning of general military field surgery" gave clear recommendations for the prevention of laryngeal stenosis and supported tracheotomy. His anatomical studies conducted on frozen corpses made a great contribution to the study of the topographical anatomy of the head and neck organs.

In 1892, the first ENT clinic combining three specialties was created in Russia. Academician NP Simanovsky (1854-1922) established a single department of ear, throat and nose diseases at the Military Medical Academy in St. Petersburg. NP Simanovsky greatly contributed to the formation of national otorhinolaryngology and created the first school of otorhinolaryngologists in Russia. The first clinic in Moscow was opened in 1896 and was equipped at the level of the best European clinics. Its first director, Professor SF Stein, has done a lot of research on the problems of the auditory labyrinth. In general, in pre-revolutionary Russia, bed capacity was very limited - there were five ENT clinics. Since 1922, the teaching of otorhinolaryngology has become mandatory for all medical faculties.

In the last century, among the otolaryngologists of the former Soviet Union, famous scientists, organizers of the educational process, outstanding surgeons who contributed to the development of otolaryngology with their work, created their own schools, appeared: AF Ivanov and LI Sverzhevsky (Moscow) , LT Levin (Leningrad), MF Sytovich (Saratov), VI Voyachek (Leningrad), BS Preobrazhensky (Moscow), IB Soldatov (Samara), VT Palchun (Moscow), YU.M. Ovchinnikov (Moscow), MR Bogomilsky (Moscow), GZ Piskunov (Moscow) Among them. In the Russian Federation in recent decades, otorhinolaryngology has become the most important branch of medicine, a wide network of medical and scientific institutions has been formed in the country, where more than 10 thousand otorhinolaryngologists work. There are two large scientific and practical centers in Moscow (federal and Moscow), and the Research Institute of Otorhinolaryngology in St. Petersburg. Currently, there are departments of otorhinolaryngology in the country's higher medical educational institutions - universities, academies, which serve as large educational and scientific-practical centers, where students, clinical residents, graduate students and doctoral students are trained. All dental faculties of medical universities teach ear, nose and throat diseases.

2 Chapter. larynx, trachea and bronchus

2.1. Clinical anatomy of the larynx

Larynx *(voice box)* located in the front of the neck, between the tilos bone and the trachea (Pic. 1,2).

It is a hollow organ formed by tendons, ligaments and muscles. The larynx is in anatomical communication with the thyroid gland and its neck, neck, larynx and large vessels of the esophagus.

The skeleton of the larynx is made up of bones: 3 odd or large and 3 even or small (Pic. 3).

To the odd uncle:

Ring-shaped cartilage (cartilago cricoidea);

Thyroid cartilage (cartilago thyroidea);

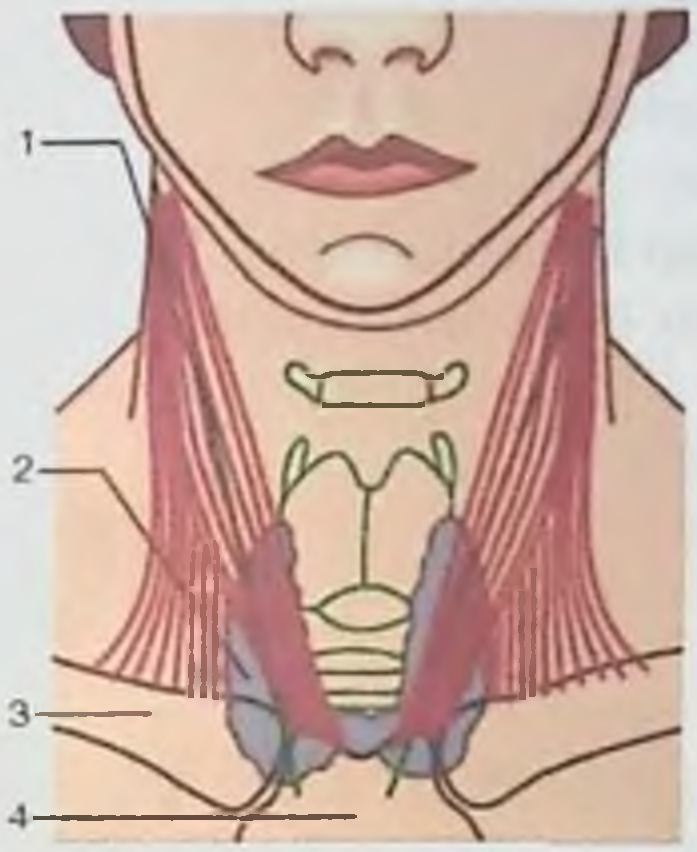
Over the larynx (cartilago epiglottica).

Annular condyle is the lowest condyle of the larynx attached to the first half-ring of the trachea. It is the basis of the brain. Its name is derived from its resemblance to a ring.

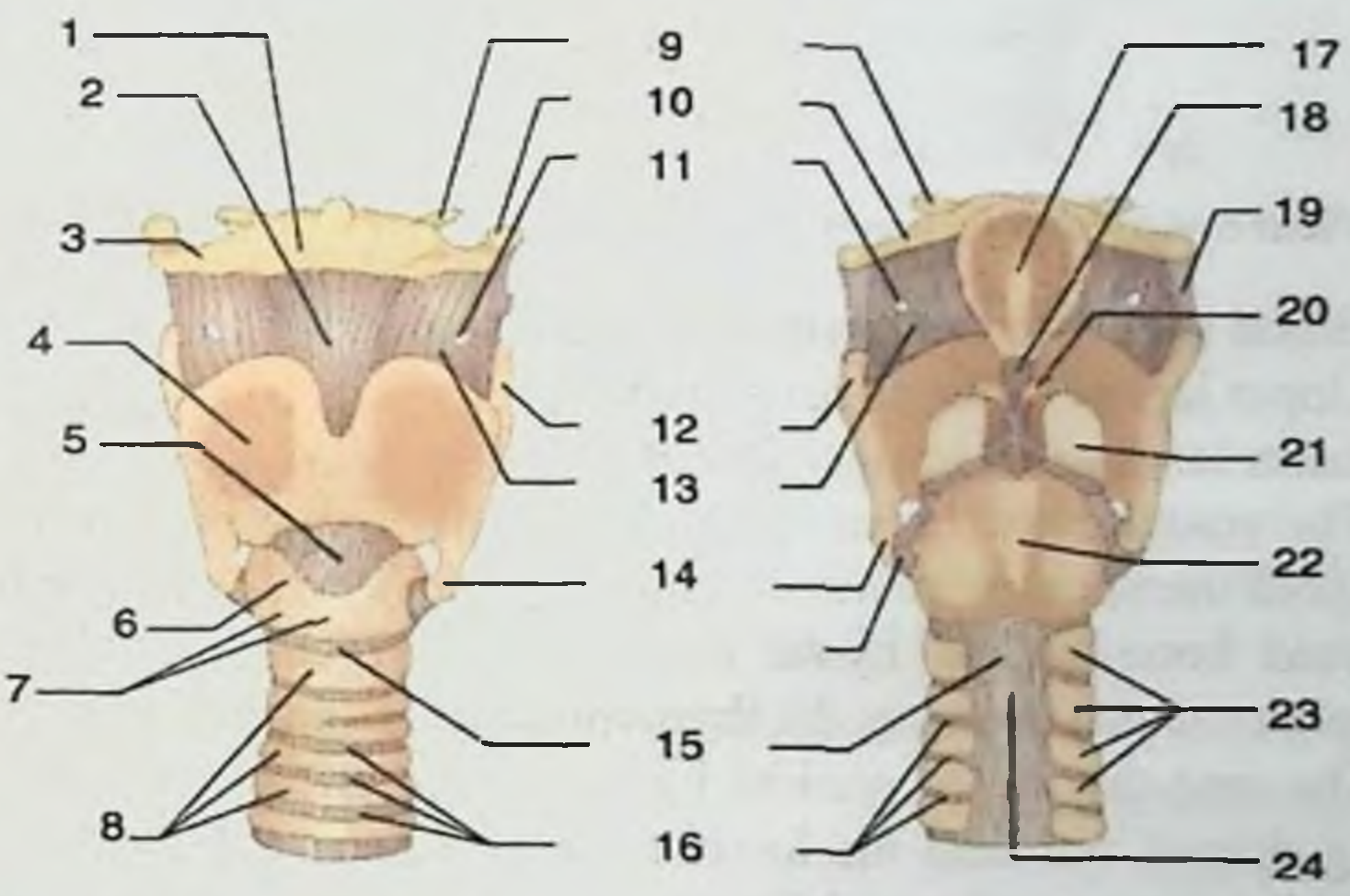
Picture1.Larynx location

With the help of joints, the ring-shaped toe is connected to the next paired thyroid toe, which has two almost rectangular plates, the front of which approaches at an angle and forms a bump of the larynx. It is more noticeable in men. In the upper part, the plates have upper branches, with the help of which they are connected to the ankle bone, and the lower part is

attached to the ring-shaped ankle. The third ridge is located above all parts of the supralarynx and can be seen when the root of the tongue is pressed down.



Picture. 2.Projection of the larynx on the neck: 1 - thoracolumbar muscle; 2 - thyroid gland; 3 - life span; 4 – sternum



Picture. 3.Laryngeal skeleton: 1, 3, 9, 10, 12 - tilosti bone; 2, 13, 19 – thyroid-tylost joint; 4, 14 – thyroid gland; 5 – sphenoid-annular ligament; 6, 7, 22 – ring-shaped uncle; 8, 23 – tracheal ring; 11 - hole for the vascular-nerve bundle of the larynx; 15 – ring-tracheal ligament; 16 - circular sections of the trachea; 17 – lid on the larynx; 18 - thyroid-supralaryngeal ligament; 20 – horn-shaped uncles; 21 – cup-shaped uncles; 24 - the membranous part of the trachea

If the annulus is the basis of the larynx, the thyroid gland protects the larynx cavity from external compression, then the larynx prevents saliva and food mass from entering the respiratory tract during swallowing. cover".

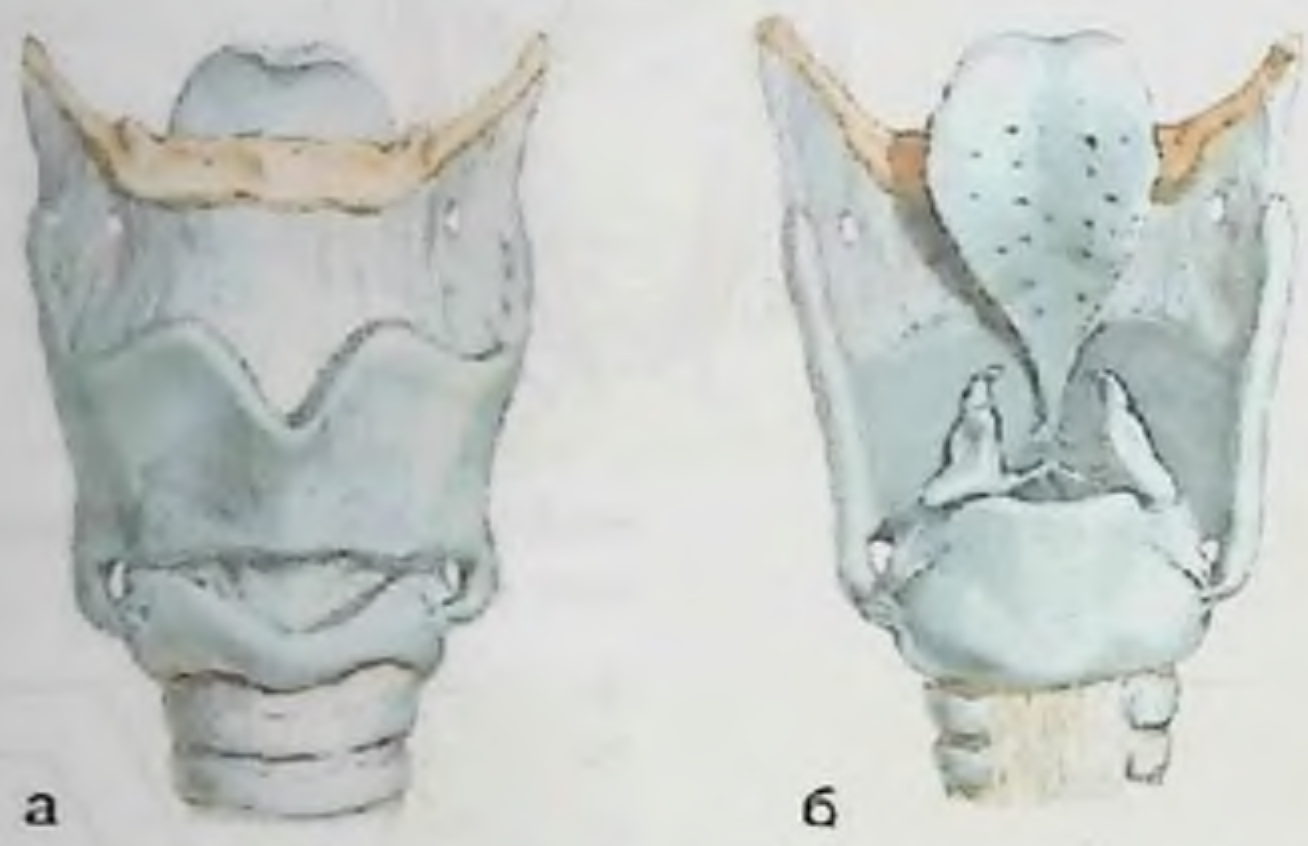
A pair of uncles:

cartilagines arytenoidea;

cartilagines corniculatae;

cartilage (cartilagines cuneiformes).

The main ligaments of the larynx (Pic. 4)



Picure:.4.*Bones and bones of the larynx: front view (a) and back view (b)*

Blood supply to the larynx is carried out through two veins:

Upper larynx (a. laryngea superior);

lower larynx (a. laryngea inferior).

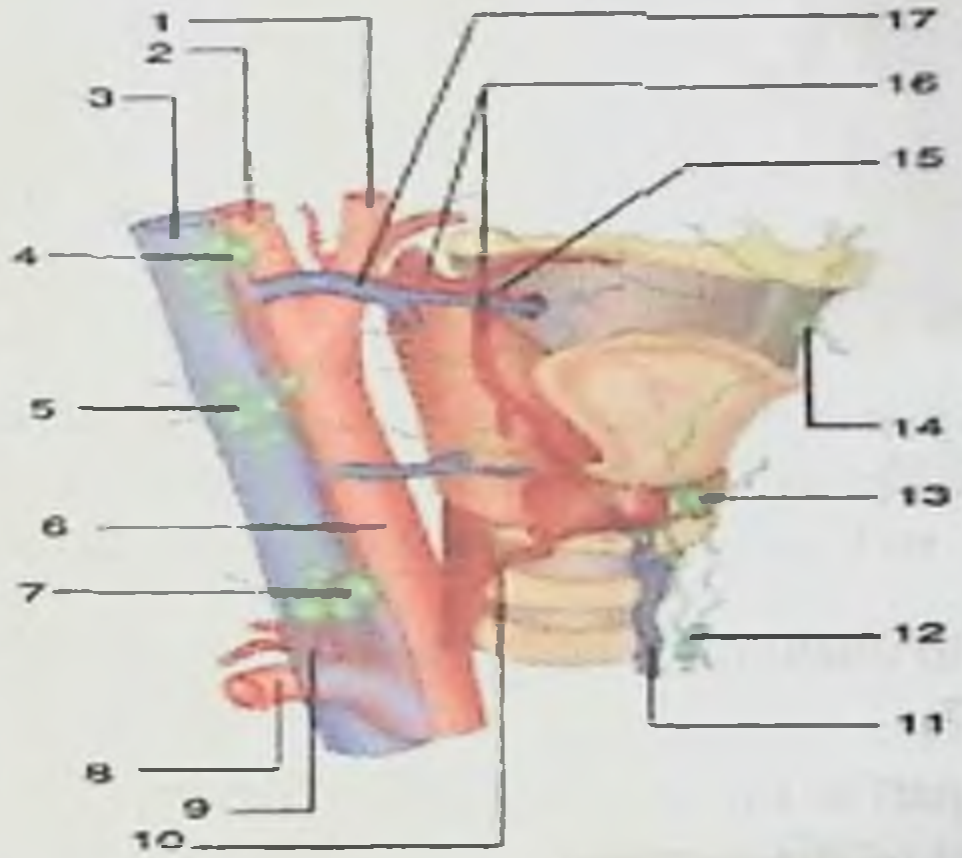
The middle and lateral parts of the thyroid gland are parts of the thyrohyoid membrane (membrana thyrohyoidea), with which it hangs from the hyoid bone to the hyoid bone. The thyroepiglottic ligament (lig. thyroepiglotticum) connects the thyroepiglottis to the thyroid gland.

The ring-thyroid or conical ligament (lig. cricothyroideum) connects the ring-shaped arch and the lower edge of the thyroid. At the same time, there are ligaments such as sublingual ligature (lig. hyoepiglotticum), annular branch (lig. cricotracheale) and lig. aryepiglottica.

The vocal cords are attached to the vocal folds and the main part of the internal muscles that open and close the vocal or respiratory opening (lateral ring, ring, oblique ring, transverse ring, voice, anterior ring thyroid). All of these muscles close the vocal folds, and only one muscle, the posterior ring, opens it. The external muscles of the larynx are represented by three pairs of

muscles: thoraco-thyroid, thoraco-tylos, and thyro-tylos, which are mainly innervated by the vagus nerve. The mucous membrane of the larynx serves as a continuation of the mucous membrane of the nasal cavity and throat. The true vocal folds are flat, other sections are covered with ciliated epithelium. In some parts of the larynx, the mucous layer is clearly developed (lingual surface of the larynx, vestibular folds, subglottic cavity). Here, swelling of the larynx develops, making it difficult to breathe and swallow.

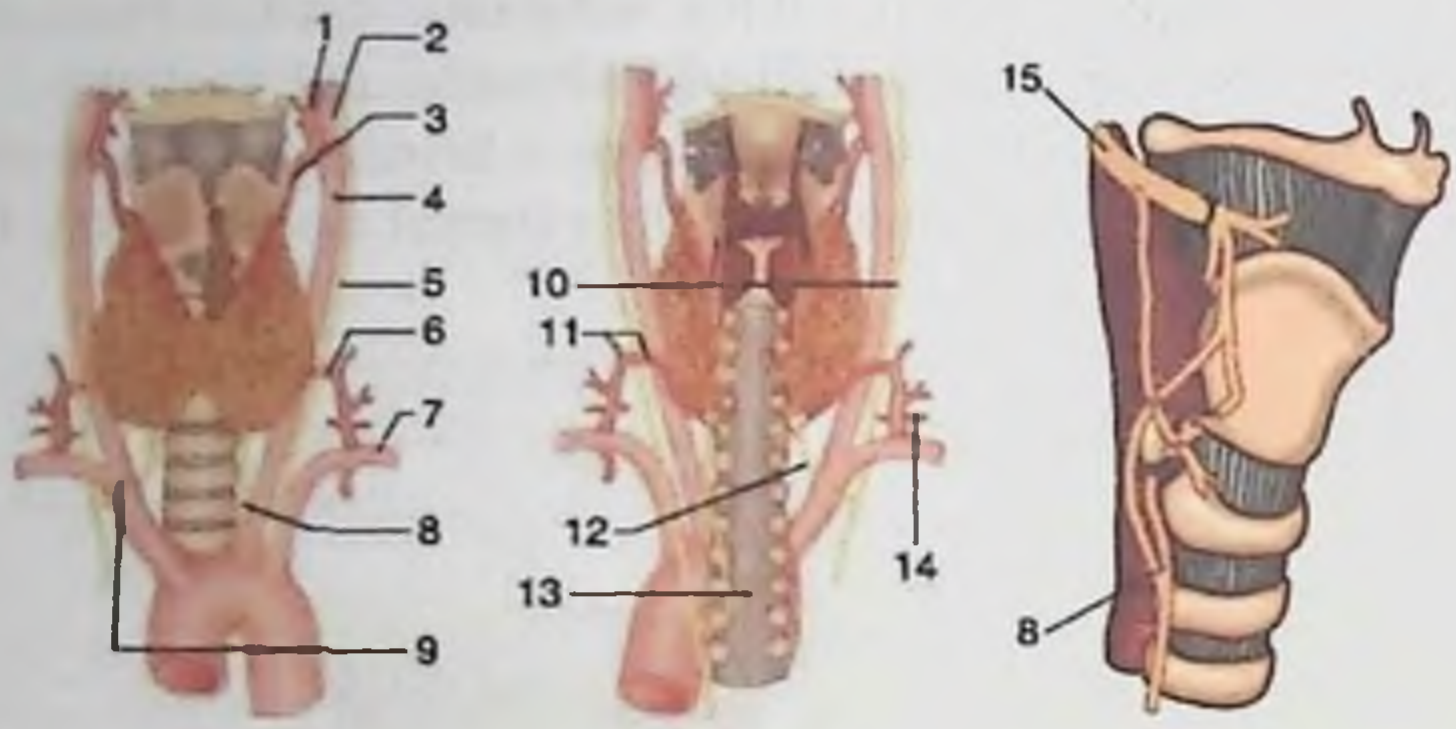
The superior carotid artery serves as a branch of the superior thyroid artery, which in turn originates from the external carotid artery in the neck (Pic. 5).



Picture. 5.*Blood supply of the larynx: 1 – external carotid artery; 2 - internal carotid artery; 3 – vena cava; 4, 5, 7 – neck lymph nodes; 6 – common carotid artery; 8 – subvertebral artery; 9 – thyroid-cervical column; 10 - lower laryngeal artery; 11 – lower thyroid vein; 12, 13, 14 – pre-tracheal lymph nodes; 15, 16 – upper laryngeal artery; 17 - upper pharyngeal vein*

The innervation of the larynx is carried out by the superior laryngeal nerve (a branch of the vagus nerve), which enters the larynx cavity through the opening of the thyroid-tylosti membrane (n. laryngeus superior). Another branch of this nerve - motor, innervates a single muscle - the anterior annular thyroid, which passes the thyroid gland from the front and thereby stretches the vocal cords, which affects the clarity of the voice. The remaining muscles of the larynx are innervated by the inferior laryngeal or recurrent nerve*(n. laryngeusinferior)*.

The left recurrent nerve bends around the arch of the aorta, the left recurrent nerve goes up to the neck, lies in the groove between the esophagus and the trachea, the right side bends around the subvertebral artery, goes up to the neck, to the muscles of the larynx approaches (Picture6). Compression or damage to these nerves affects breathing and voice formation.



Picture6.*Innervation of the larynx: 1, 3, 6, 11, 14 – thyroid artery; 2, 4 – common carotid artery; 5, 10 – stray nerve; 7 – subvertebral artery; 8, 12 – lower occipital nerve; 9 – vertebral artery; 13 - trachea; 15 - upper laryngeal nerve*

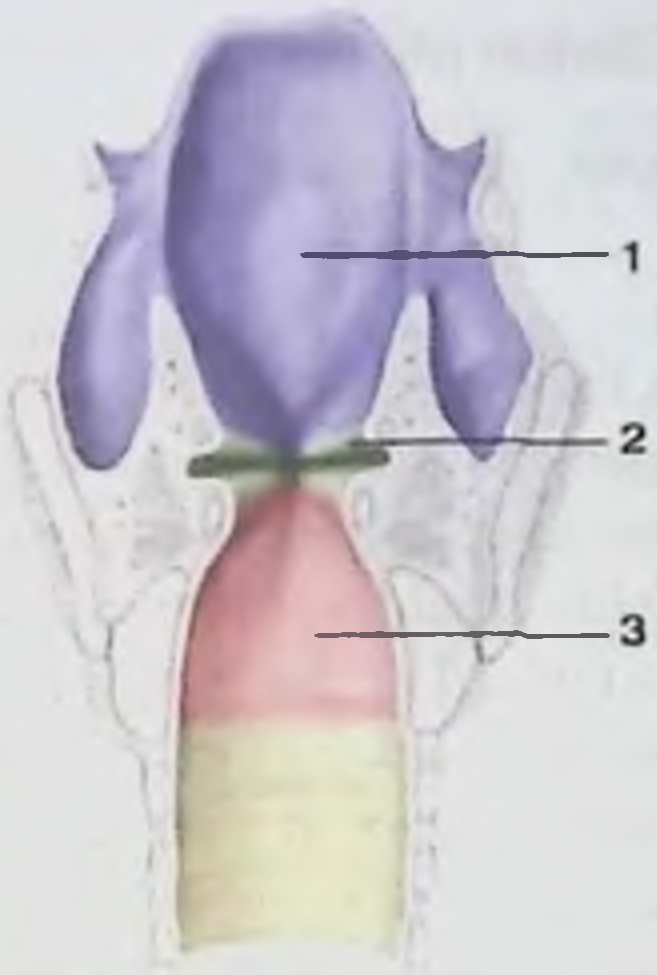
According to anatomical and clinical signs, the pharynx is divided into three parts (Pic. 7):

The upper part is the hilt*(vestibulum larynx)*- from the entrance to the larynx to the level of the vestibular folds;

middle - voice crack*(rhyme vocalis)*- level of vocal folds;

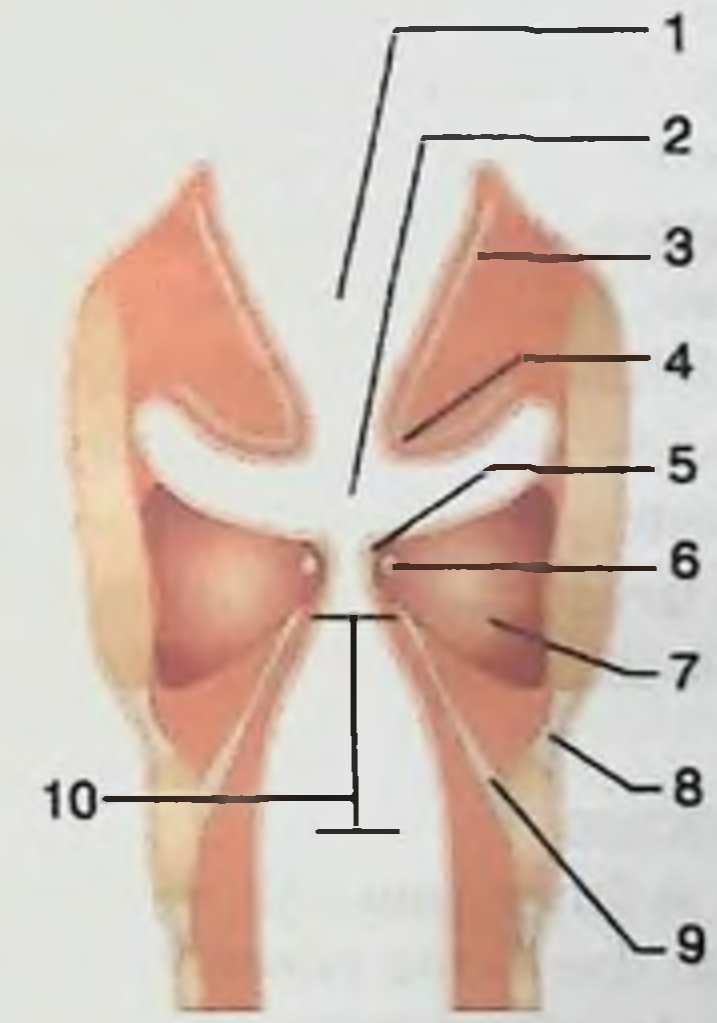
lower - subvocal area - from the vocal folds to the trachea.

The vestibular folds of the larynx serve as a duplication of the mucous membrane. The basis of the vocal folds is the vocal muscles. The color of the vocal folds is due to the dense arrangement of squamous epithelial cells on their upper surface and the presence of an elastic membrane under them.



Picture.7.Topography of laryngeal floors: 1 - laryngeal corridor; 2 - voice crack; 3 - fold area

Between the corridor and the vocal folds there is a space - the laryngeal ventricle (Pic. 8).



Picure:8.Laryngeal folds:

1 – larynx hall; 2 – larynx ventricles; 3, 4 - vestibular folds; 5, 6 – vocal fold; 7 - vocal fold muscles; 8 - ring-shaped membrane; 9 - elastic cone; 10 - the area under the fold.

2.2. Clinical physiology of the larynx

The larynx performs respiratory, protective and sound-producing functions.

Breathing function

Air passes through the lungs during inhalation and exhalation. In this case, the vocal fold is open and has a lateral triangular shape, and its width changes depending on the force of inhalation and exhalation. During quiet breathing, the vocal folds slightly expand and narrow due to small movements of the vocal folds. The narrowing and expansion of the vocal folds is carried out due to the addition of the ring-glottis joints and the work of the internal muscles of the larynx. It regulates the amount of air entering the lungs. The larynx not only acts as an air-passing tube, but also takes an active part in the breathing process, regulating the flow of air to the lungs, depending on the quality of the inhaled air. Due to the reflexogenic zones, the correlation depth is interrelated and narrows during poor air supply.

Protection function

The protective function of the pharynx is carried out due to the presence of three reflex zones of the mucous membrane with temperature, chemical and impact sensitivity. The zones extend to the laryngeal surface of the larynx, the vocal folds, and the space below the vocal folds. Due to the fact that these zones are exposed to harmful compounds (dust, gases), foreign bodies (saliva, food mass, etc.) in the breathing air, the larynx cavity instantly narrows, and the cough reflex appears. will lead to. The spasm prevents the foreign body from entering the lower respiratory tract, and the reflex cough helps to expel it. Protecting the lower respiratory tract from the ingress of food, while raising the larynx during swallowing, it closes the vestibular and vocal folds and bends to the larynx.

Voice shaping function

Sound formation is formed not only during the passage of inhaled air into the larynx, but also due to the vibration of the vocal folds during the active work of the muscles of the larynx. The vocal folds during phonation vary in length and width. Only the free edges of the folds can change depending on the timbre of the sound produced by the larynx, or they all differ in width. People with a low voice (bass, contralto) differ in the length

and width of the vocal folds compared to people with a high voice (tenor, soprano). Sound is produced by the work of the entire neuromuscular apparatus of the larynx, trachea, bronch, lungs, diaphragm and abdominal press.

The process of sound formation is a voluntary action that is subject to our consciousness. Nerve impulses from the larynx are directed to the cerebral cortex along afferent fibers, and from there, along efferent fibers, regulate and coordinate the complex work of the voice apparatus.

Loudness depends on the frequency of vibration of the vocal folds, which in turn is related to their length and tension. The strength of the voice, its volume is determined by the force of exhalation, the level of tension of the vocal folds and their vibration amplitude. The timbre or color of a voice is explained by the addition of many overtones to the main tone of the voice. The vocal folds vibrate like strings. Overtones, when combined with the main tone, give the voice a suitable timbre.

The voice sound generated in the larynx is amplified, and the sounds of Upper and Loudness - which are distinguished by strength and timbre, combine to form a sound and find their final form in the lower resonators. The upper resonators include the larynx cavity, mouth, nose and skull, paranasal cavities. The chest serves as a lower resonator. In resonators, the sound will have its own timbre. The second depends on the age, gender, individual characteristics of the vocal and speech apparatus, as well as the condition of the resonators.

Speech is the result of the activity of the second signal system (especially human, higher thinking). The speech itself is controlled by the auditory analyzer, which plays an important role in the development of normal speech in the child.

Whispered speech occurs due to the friction of the air stream against the walls of the upper respiratory tract and oral cavity, and the vocal folds do not close completely.

2.3. Methods of examination of the throat

Stage I - external inspection and palpation

External examination of the larynx area allows to assess its asymmetry in tumors, inflammatory processes in the larynx tissues. An important method of diagnosis is palpation of the larynx, its active displacement in the

horizontal plane, which allows you to decide whether there is a hum of the moving larynx (if not, a tumor is suspected will be done).

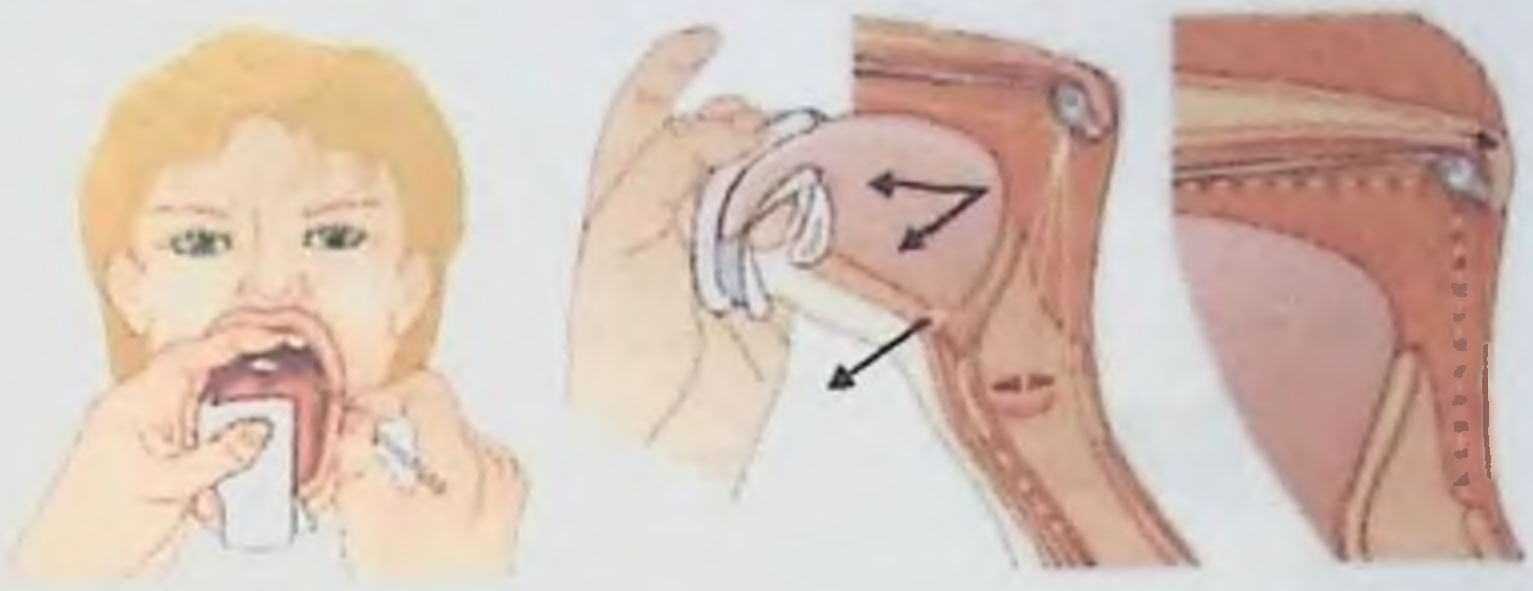
Stage II - indirect laryngoscopy

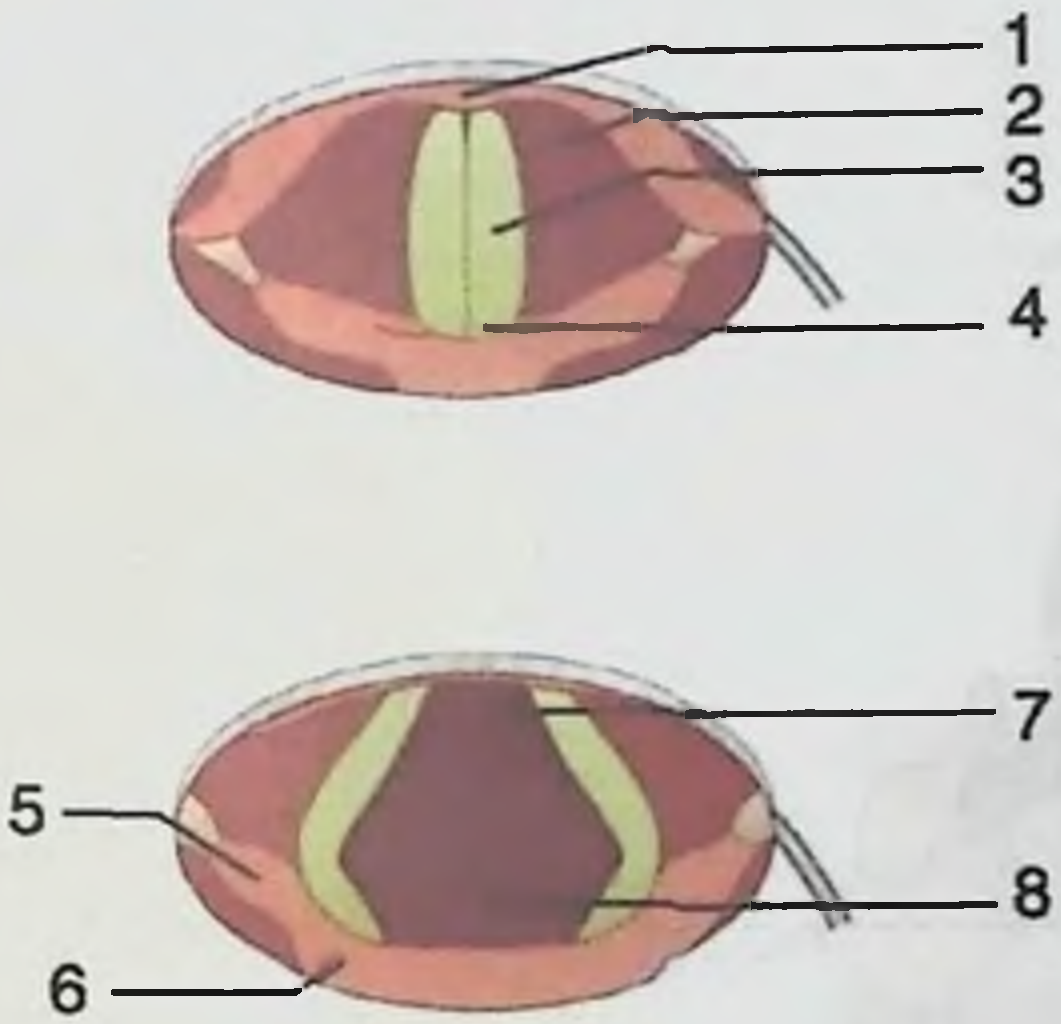
Indirect and direct laryngoscopy methods should be used to examine the larynx cavity. Direct laryngoscopy is performed with the help of special devices with laryngoscopes with automatic lighting, using the laryngoscope on the handle of indirect laryngoscopy.

Indirect laryngoscopy (hypopharingoscopy). The patient is in a free sitting position, the light source is at the level of his right ear. First, you need to catch the "rabbit", then slightly heat the glass of the throat, ask the patient to stick out his tongue, wrap it with a napkin and fix it in this position. The patient should take a deep breath through the mouth. At this time, with the mirror surface down, it is inserted into the oral cavity until it touches the soft palate (Pic.9). The patient is asked to pronounce the sounds "i .. i .. i". This allows you to see the larynx during breathing and phonation. Pay attention to the color of the laryngeal mucosa, the color of the vocal folds, their mobility and closure during phonation. The symmetry of the movement of folds is noted.

With an increased reflex, they are performed by spraying an anesthetic solution (lidocaine) on the mucous membrane of the throat, the back of the throat and the root of the tongue. You can use a special cotton pad for application.

Indirect laryngoscopy may not always be sufficient to diagnose the disease. In such cases, we can see the larynx using a rigid laryngoscope (Pic. 10.) or a flexible fibrolaryngoscope (Pic. 11.), or using a special microscope directly using a microlaryngoscope (Pic. 12., Pic. 13.).

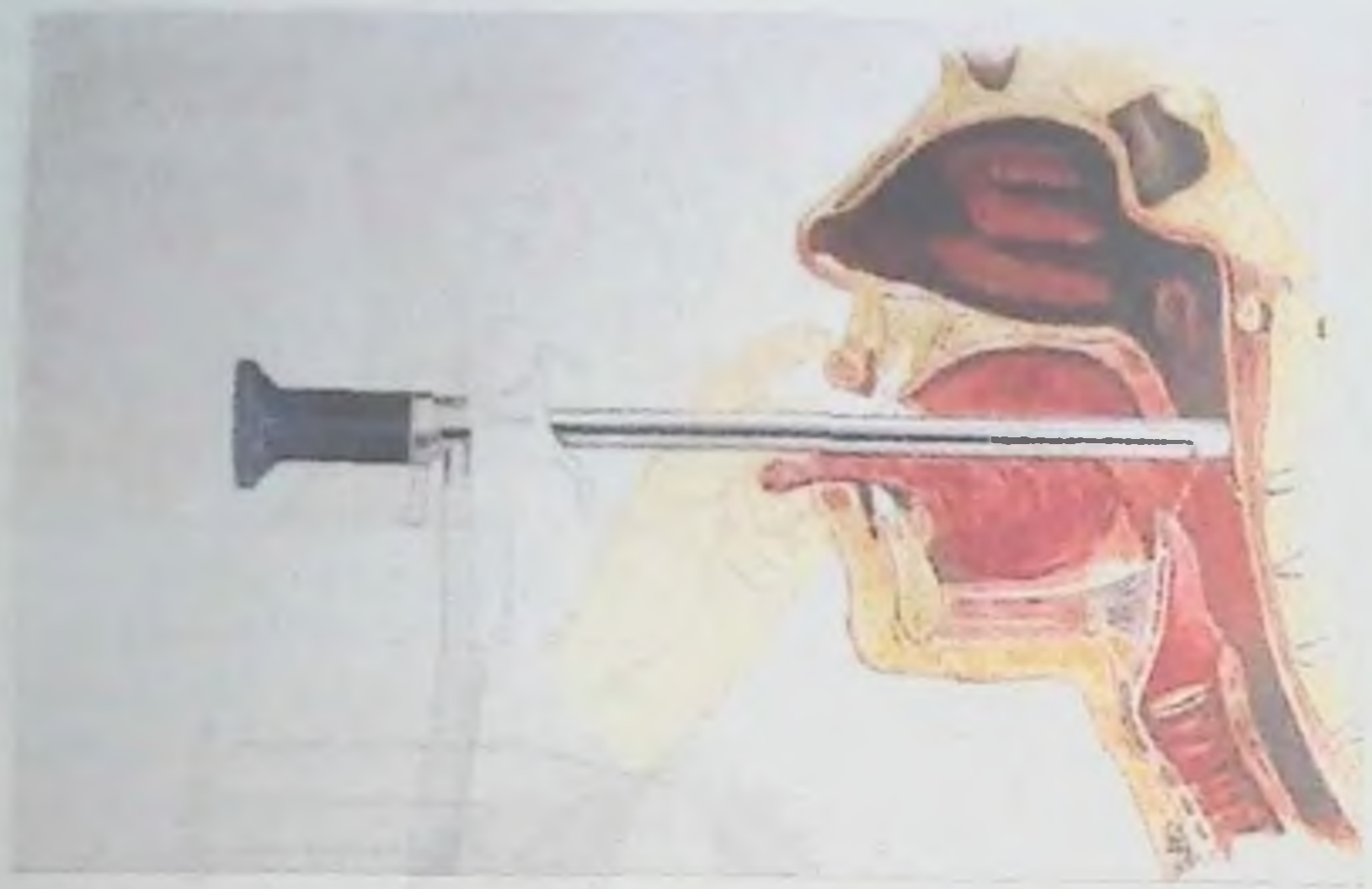




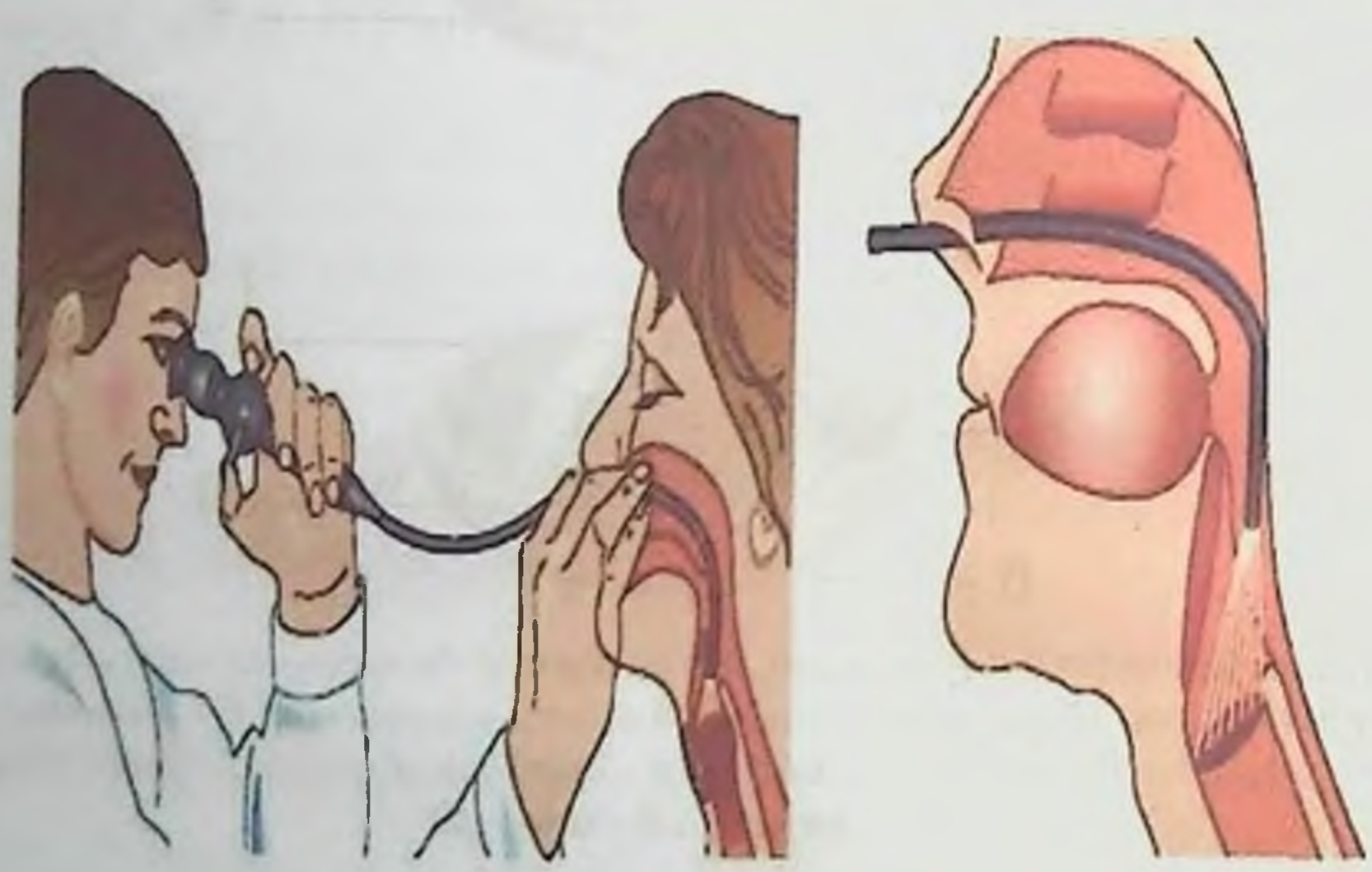
Picture. 9.*In indirect laryngoscopy, the location of the laryngeal mirror in the oral part of the larynx. Image of the larynx in indirect laryngoscopy: 1 – above the larynx; 2 – vestibular folds; 3 – vocal folds; 4, 6 – cup-shaped spigot; 5 – folds above the larynx; 7, 8 - voice slit*

X-ray of the larynx

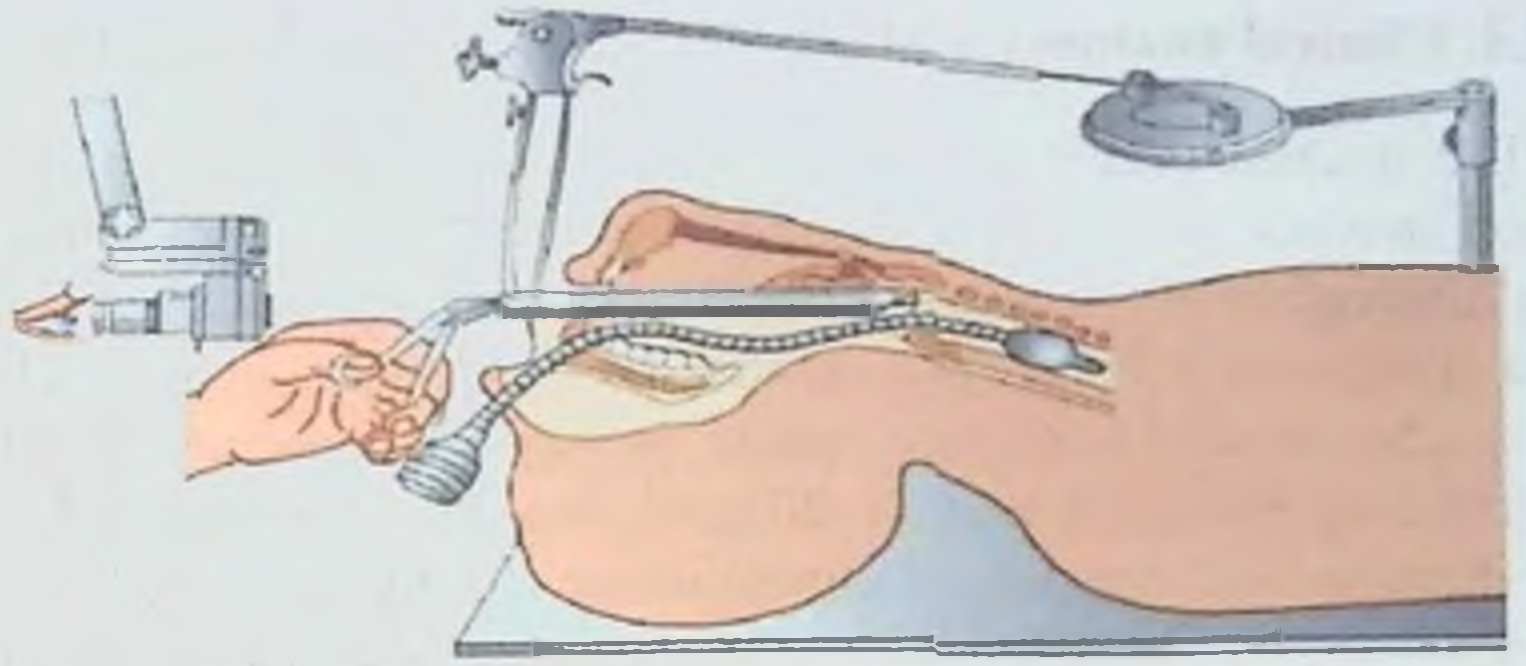
X-ray examination of the larynx, especially tomography performed on the frontal surface, is of great importance in clarifying the diagnosis. As an additional method, it is used to determine the ossification of the larynx, the shape of the air column, the condition of the larynx ventricles, foreign bodies and tumors. Laryngeal CT has high information. This method can provide information about the activity of all parts of the throat

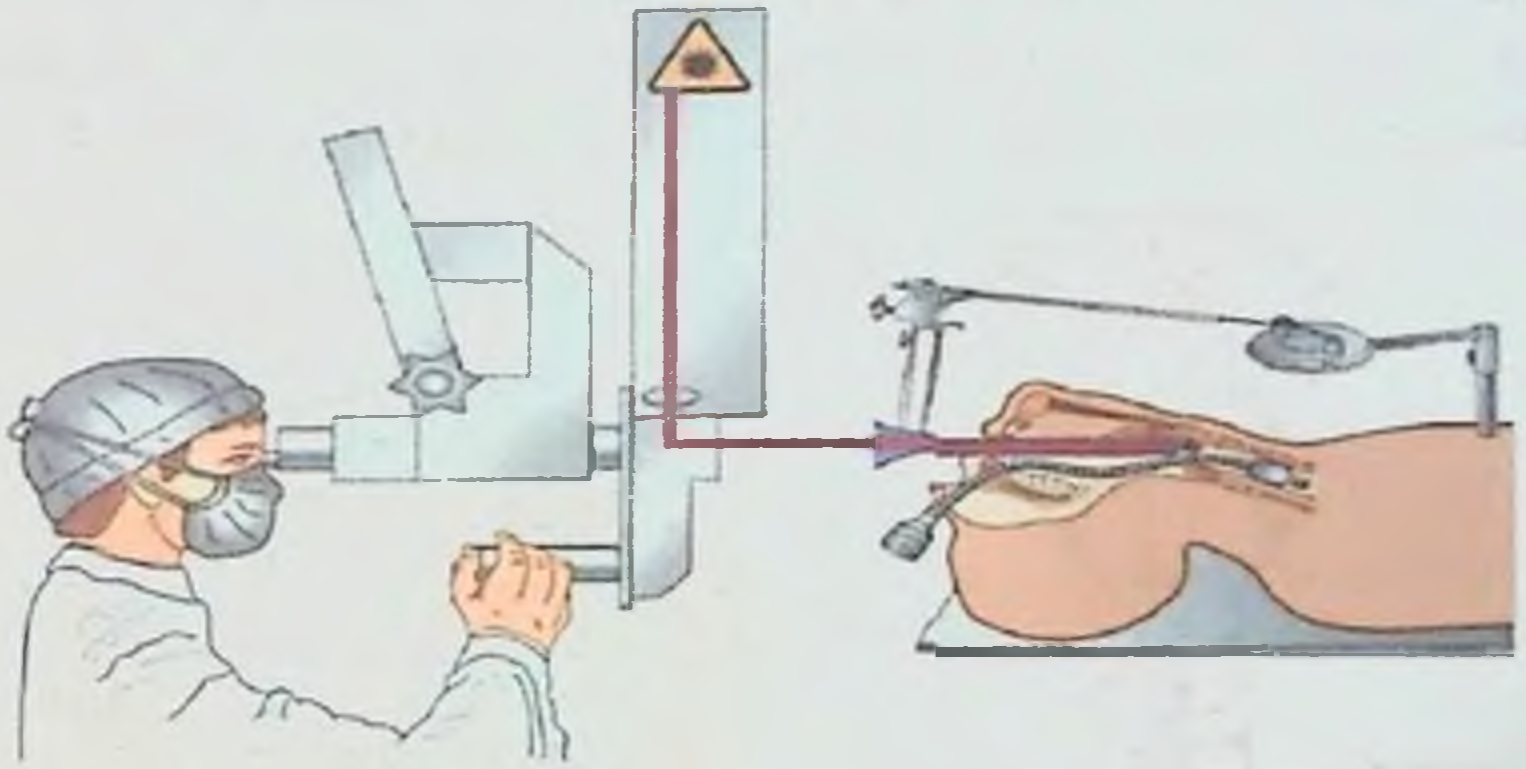


Picture10.*Examination of the larynx using a rigid laryngoscope*



Picture. 11.*Examination of the larynx using a flexible laryngoscope*



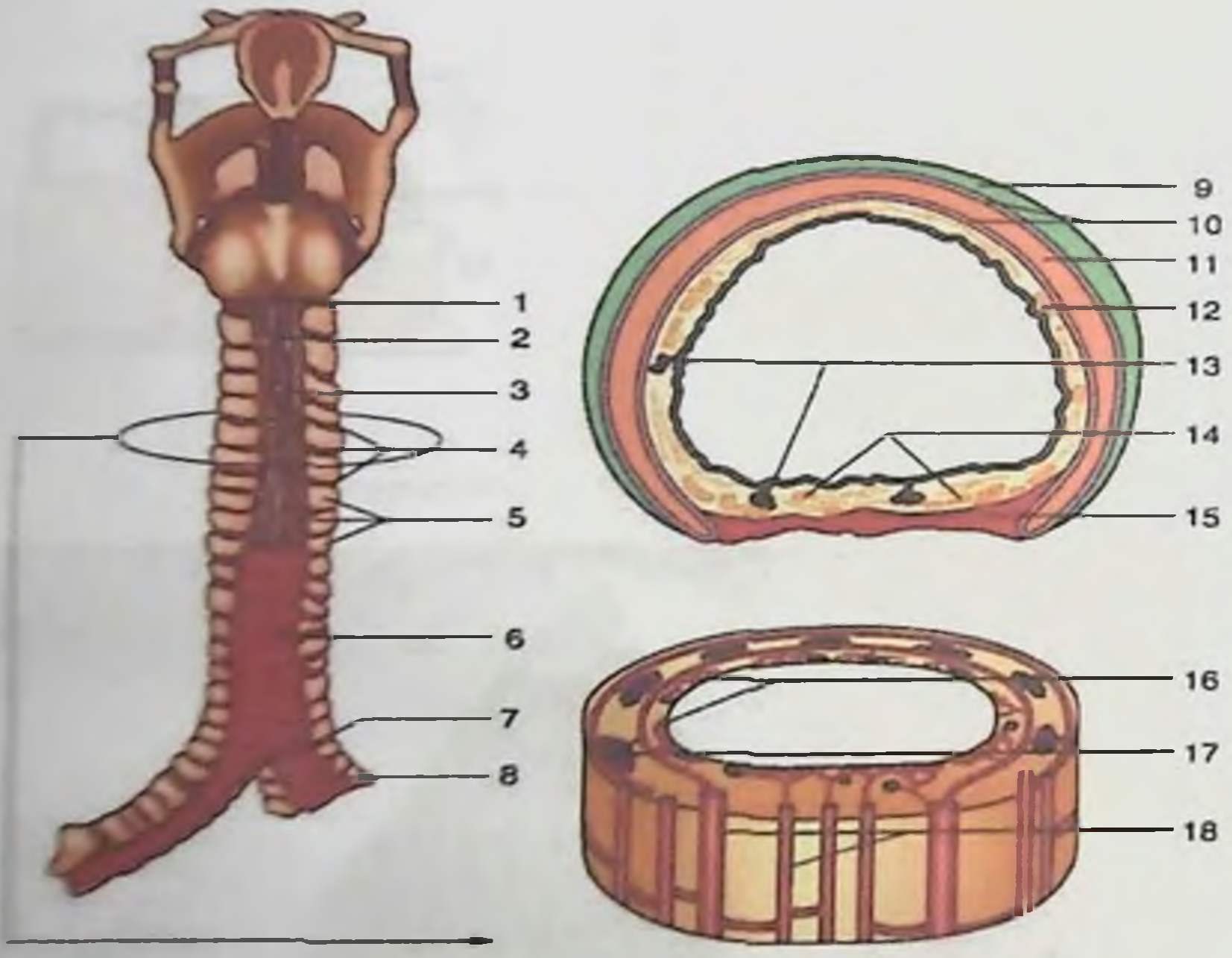


Picture. 12.*Direct microlaryngoscopy*

Picture. 13.*Image of the larynx in microlaryngoscopy*

2.4. Clinical anatomy and physiology of the trachea and bronch

The trachea (trachea) serves as a direct continuation of the larynx, which is an empty elastic tube that begins under the annular groove and ends with a bifurcation at the level of the IV thoracic vertebra, dividing into two bronch - right and left (Pic. 14). At the place of division in the tracheal space there is a bifurcation - (carina) visible during bronchoscopy. The trachea is 10-12 cm long and consists of 16-20 semi-rings. The back wall of the trachea is membranous and consists of fibrous tissue closely connected with the wall of the esophagus. The bifurcation of the trachea occurs at the level of the V thoracic vertebra. The neck of the trachea is covered by the neck of the thyroid gland. In the cavity between the trachea and the esophagus, the recurrent laryngeal nerves pass and give branches to the walls of the trachea.

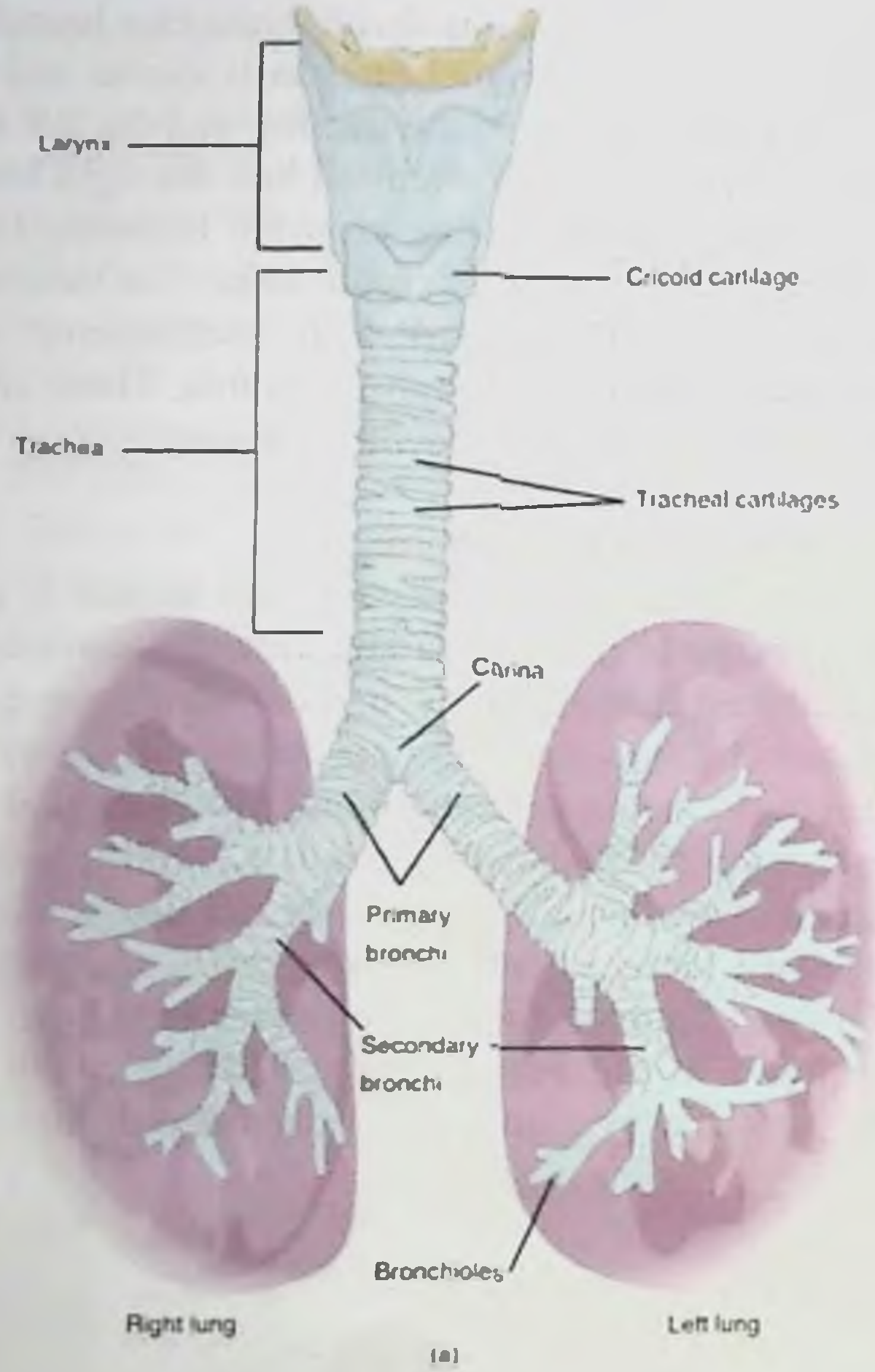


Picture14. Anatomy of the trachea: 1 – annular-tracheal ligament; 2, 3 - membrane part; 4 - ring lengths; 5 - tracheal uncle; 6 - tracheal muscles; 7 – tracheal bifurcation; 8 - right main bronchus; 9 - adventitia; 10 - perichondrium; 11 - uncle; 12 - mucous membrane; 13 - tracheal glands; 14 - membrane part; 15 - muscles of the trachea; 16 - internal vascular network; 17 - external vascular network; 18 - vessels of the trachea

The bronch. The trachea is divided into two bronch, each of which is designated as the main. the right bronchus is shorter and wider than the left, and serves as a continuation of the trachea, and the left side protrudes more at an angle, so foreign bodies often fall into the right bronchus. From these bronch, branching and narrowing bronchal branches leave, which in turn divide several times and pass into broncholes. The mucous membrane of the trachea and bronch is covered with multilayered cylindrical ciliated epithelium, the hairs of which move upwards. There are many glands that secrete protein-Mucus in the mucous membrane.

Physiology of trachea and bronch.

The main function of the trachea and bronch is air conduction. The mucous membrane of the trachea and bronch is covered with multilayered cylindrical ciliated epithelium, the hairs of which move upwards. There are many glands in the mucous membrane that secrete protein-mucous secretion. The presence of ciliated epithelium and mucous glands helps to eliminate airborne secretions, inflammatory exudate, and mechanical, chemical, and bacterial compounds, which, in turn, act as a unique defense mechanism of the body against foreign bodies. mostly expelled through the cough reflex. Cough plays an important role in the release of viruses and disease-causing pathogenic flora in the human body, and the cough reflex also has an important protective function for the prevention of aspiration pneumonia.



(a)

*Picture15. Tra*chea and bronch.

Physiology of trachea and bronch.

The main function of the trachea and bronch is air conduction. The presence of ciliated epithelium and mucous glands helps to eliminate airborne secretions, inflammatory exudate, and mechanical, chemical, and bacterial impurities. The cough reflex also has an important protective function.

2.5. Methods of studying the trachea and bronch

Examination of the trachea and bronch is carried out using both flexible, fiber optic and rigid bronchoscopes. Bronchoscopy through the patient's

mouth is called Upper, and through a tracheostomy, lower. Tracheobronchoscopy is a method of direct examination of the trachea and bronch. At the same time, it is possible to diagnose, perform a biopsy, remove a foreign body, remove a small benign tumor, treat bronchectasis and lung abscesses, bronchal tuberculosis. Bronchoscopy is performed in a modern form using a flexible bronchoscope, which has an instrumental channel for biopsy or removal of foreign bodies (Pic. 16-18). X-rays and X-rays are very important for detecting a metal foreign body in the bronchus. It is also possible to identify a non-contrast foreign body in the bronchus with indirect signs.

Thus, with the complete closure of the bronchus, which leads to the development of atelectasis, signs of atelectasis of the corresponding segment of the lung appear on the X-ray.

1. MRI and CT scan of the breast
2. X-ray chest
3. Bronchoscopy and trachea
4. Immuno laboratory tests

Picture16. MRT and MSCT examination of the chest area

Picture17. X-ray examination of the chest area

Picture18. Immuno-laboratory tests

2.6. Laryngeal diseases

Diseases of the larynx, which can be associated with the pathology of the dental-jaw system, are mainly caused by home injuries and combat injuries, if the jaws and throat are damaged, help with the onset of airway stenosis will be needed. Sometimes it is necessary to provide urgent help due to the onset of laryngeal stenosis under the influence of intolerance to some drugs used in dentistry, for example, iodine solution. In addition, some

inflammatory diseases of the larynx in childhood can lead to a situation where a doctor of any specialty should provide the necessary assistance.

Acute laryngitis

One of the most common diseases of the mucous membrane of the larynx is acute laryngitis*(acute laryngitis)*is considered As an independent disease, acute laryngitis can occur as a result of excessive raising of the voice. But in most cases, it is accompanied by acute respiratory diseases, flu. Sometimes the disease is associated with exposure to dust and gases when working in industrial enterprises. Changes in the mucous membrane of the larynx in acute catarrhal laryngitis are characterized by swelling of the mucous membrane, clear hyperemia of all parts of the larynx, which is especially noticeable in the true vocal folds (Pic. 19). Usually, the vocal cords have a sharp and thin edge; during phonation they stick tightly together. With inflammation, the folds thicken, their edges become soft, the elasticity and closing ability of the folds changes.

Inflammatory secretions accumulate in the spaces of the respiratory tract, causing coughing, which further interferes with the closing of the folds.

Symptoms. Voice disturbance, sore throat, cough. Dysphonia (voice disorder) can be of different degrees. The voice will be rough, low, hoarse. Aphonia - that is, loss of voice may also occur. The same hyperemia of all parts of the larynx is detected in the laryngoscope.

Picture: 19.*Acute laryngitis*

Treatment. Voice mode, that is, the prohibition of speaking loudly. If the patient's profession is related to the loading of the voice, then it is necessary to exclude from work until the voice function is fully restored. Diet plays a big role in treatment - it is forbidden to eat cold, very hot, spicy food. Warming of the mucous membrane of the throat is provided by drinking warm milk, heated mineral water, heated compresses on the neck. A hot foot bath, steam inhalation can be prescribed. Antibiotics are most effectively used in the form of aerosols, in particular, acrosol benzylpenicillin, fusafungin (bioparox). Alkaline inhalations are also used to loosen and loosen mucus in the larynx, which reduces coughing. In inflammatory processes, drugs that reduce the permeability of the walls of blood vessels are used [promethazine (pipolfen), diphenhydramine (dimedrol), chloropyramine (suprastine), calcium chloride], mustard is used as a distraction agent for the flounder muscles.

With an increase in body temperature, intoxication, general antibacterial therapy is prescribed - penicillin drugs, cephalosporins, macrolides.

Subfolding laryngiti s*(laryngitis subchordalis)*-acute laryngitis with a predominant localization of the process in the voice area of the larynx. They are usually observed in children up to 5-8 years old, which is related to the structural features of the vocal tract.

In young children, the loose tissue under the vocal folds is highly developed and easily reacts to exposure to an infectious agent. The narrowness of the laryngeal cavity in children contributes to the development of stenosis. When the child is in a horizontal position, swelling increases due to blood flow, so the patient's condition is worse at night.

Clinical appearance.

The disease usually begins with inflammation of the upper respiratory tract, nasal congestion and discharge, subfebrile fever and cough. The general condition of the child during the day is very satisfactory. In the evening, a sudden attack of suffocation begins, whooping cough, cyanosis of the skin. Shortness of breath of an inspiratory character is caused by pulling the soft tissues of the neck cavity, subspinal cavity. This state lasts from several minutes to half an hour, after which sweating increases, breathing improves, the child falls asleep. Such conditions can be repeated after 2-3 days.

Picture. 20.*Subfolding laryngitis*

The laryngoscopic image of hypopharyngeal laryngitis is similar swelling in symmetrical roles, hyperemia of the mucous membrane of the vocal cavity. These ridges protrude from under the vocal folds and significantly narrow the larynx space, thereby making breathing difficult (Pic. 20).

Diagnostics. A real diphtheria attack is compared. For diphtheria bacillus, throat, larynx, and nasal swabs should be bacteriologically examined.

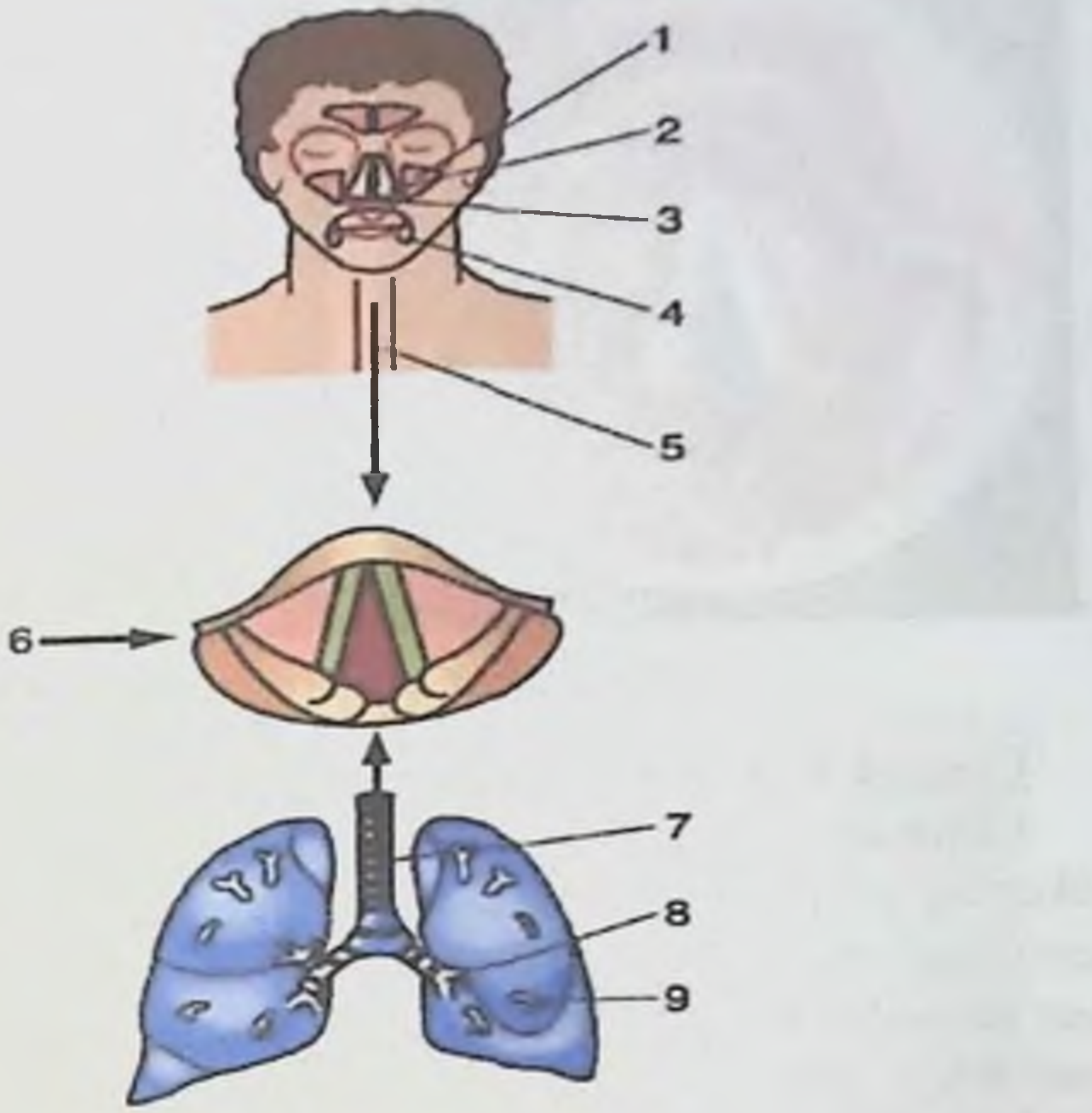
Treatment.

Treatment is aimed at eliminating the inflammatory process and restoring breathing. Antibacterial, antihistamine treatment is carried out, sedatives are prescribed. the use of prednisolone has been shown to reduce swelling. Perhaps drinking more alcohol, distracting treatments - foot baths, mustard ordered. To stop a choking attack, you can tap the back of the throat with a spatula to induce a gag reflex. If the above measures are weak and there is a risk of suffocation, they resort to nasotracheal intubation for 3-4 days, and if necessary, tracheotomy is shown.

Chronic laryngitis

Chronic laryngitis (laryngitis chronica) occurs in three forms: catarrhal, hyperplastic and atrophic. Violation of the voice function of the larynx is common for all forms. Maintaining a chronic inflammatory process in the larynx is mainly influenced by occupational hazards, smoking and excessive noise (Pic. 21).

High-temperature cigarette smoke dries the mucous membrane of the larynx, trachea and bronch. In addition, cigarette smoke contributes to congestive hyperemia of the mucous membrane, which supports the inflammatory process and is accompanied by a large amount of sputum. The latter, in turn, provokes the onset of cough in the morning, especially tiring the smoker, because cigarette smoke extinguishes the activity of the ciliated epithelium of the larynx, trachea and bronch. Therefore, the cough reflex decreases during the day, and it may be difficult to transport accumulated sputum to the fold (subglottic) cavity. During the night, the functional ability of the ciliated epithelium is restored to a certain extent and it is able to move sputum to the lower larynx, its irritation leads to a cough reflex, which helps to remove secretions from the trachea. Coughing is intense because the sputum sticks to the walls and it is difficult to expel it. Laryngeal mucosa can be micro-damaged, which also supports the inflammatory process.



Picture21.*Causes of chronic laryngitis development: 1 - sinusitis; 2 - rhinitis; 3 - curvature of the nasal septum; 4 - tonsillitis; 5, 7 - tracheite; 6 - laryngitis; 8 - bronchtis; 9- bronchectasis*

Chronic catarrhal laryngitis

Chronic catarrhal laryngitis is the most common and mild form of chronic inflammation. In this pathology, the main etiological role is played by long-term load on the vocal apparatus and unfavorable factors, such as smoking.

The clinical picture consists of high-pitched voice, voice fatigue, timbre change, sore throat, dryness, cough.

With laryngoscopy, all parts of the larynx show the usual constant, mild, uniform hyperemia of the mucous membrane, and, in addition, moderate swelling (Pic. 22).

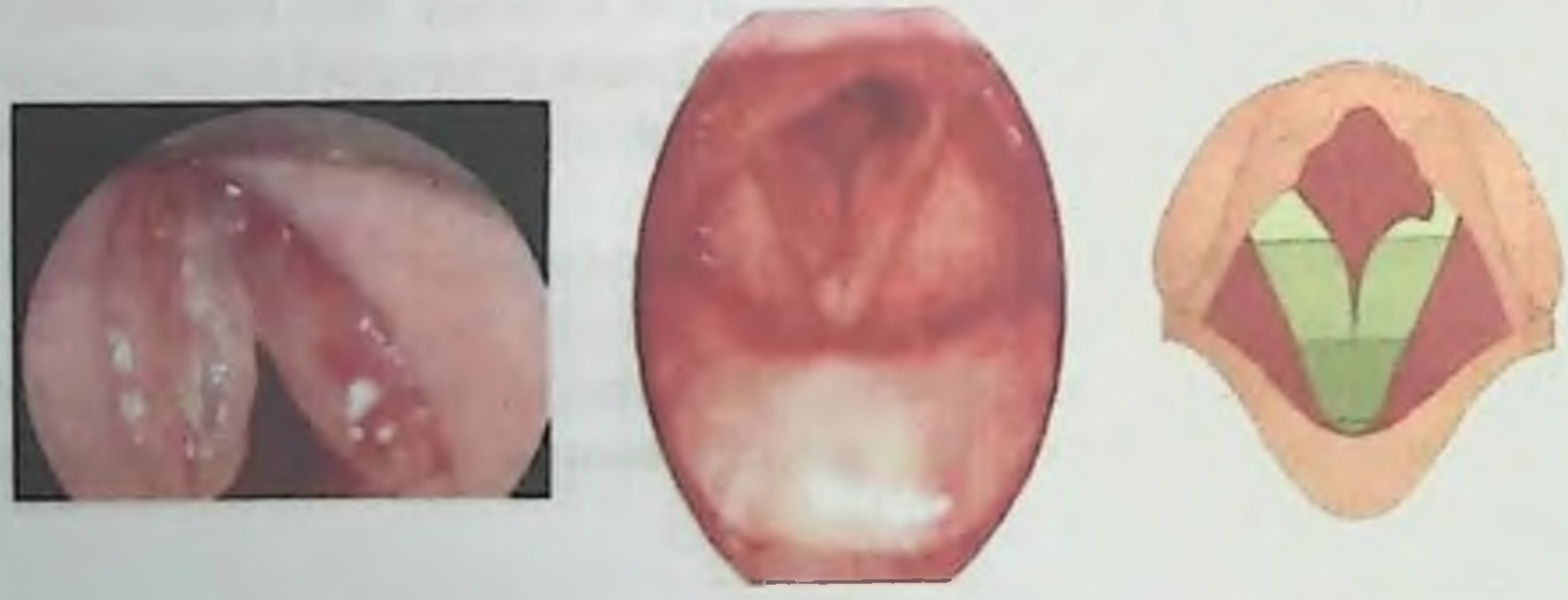
Treatment.

It is necessary to eliminate the effect of the etiological factor, to observe the mode of soft sound. Treatment is mainly local - injection of antibiotic solution with hydrocortisone suspension into the pharynx. Inhalation of medicinal substances, climatotherapy is prescribed.

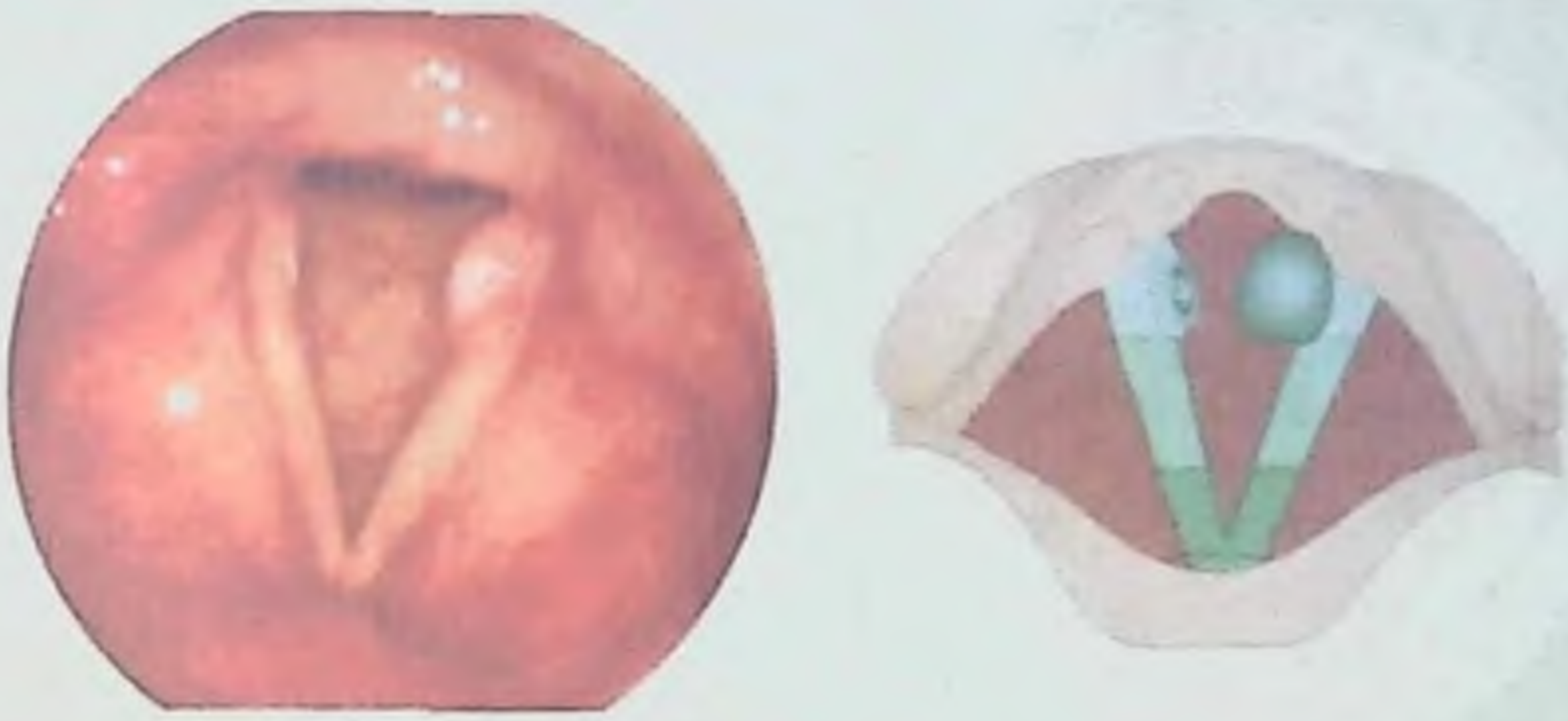
Picture. 22.*Chronic catarrhal laryngitis*

Chronic hyperplastic (hypertrophic) laryngitis

Chronic hyperplastic (hypertrophic) laryngitis is characterized by thickening of the vocal folds, vestibular folds, mucous membrane in the intercranial space (Pic. 23-26). Thickened vocal folds cannot completely cover the vocal folds. This requires forced work of the muscles that close the vocal folds, causing them to overwork and eventually permanent voice disorders. Thickening of the vocal folds can be scattered and limited. One of the forms of chronic laryngitis is "singer's nodule". In such cases, small elevations appear on the free edge of the vocal folds, at the border of the front and middle thirds, which prevent the folds from closing. This type of laryngitis is usually associated with an excessive increase in voice.



Picture. 23.*Chronic hypertrophic laryngitis (Reinck's tumor)*



Picture. 24.*Chronic hypertrophic laryngitis (contact granuloma)*

Picture. 25.*Intubation granuloma*

Picture26. singing node

Treatment.

Complex use of drugs affecting the mucous membrane, laser removal, cryodestruction, as well as surgical intervention aimed at removing hypertrophied areas of the mucous membrane are performed. Microsurgical operations under microscope control are especially effective for "singer's nodes".

Chronic atrophic laryngitis

Treatment of chronic atrophic laryngitis is the most difficult disease, because only palliative methods can be used, mainly aimed at eliminating certain sensations characteristic of atrophic laryngitis. This form of chronic laryngitis is based on dystrophic processes in the mucosa not only of the larynx, but also of the nose, larynx, and trachea. This is a systemic disease of the mucous membrane. Complaints that patients turn to an otorhinolaryngologist are, first of all, a feeling of acute dryness in the throat, the presence of a foreign body in it, voice disorders up to aphonia, dryness of the shells. The latter diagnosis can be determined by indirect laryngoscopy, during which pallor of the larynx, bloodless mucous membrane, its thinning and non-closing vocal folds along the midline are revealed. Visible accumulation of sticky, yellowish sputum in the vocal folds.

Treatment.

Injection into the laryngeal cavity using a special laryngeal syringe, which helps moisten the mucous membrane, softens and breaks the crusts, prevents the mucous membrane from drying out with air during breathing.

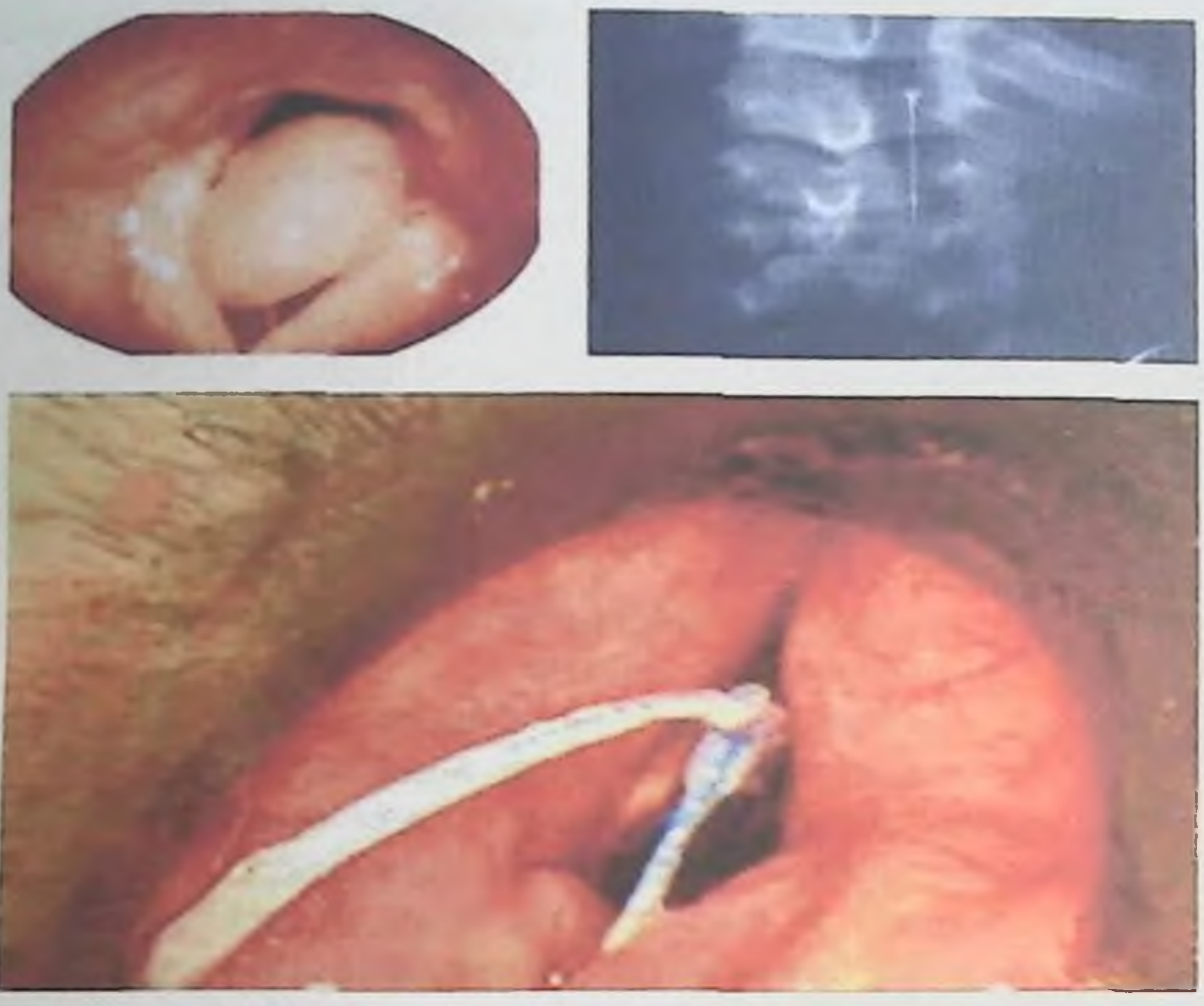
Such recommendations can be agents that affect the mucous membrane and at the same time stimulate the activity of the mucous glands, help to protect the mucous membrane from drying out and rejection. Alkaline breathing softens crusts and facilitates the separation of sticky phlegm. Since the rational use of breathing requires their repeated use during the day, the patient himself can use pocket inhalers that spray oil preparations at home. Stationary inhalers are equipped with devices that create aerosols that penetrate not only to the level of the larynx and trachea, but also to the small bronch and alveoli. Medicinal substances that enter the body in the form of aerosols enter the blood circulation of the lungs, bypassing the liver, which ensures their long-term activity.

Acute laryngeal stenosis

A special category of diseases of the larynx are pathological processes that lead to a narrowing of the vocal fold.

Etiology. The causes of sharp narrowing of the vocal fold space can be not only inflammatory diseases of the laryngeal mucosa, but also injuries, allergic swelling caused by intolerance to some drugs used in dentistry (antibiotics, iodine powder, etc.). In some cases, under the influence of a foreign object (parts of food, drinking liquid, fragments of removable prostheses, etc.), they face an accelerated narrowing of the space between the breaths - spasm of the muscles that widen the vocal folds. In drunken people, there are frequent cases of closing the breathing gap with food products, when the control of the reflexogenic zones of the oral cavity, throat, larynx decreases and this helps to inhale foreign objects (Pic. 27).

Clinical appearance. The main symptoms of acute laryngeal stenosis are shortness of breath, noisy strained breathing. Depending on the level of narrowing of the larynx, when examined, the vertebral cavity and intercostal spaces are tightened, the breathing rhythm is disturbed. Shortness of breath with laryngeal stenosis is inspiratory in nature, the voice changes, there is a feeling of fear, motor agitation, redness of the face, sweating, increased heart rate, cyanosis is observed in the lips, nose and nails. This is due to the accumulation of carbon dioxide gas in the body.



***Picure:** 27.Foreign body of the larynx*

Depending on the cause that led to the development of acute stenosis of the larynx, the doctor's tactics in providing emergency care to the patient are to use conservative or surgical measures. The doctor's ability to determine the real condition of the patient at this responsible stage is of great importance, which helps to know the clinical appearance of laryngeal stenosis, depending on the degree of narrowing of the vocal fold cavity. The width of the vocal fold determines the clinical appearance of laryngeal stenosis. In cases where the amount of carbon dioxide, which is observed with the narrowing of the breathing hole, increases, the breathing movement is rearranged - in order to pass the required amount of air through the narrowed breathing hole, breathing must be longer, the pause in breathing is shortened. Thus, inspiratory dyspnea develops, which means that breathing becomes more difficult in these cases. From a clinical point of view, there are four stages of laryngeal stenosis, which allow the doctor to take the necessary measures to save the patient's life.

Stages of laryngeal stenosis.

I - compensation stage. At this stage, due to the mechanisms that regulate the entire movement of breathing, compensation or filling, the amount of air that enters through the narrowed respiratory slit appears - the number of respiratory movements decreases, breathing becomes noisy, breathing is significantly prolonged, breathing and breathing the pause between the exhalation is reduced, the breath is shortened, sharp and after that, also after the shortened pause, the extended breathing continues. At rest, a person may not feel shortness of breath, and this is determined by physical exertion. The patient begins to have significant anxiety and restlessness, as well as acrocyanosis. The width of the vocal fold is 5-6 mm.

II - subcompensation. At this stage, due to the mobilization of additional mechanisms, the patient's body still struggles with the narrowing of the respiratory space, but the filling of the necessary air continues to be carried out with great effort. Shortness of breath of the inspiratory type becomes more pronounced - extended breathing is carried out with great difficulty, the pause between prolonged inhalation and sharp, shortened exhalation completely disappears. Breathing is further reduced. Stretching of the flexible areas of the chest is noticeable in the intercostal spaces, the supraspinal fossa, the area of the sternum. The patient tries to take a mandatory position and leans on the edge of the bed with his hands, throwing his head back. The patient feels anxiety, restlessness, acrocyanosis begins to develop. The width of the vocal cavity is 4-5 mm.

III - decompensation. The patient's anxiety reaches an extreme level, he may rush around the room, tear the clothes around his neck, and try to somehow increase the flow of breathing air. The patient's face is covered with sticky, cold sweat, the eyes are bulging, fear appears. The skin of the face has a purple color and literally before our eyes begins to grab the neck and chest of a person. At this stage, breathing is frequent, but it is superficial, and breathing movements are almost indistinguishable, because the chest is almost motionless and only the protrusion of the larynx (Adam's apple) makes sharp movements up and down. The voice and cough are quiet, the pulse quickens, consciousness is preserved. The width of the vocal fold is 2-3 mm.

IV - asphyxia. The last stage of laryngeal stenosis. Es - lack of consciousness is characteristic or it is confused, respiratory movements do not determine the type of respiration of Chains-Stokes or they are. The skin is bluish and pale. The heart continues to work, the pupils dilate sharply. The width of the vocal fold is 1 mm or less.

Treatment.

The choice of the method of emergency care for acute stenosis of the larynx is determined by the stage of stenosis, the cause (foreign body, tumor, trauma, lying or diphtheria croup), and the patient's condition.

Management of acute laryngeal stenosis can be conservative or surgical. First aid for foreign bodies of the larynx can be performed using the chest thrust method (Pic. 28). Conservative measures can be applied in the subglottic space, in the first stage of laryngeal stenosis caused by inflammatory or allergic swelling of the mucous membrane, in the area of the ring-shaped throat and in the interspinous space, on the tongue surface of the laryngeal cavity. It should be remembered that a tumor that appears in any part of the larynx can quickly spread to the area of the vocal folds, the subfold area. Therefore, for any localization of swelling, the patient should be admitted to the ENT department as an urgent inpatient, where he will be provided with full care. The most effective drug is destenization (simultaneous administration of drugs containing antihistamines, glucocorticoids and dehydration drugs). Measures to combat laryngeal stenosis caused by edema include the following procedures:

• distracting means - taking a hot foot bath (the patient's legs are immersed in hot water up to the knees);

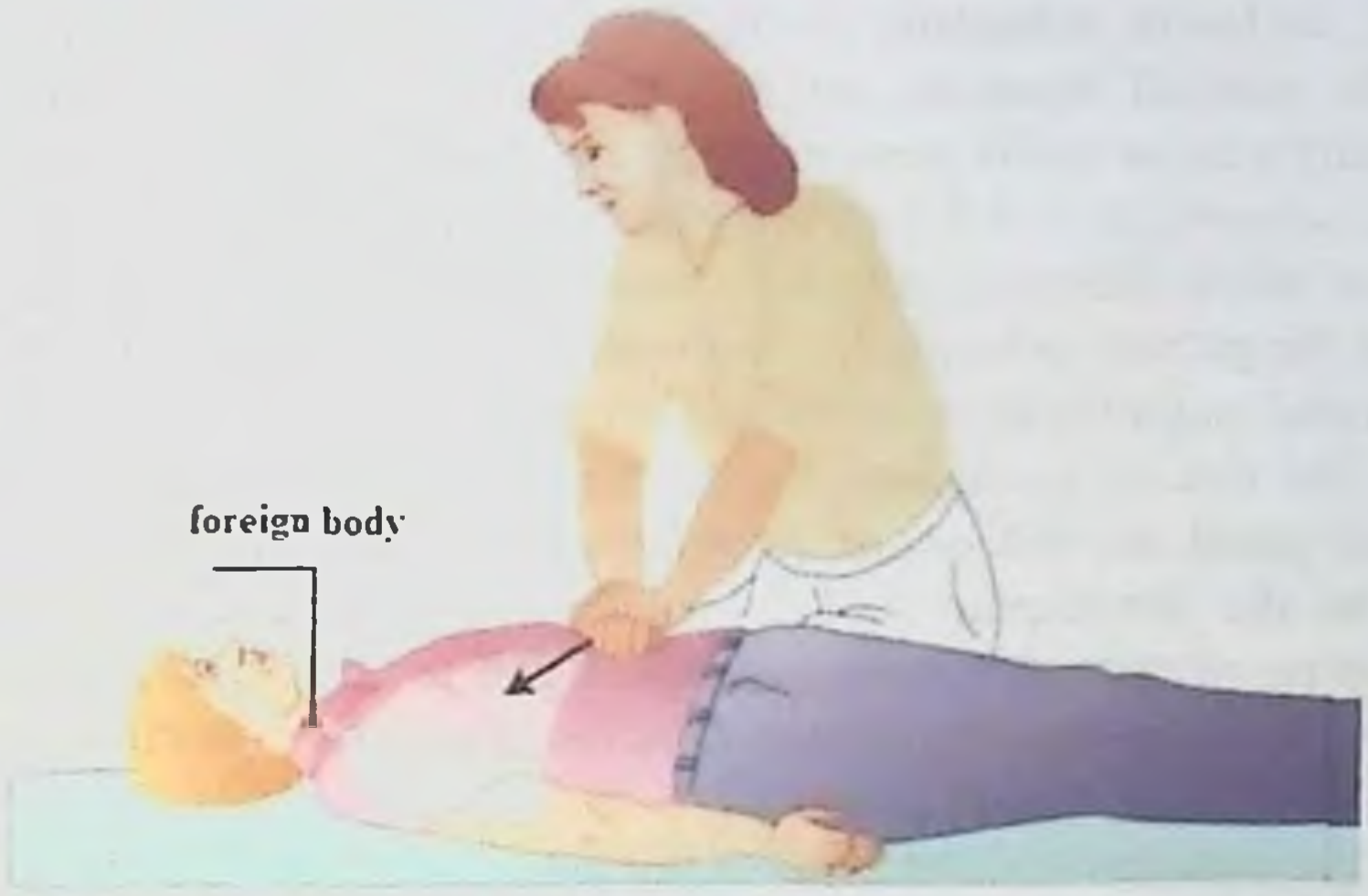
• mustard for calf muscles;

• drugs that reduce tissue swelling - diuretics [furosemide, (lasix)], which reduce the permeability of the vascular wall [promethazine (pipolfen), diphenhydramine (dimedrol), chloropyramine (suprastin b)], glucocorticoids (hydrocortisone, intramuscular 120 mg prednisolone in a dose of up to);

• drugs that stimulate the respiratory center (1% lobeline solution, 1 ml);

• aerosols of antibiotics;

• oxygen breathing (humidified oxygen); in children - nasotracheal intubation



Picure: 28.*Urgent care in the larynx foreign body (sudden pressure on the epigastric area)*

Urgent surgical care. Depending on the circumstances in which emergency care is needed for acute narrowing of the airways, the doctor should choose the method of opening the airways. The main difficulties faced by the doctor in helping a suffocating patient are to quickly and correctly orient oneself to the patient's condition, to weigh the available options against the background of the patient's extreme anxiety, and to increase the symptoms of suffocation. Surgical intervention is hindered by the fact that the venous vessels of the neck are filled with blood, and sometimes the anatomical characteristics of the patient's neck - clear fatty tissue, short neck. If there are no conditions for classical tracheotomy, the dentist should perform a life-saving operation of the patient and transport him to a medical institution where tracheotomy is performed. This surgical intervention, which is sometimes performed in inappropriate conditions (in transport, on the street, in public places, etc.), is considered conicotomy.

Conicotomy - opening the airway at the location of the conic ligament of the larynx, which connects the upper parts of the annular ring to the lower edge of the thyroid gland. In the longitudinal area of the cone, which covers a small depression between the edges of the thyroid and ring-shaped bones, it is easily palpable when the head is thrown back, there are no large blood vessels. The skin actually almost covers this ligament, behind it is the larynx

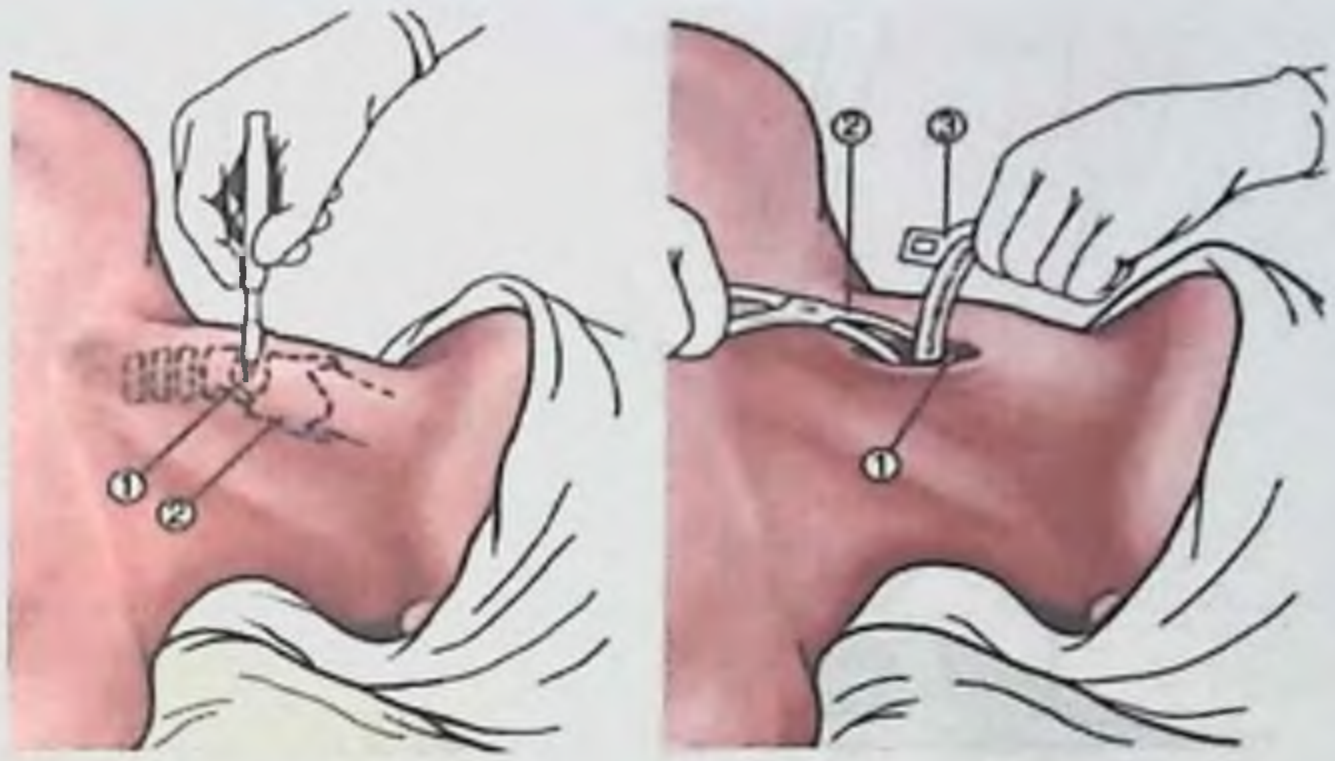
cavity, its lower, subglottic cavity. Therefore, after the incision of the skin and the conical ligament, without bleeding into the breathing tube and manually can be easily penetrated by any cutting tool (kitchen knife, razor blade, scissors, etc.). After entering the trachea in this way, any hollow tube, even of small diameter, should be inserted into the resulting incision. This allows the patient to breathe, albeit with difficulty, until a breathing cannula is inserted and a tracheotomy is performed.

The risk of conicotomy is accidental damage to the ring-shaped or thyroid gland, the mucosa of the subgranular space (Pic. 29). This can later lead to the development of granulations, perichondritis and, therefore, narrowing of the subconjunctival space due to scar tissue, which leads to narrowing of the respiratory tube for a long time after conicotomy.

That's why it's an operation

For conicotomy, the head of the patient in a sitting position is turned back, and then the conic ligament is more clearly defined. However, it is better to determine this by moving the finger from the front edge of the thyroid gland to the small depression where the doctor's fingertip falls. After determining the place, without using anesthesia, in order to save time, you can insert a cutting tool with a horizontal incision, cut the skin, the conical ligament, and penetrate into the subclavian cavity of the larynx. It is recommended not to damage the rear parts of this area. The tube inserted into the incision should not be too wide, because in this case it presses more on the surrounding tissue and causes a reactive inflammatory reaction.

Tracheotomy (opening of the larynx) - a method of saving the life of a patient with various diseases and injuries of the larynx has been known since ancient times. However, to date, this operation is considered a very important surgical intervention, because a timely and correctly performed tracheotomy not only saves a person's life, but also leads to a full recovery in the future.



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Picture 29.Conicotomy: a) 1 – ring-shaped uncleaving; 2 - thyroid uncle; b) 1 part; 2 – Trusso tracheal expander; 3 - tracheotomy tube

Indications for tracheotomy:

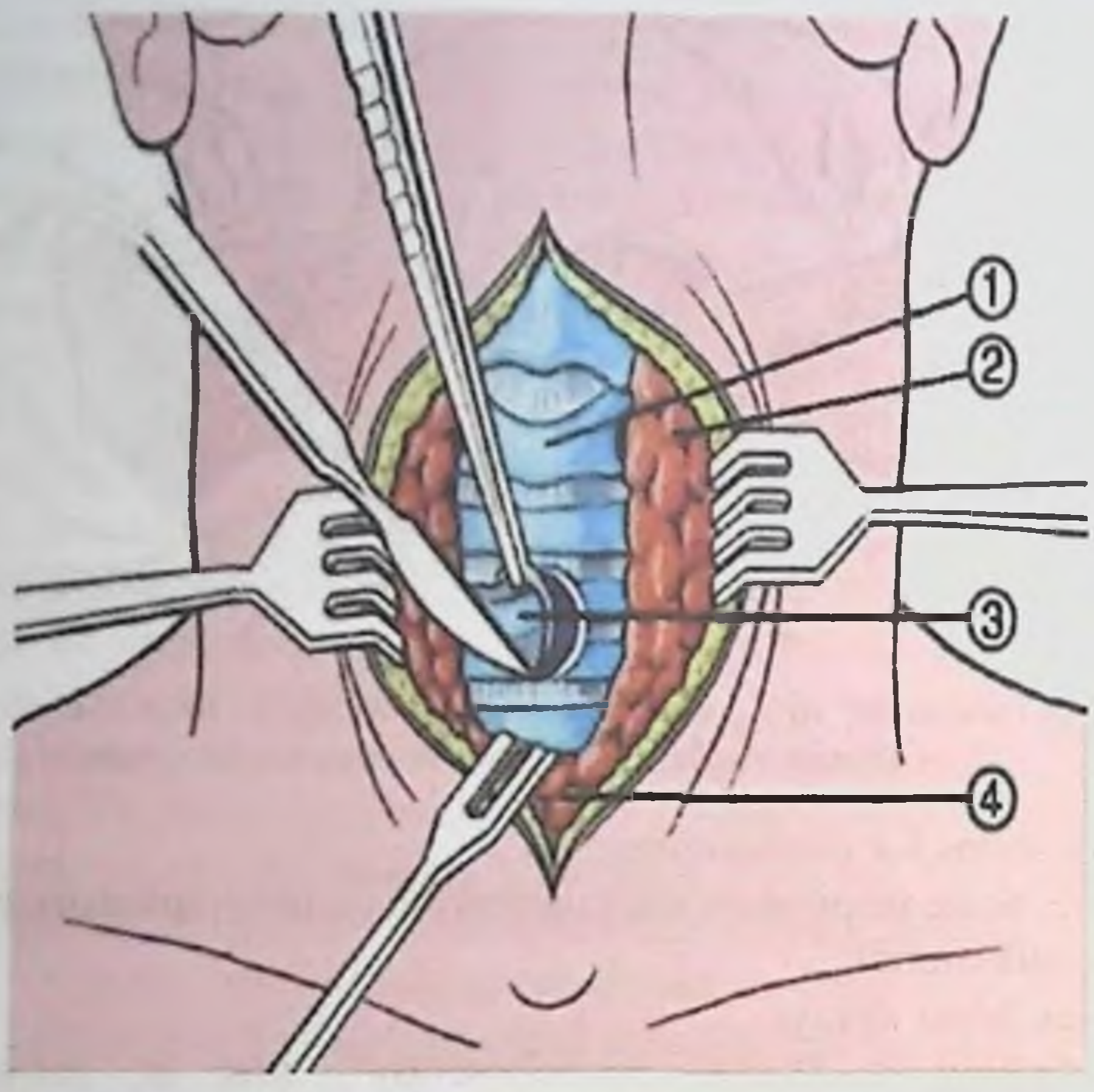
acute, acute respiratory tract narrowing (acute respiratory viral diseases and other infections);

severe brain injury;

conducting a "lower bronchoscopy", that is, introducing the bronchoscopy not through the oral cavity, but through a previously created tracheostomy.

Tracheostomy is used according to the following rules (Pic. 30).

The most common position of the patient is on the back, although in some cases it is necessary to perform a tracheostomy and with the patient in a sitting position with the head thrown back. First, a pillow is placed behind the neck for ease of work. In the future, this pad should be moved behind the patient for easier management of the trachea. At the beginning of the operation, the pillow on the back should not be lowered, because in these cases it becomes more difficult for the patient to breathe, and only when the trachea is opened before the eyes of the surgeon, knowing that there are only a few seconds left to open the cavity of the trachea for convenient operation, the back of the patient the pad can be moved forward.



Picure: 30.*Tracheotomy technique: 1 – ring-shaped spigot; 2 - thyroid gland; 3 - trachea; 4 - the neck of the thyroid gland*

In the implementation of tracheotomy as an emergency operation, local anesthesia is used in most cases. Sometimes, in the most urgent cases, when the patient is in a state of asphyxiation, the operation is performed without anesthesia. If an operation is planned, then intubation anesthesia is currently a rational method of anesthesia, in which the gentlest method is a surgical combination with controlled breathing. Solutions of procaine (novocaine b) and lidocaine (1-2%) are used for local anesthesia.

On the front surface of the neck, signs that help to approach the wall of the trachea: laryngeal bulge, ring-shaped arch, yoke section. The skin incision in the front of the neck should be straight in the middle line. Otherwise, the surgeon may make a mistake and bypass the trachea. Depending on the type of tracheotomy (upper, middle or lower), the surgeon is on the right - during upper and middle tracheotomy, on the left - during lower tracheotomy. This is due to the ease of cutting the neck at different levels of opening the trachea.

A skin incision is made at a distance of 5-6 cm from the center of the larynx in the direction of the neck opening.

After cutting the skin and subcutaneous tissue with an abdominal scalpel (if you cut the skin with a sharp scalpel, then with clear excursions of the larynx up and down, the tip of the scalpel can penetrate deeply , which can damage not only the muscle tissue, but also the neck of the thyroid gland), a white line of the neck is found where they attach to the thoracolumbar muscle. If this line is visible in the wound after pulling the skin to the sides, then it can be assumed that the direction was chosen correctly.

The white line of the neck should be cut along the entire length of the skin incision. This line should be separated with scissors, not with a scalpel, in order not to damage or injure the neck of the thyroid gland, which is located below it.

Approximately in the middle of this whitish line, the tissue is raised with two tweezers and a transverse incision is made with scissors. In this section, a probe is inserted from above and below, and the tissue of the white line of the neck is separated along it along the entire skin section.

After pulling the muscles to both sides, the blood-filled neck of the thyroid gland covering the trachea is clearly visible. By cutting the fascia previously attached to the tracheal wall, the neck of the mobilized thyroid gland is moved with a lower handle to perform a superior tracheotomy and the first tracheal rings are opened. In cases where a lower tracheotomy is required, the neck of the thyroid gland is moved up and the area of the 3-5 tracheal ring is opened.

Bleeding must be stopped completely before opening the tracheal cavity. To turn off the cough reflex, the tracheal mucosa is anesthetized with 5 ml of cocaine solution or 1% tetracaine solution (Dikain) by piercing the ligament between the tracheal rings with a needle. When performing the upper tracheotomy, the second and third tracheal rings are separated, with the middle tracheotomy - the third and fourth, with the lower - the fourth and fifth. By separating the second tracheal ring during the upper tracheotomy, they try not to damage the mucosa of the thylotic cavity, because when the tissues in this area are damaged and remain in the tracheotomy tube for a long time, granulation appears and then a permanent scar is formed. As a result of the narrowing of the larynx, the patient may remain a carrier of the tracheotomy tube for a long time.

With laryngeal stenosis, the larynx and trachea make sharp up-and-down movements, so it is necessary to correct the larynx to properly separate the tracheal wall. To do this, an assistant with a sharp toothed loop attached

to the ring-shaped arch pulls the larynx up and holds it in this position for the time necessary to open the trachea.

Separation of the tracheal rings is performed using a pointed scalpel. In order not to injure the back wall of the trachea, it is advisable to wrap the ventricle of the scalpel with wet cotton, leaving the tip that can cut the entire thickness of the tracheal wall (0.5 cm). Cut the two rings or the length between the rings, insert a retractor into the section, with which the opening of the tracheal wall is pushed aside and the tracheotomy tube of the appropriate number is inserted (1-5). Tubes are made of metal and plastic (Pic. 31).

Picure: 31*Tracheotomy tubes*

Tubes consist of inner and outer tubes necessary for the care of a tracheotomy patient. In cases where the inner tube is blocked by mucus, sputum, crust, it should be removed by the doctor, and the outer tube remains in the trachea. After cleaning the inner tube, it is put back in place and the patient can breathe freely. It is very important to know the rules for inserting the tracheotomy tube into the incision in the tracheal wall. Holding the place of the tube with the index finger and thumb, the tube is first placed on the patient's neck, the end of the tube is brought closer to the empty tracheal stoma. When the end of the tube enters the cavity of the trachea, the doctor should turn the tube so that it is located along the neck and down into the trachea. The tube should be tied very tightly to the neck, and the braided ends should be tied with a tight knot so that it does not open independently in the

postoperative period and the tube does not fall out of the tracheostomy. The node should be located on the lateral surface of the neck, because in these cases it does not interfere with the patient's lying position and can be easily managed by medical personnel. After inserting the cannula, the skin wound is sutured - 1-2 stitches are placed above or below the tube.

A tracheotomized patient should be under the constant supervision of medical personnel. In the first hours after tracheotomy, it is necessary to monitor the nature of breathing movements, because at first it is difficult for the patient to adapt to special breathing through the cannula. In this regard, in a number of cases it is necessary to resort to the stimulation of the respiratory center with the introduction of lobeline.

Possible complications of tracheotomy:

Disorientation when cutting soft tissue. Profuse bleeding when the neck of the thyroid gland is damaged.

Aspiration for blood during urgent and ready dissection of the tracheal wall. With damage to the back wall of the trachea and penetration into the esophagus, when it is impossible to achieve reliable fixation of the larynx and trachea, with a very deep advance of the scalpel.

Insertion of a tracheotomy cannula between the isolated but not cut mucosa of the trachea and its wall - obturation of the tracheal cavity occurs.

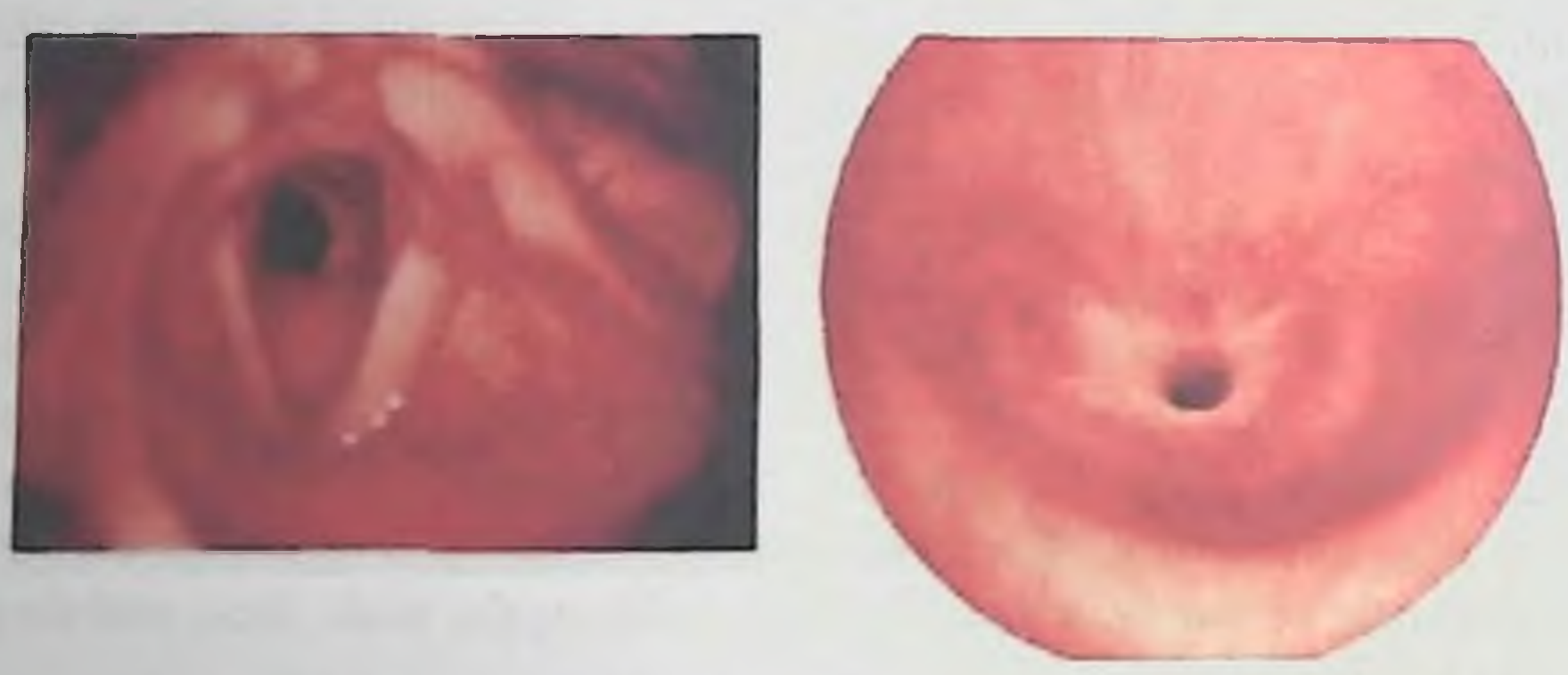
The appearance of subcutaneous emphysema in cases where the size of the wound on the tracheal wall does not correspond to the diameter of the cannula and is sutured along the skin. During breathing and especially coughing, air enters the subcutaneous tissue and thereby causes the development of emphysema, which first affects the neck, face, and then can spread to the chest.

After an emergency tracheotomy, all actions should be aimed at eliminating the causes of the development of acute laryngeal stenosis.

Chronic laryngeal stenosis

Chronic laryngeal stenosis, long-term, gradual pathological narrowing of the laryngeal cavity, causes hypoxemia and hypoxia in the body. This is a whole problem in otorhinolaryngology, because in most cases they are caused by tumors, disturbed innervation, scar processes (Pic. 32,33). Chronic stenosis of the larynx can also occur as a result of traumatic injuries of the larynx, burns, which leads to inflammatory diseases of soft tissues and the larynx.

Picture. 32.*Laryngeal paresis*



Picure: 33.*Chronic cicatricial stenosis of the larynx in the fold area*

The clinical presentation depends on the degree of narrowing of the larynx and the cause of the stenosis. The gradual and step-by-step growth of stenosis gives time for the development of adaptive mechanisms of the body, which allows maintaining life-support functions even in conditions of external respiratory failure.

Diagnosis is based on characteristic complaints, medical history and symptoms. Chronic laryngeal stenosis is not difficult to determine, and its degree depends on the size of the remaining breathing interval.

Treatment. Scar tissue is surgically removed with the formation of a laryngeal cavity in the future due to the patient wearing a T-shaped tube for

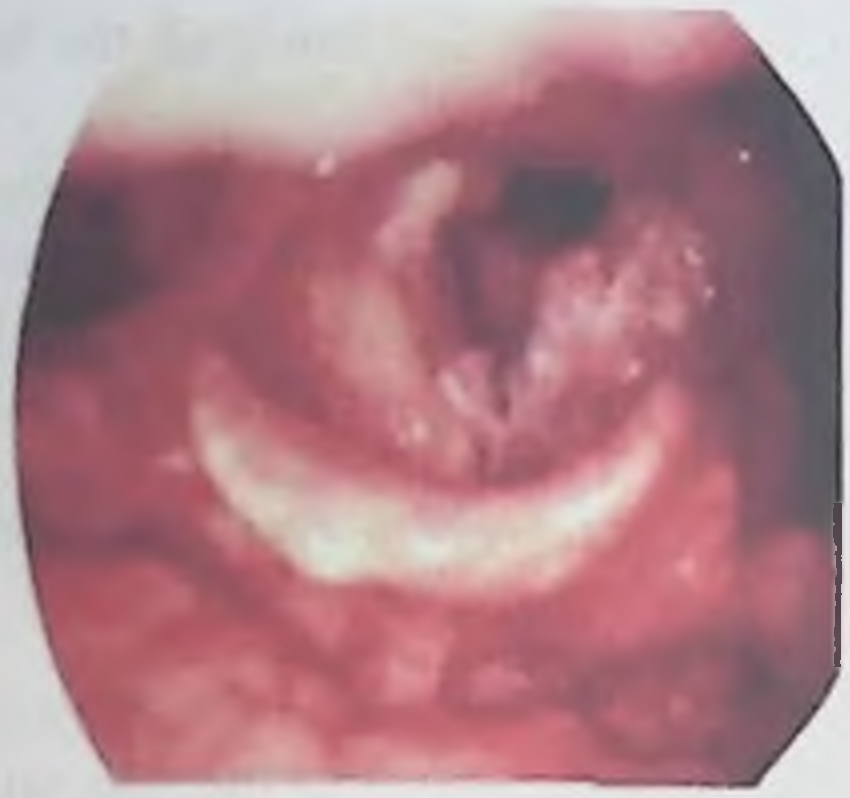
a long time. The operation is carried out with the help of cryodestruction, ultrasound devices and laser beams.

In the treatment of patients with chronic stenosis of the larynx, the main task is ultimately to implement measures that allow the patient to breathe naturally, not with a tracheostomy, but with the use of nasal breathing. These surgical procedures are complex and often multi-staged.

2.7. Tumors of the throat. Diseases of the trachea and bronch

Benign laryngeal tumors

The most common benign tumors in the larynx are fibroids located on the free edge of the vocal folds, closer to the anterior parts, or on the upper surface of these folds (Pic. 5.30). Histologically, myoma is represented by connective tissue and covered by epithelium. In appearance, they look like spherical growths, gray in color, with a thin leg protruding from the edge of the vocal fold. Sometimes there are many blood vessels in the connective tissue of such a tumor, and then the tumor acquires a red-cyanotic color. In such cases, they talk about angiofibroma. These tumors grow very slowly, and depending on the localization of their manifestation, they are early (the tumor is located at the free edge of the vocal fold and interferes with its closure during phonation) or late (the tumor is located on the upper surface of the fold and does not interfere with the closure of the vocal fold) it can.



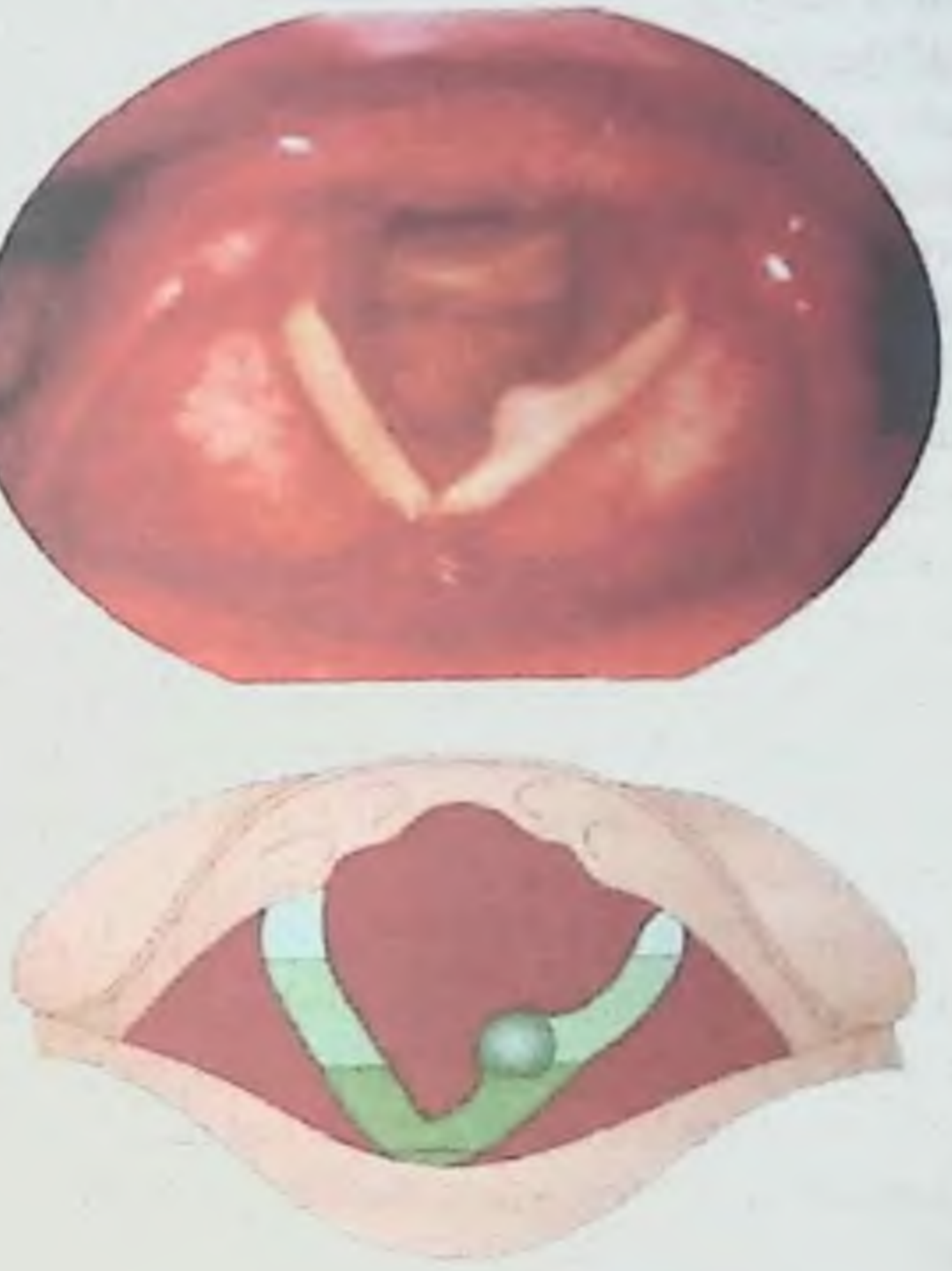
Picture. 34.*Laryngeal fibroma*

The main complaint of patients with laryngeal fibroma is voice change indicators - it becomes hoarse, voiceless. Indirect laryngoscopy allows to determine the diagnosis - a pedunculated tumor is visible on the laryngoscopic mirror, sometimes with a wide base, the size of a match head or larger.

Treatment is carried out only by surgery - with the help of an operating microscope and a set of microstructures, they are removed with special forceps under local anesthesia or under general anesthesia.

In childhood, papillomas are more common than benign neoplasms, and the disease itself is called "laryngeal papillomatosis" due to its tendency to significantly spread to all parts of the larynx and even to the trachea due to constant recurrence. Papilloma is a benign fibroepithelial tumor of the upper respiratory tract, representing a single or often papillary tumor, which causes

disorders of voice-educational and respiratory functions, often recurring (Pic. 35) .



Picture: 35.Laryngeal papillomatosis

The human papillomavirus is the etiological factor of papillomatosis. The main symptoms of the disease are a decrease in voice, aphonia and gradual difficulty breathing. The diagnosis is based on the results of the characteristic endoscopic picture and histological examination of the biopsy material. Treatment - repeated operation (laryngostomy) through the mouth or after opening the larynx is considered palliative. Surgical method - laser laryngeal microsurgery is an effective method.

Laryngocele (air tumor of the larynx) developing in the thickness of the vestibular layer can be named as a larynx tumor that can simulate the pathology of the organs of the dental-jaw system. This tumor, when significantly enlarged, is identified as a spherical tumor in the jaw area. This swelling is usually painless and has a soft elastic consistency. With indirect laryngoscopy, a spherical bulge can be seen protruding from the vestibule,

which can cover the breathing gap. In the X-ray, in these cases, an air gap is detected in the area of the atrial folds towards the outer space.

Treatment is surgical (external removal of the laryngocele membrane).

Tumors of the throat

Low-grade tumors found in the area of the larynx primarily include cancer - low-grade tumors originating from the epithelium, affecting different parts of the larynx, capable of exophytic or infiltrative growth, regional and distant during its development gives metastases.

Most of the time, men are affected, and larynx cancer is 25 times more common in smokers than in non-smokers. Laryngeal cancer accounts for 2 to 8 percent of malignant tumors of all localizations and 2/3 of malignant tumors of the ENT organs. The degree of development of symptoms in laryngeal cancer depends on the primary location of the tumor. The most convenient localization of SHish is its appearance in the vocal layer (Pic. 36). First of all, it determines an early visit to the doctor, because the symptom of voice disorder appears with small changes in the actual vocal folds. Secondly, due to its histological structure, tumor growth slows down in the vocal fold, and metastasis occurs later. The tumor of the cortical folds develops very quickly, metastasizes to the regional neck lymph nodes and does not cause symptoms for a long time, so it is diagnosed later. Cancer of the pelvic area is also called a late-diagnosed tumor, because patients do not feel any discomfort for a long time and only consult a doctor when they begin to have difficulty breathing or spit up blood.

Picture. 36.Vocal folds cer

With the localization of a cancerous tumor in the laryngeal part of the larynx (supralaryngeal, ring-shaped, laryngeal folds), patients may experience sore throat, discomfort, and sometimes pain radiating to the ear. Thus, the oncological awareness of a doctor in any specialty is necessary to register the first manifestation of a larynx cancer tumor.

There are four stages of cancer depending on the level of the larynx tumor:

I - the tumor is located in a part of the larynx, for example, in the vocal fold. There are no metastases.

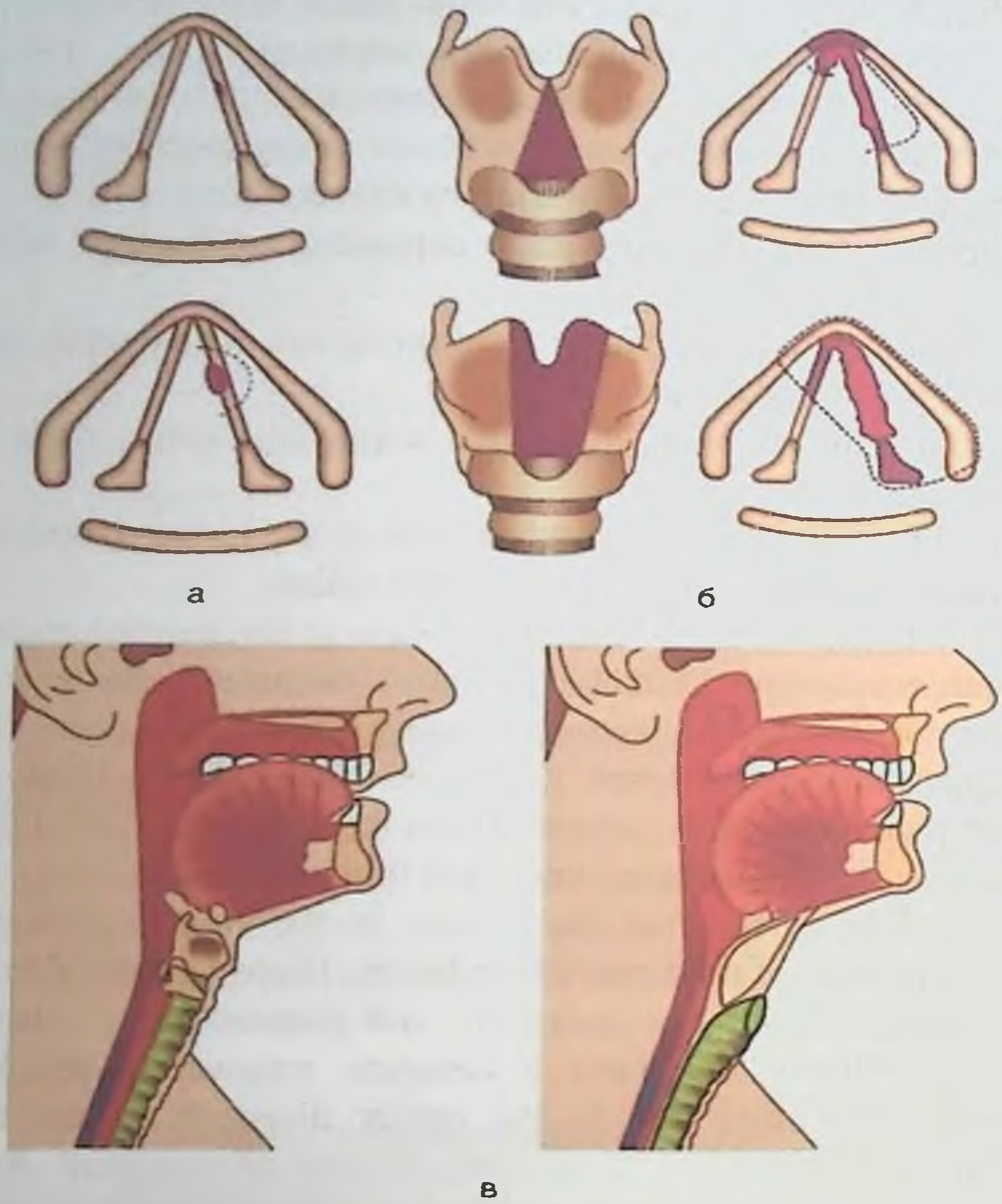
II - the tumor covers the entire larynx (the entire vocal fold). No metastases.

III - the tumor spreads to other parts of the larynx (vocal fold, atrial fold, larynx). Metastases in regional lymph nodes.

IV - a large tumor of the larynx spreads to neighboring organs (root of the tongue, esophagus). Distant and regional metastases, cachexia.

It is not always possible to accurately diagnose laryngeal cancer only by the appearance of the tumor. Limitation of the mobility of the vocal fold or its complete immobility, asymmetry in the color of different parts of the larynx are of great importance: one vocal fold is normal in color, the other is hyperemic. Tomography of the larynx in the frontal projection gives characteristic signs of the tumor of the larynx. Biopsy is crucial in diagnosis.

Treatment is surgery, radiation, and chemotherapy. Currently, the number of patients who have a complete removal of the larynx has significantly decreased due to the earlier diagnosis of the tumor, the development of cost-effective methods of surgical treatment. At the same time, a total laryngectomy with removal of affected regional lymph nodes, subcutaneous tissue and venous vessels is still often considered necessary (Pic. 37). Combined methods of treatment are used: surgery followed by radiation and chemotherapy or radiation followed by surgery and chemotherapy. After laryngectomy, voice prosthesis implantation is used to partially restore voice function in patients.



***Picure:** 37.Surgical treatment of larynx cancer: a, b - partial removal; c - laryngectomy*

2.8. Tuberculosis and ulceration of the larynx

Tuberculosis of the larynx is always a secondary disease, that is, the patient must have tuberculosis of the lungs. Microtrauma of the integral epithelium occurs due to constant coughing, accumulation of a large amount of sputum in the mucous layer of the larynx. The sputum containing the tuberculosis bacterium contacts such areas of the damaged mucous membrane and effectively contributes to the development of specific

inflammation. Infiltrate, tuberculosis is formed, which then forms a folded wound (Pic. 38). Each of the stages of inflammation in the throat is characterized by typical symptoms, which mainly depends on the localization of the focus. If a patient with pulmonary tuberculosis has wheezing and laryngoscopy shows asymmetry in the color of different parts of the larynx or is accompanied by sharp pain, then this picture is very similar to the tuberculosis process that has appeared in the larynx. looks like The ulcer that contributes to the development of perichondritis can be very deep.

***Picture. 38.** Tuberculosis of the larynx*

Treatment is specific [isoniazid, rifampicin, streptomycin, aminosalicylic acid (ASA), observation in a specialized institution].

Picture. 39.Laryngeal ulcer

A sore throat can appear at any stage. The initial stage, like cancer, tuberculosis, is characterized primarily by the asymmetric color of the laryngeal mucosa: one vocal fold is normal in color, the other is hyperemic (Pic. 39).

Such a laryngoscopic picture should always alert the doctor and he should take all measures to clarify the diagnosis and refer the patient to a specialized institution (complete history, analysis of complaints, serological examination, laryngoscopy, biopsy).

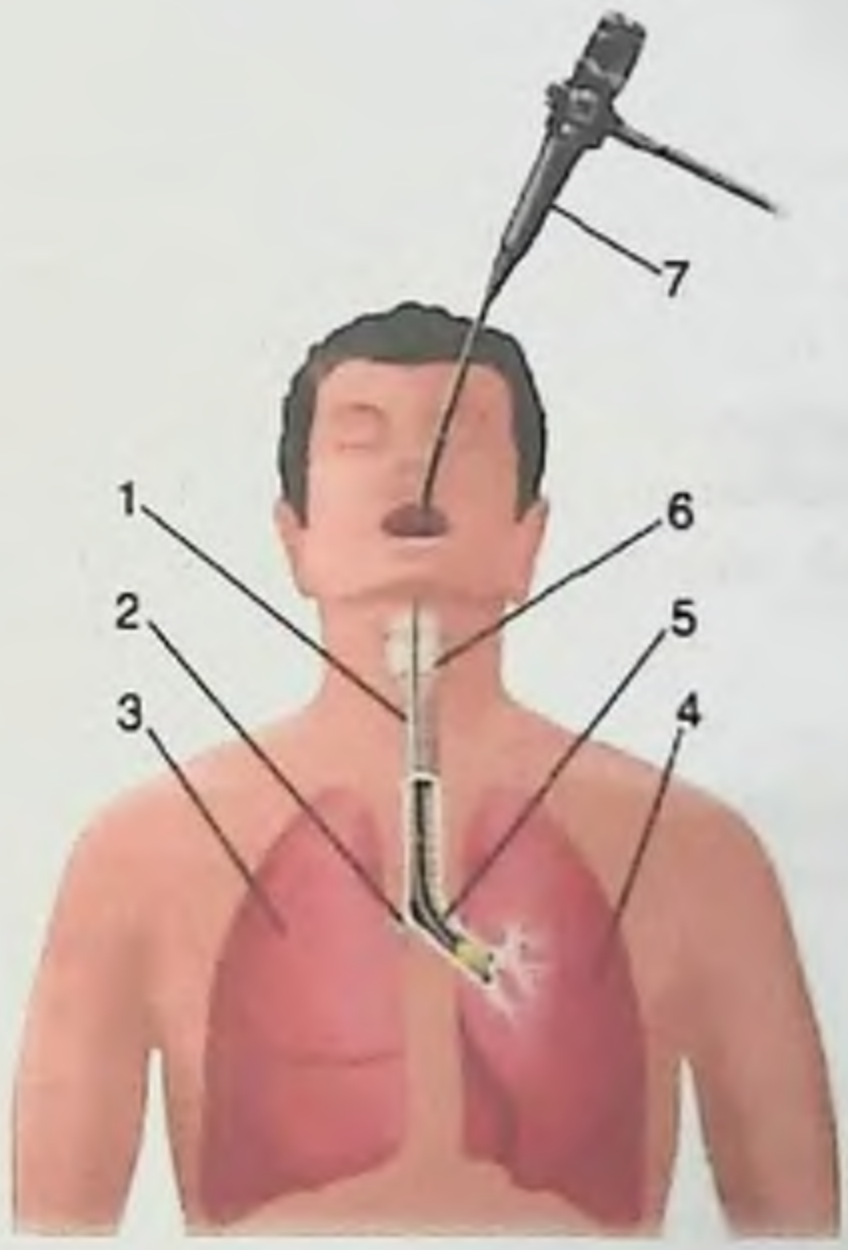
Treatment under the supervision of a dermatologist is unique.

2.9. Diseases of the bronch. Foreign bodies

Among bronchal diseases, the otorhinolaryngologist is mainly responsible for patients with foreign bodies of the bronchus who need urgent care. Foreign bodies of the bronchus are often (95% of cases) found in childhood (under 5 years). While playing, children can swallow various objects, for example, from metal or plastic parts of toys to various seeds (watermelon, sunflower, walnut, etc.). In adults, cases such as prosthetic parts and meat bones are observed. The clinical appearance of a foreign body in the bronchus depends on many factors: the size of the foreign body, its surface, tissue. Initially, there is an attack of coughing, which can last for a long time and then subside. This is sometimes associated with suppressing the cough reflex. In some cases, foreign bodies that have entered the tracheal cavity become "floating", that is, they move in the trachea during coughing. Usually, these foreign bodies are sunflower or watermelon seeds. Falling into the breathing hole, such a body reaches the bifurcation of the trachea and causes a cough reflex consisting of a wide open cavity and a strong inhalation and exhalation.

When breathing, the foreign body caught in the air stream moves upwards, and if the respiratory interval slides without touching the vocal folds, then the foreign body is removed independently. However, in most cases, the foreign body comes into contact with the reflexogenic zone of the lower layer for at least a second, which causes an instant contraction of the muscles that close the vocal fold, and the foreign body descends further, entering the bifurcation or the right cerebral bronchus. Such a "floater" can last for a long time, until the cough reflex is exhausted or until a foreign body settles in the bronchus. In the Bronxin the presence of a foreign body, the

clinical presentation depends on whether the foreign body completely or partially closes the cavity of the bronchus. Most often, foreign bodies enter the right main bronchus, because it serves as a continuation of the trachea, and the left one leaves it at a sharp angle. If the size of the foreign body corresponds to the cavity of the bronchus and completely obstructs it, then symptoms of lung collapse appear: shifting of the borders of the latter, voice trembling , shortness of breath during auscultation, emphysema on the opposite side. Severe shortness of breath is detected. When a closed foreign body causes an inflammatory reaction of the bronchal mucosa, its swelling, such a picture can develop suddenly or slowly. In addition to a general examination (examination, percussion, auscultation), a chest X-ray should be performed to obtain a complete history. In the presence of a foreign body with contrast, it is easily identified in the image (Pic. 5.36). Bronchography using X-ray contrast solutions should be used in the diagnosis of X-ray-negative foreign bodies.



Picture. 40. *Bronchoscopy: 1 - trachea; 2 - right bronchus; 3 - right lung; 4 - Left lung; 5 - Left bronchus; 6 - larynx; 7 - bronchoscope*

Treatment. Bronchoscopy is the first aid method for foreign bodies of the bronchus: performed through the oral cavity - Upper (Pic.41), and lower when tracheotomy is required. Lower bronchoscopy is used in cases where it is assumed that bronchoscopy can be prolonged and even repeated.

Picture: 41. *A foreign body in the bronchus on an X-ray*

Currently, the instruments used in bronchoscopy can be fiber optic and flexible, which are metal tubes with a light at the proximal end. There are breathing bronchoscopes that allow studying the bronch under anesthesia and examining the bronchal tubes. Diagnostic bronchoscopy is performed to examine the bronch and, if necessary, to obtain material for histological examination.

3 Chapter. SPECIAL DISEASES OF ENT ORGANS

3.1. Tuberculosis

Tuberculosis of the oral cavity and upper respiratory tract

Tuberculosis of the oral cavity and upper respiratory tract is often secondary. The methods of infection of tuberculosis bacteria of these organs are as follows: sputum, lymphogenous and hematogenous. Pathomorphologically, two types of lesions are distinguished: infiltration and ulceration. The infiltrate is limited and scattered, rarely looks like a tumor. Tuberculosis ulcer is usually uneven in shape, shallow, with uneven edges, with a dull granulation tissue at the bottom. Depending on the stage of the inflammatory process, infiltration, fragmentation, germination and subsequent compression, classification and resorption occur.

Tuberculosis of the nose

Nasal tuberculosis is initially located in the anterior parts of the nasal cavity, during waiting, in the nasal septum, in the mucous layer of the nasal concha. At the initial stage of the disease, there is a large amount of nasal secretions, a crust and a feeling of congestion. There is an infiltrate, a relatively fast wound, often a perforation of the nasal septum is formed. Purulent discharge mixed with blood is observed with the decomposition of infiltrates and the formation of a stomach ulcer. Rhinoscopically, a gastric ulcer is defined as a defect in the mucosa, at the bottom of which empty granules are located (Pic. 42).

If the patient has tuberculosis of the lungs, larynx, joints, it is not difficult to make a diagnosis.

It is necessary to differentiate between wounding of the nose (tertiary wound). The injury is characterized by damage not only to the nasal septum, but also to the bone. With the wound, damage to the nasal bones (saddle nose) is also possible, which is accompanied by severe pain in the dorsum of the nose. In differential diagnosis, certain help is provided by Virkerman serological examination in children, Pirke test. Infiltration in the nasal cavity can be in the form of a tumor (tuberculoma); biopsy and histological examination are performed to differentiate it from tumor (sarcomatous) process.

Picure: 42. *Tuberculosis of the nose*

Tuberculosis of the pharynx

Tuberculosis of the larynx is different: from superficially limited ulcers with light infiltration to widespread papillomatous infiltrate with a characteristic ulcer. A pathognomonic symptom appears with peptic ulcer, acute pain occurs when swallowing not only solid food, but also water. The addition of secondary infection causes an unpleasant rotten smell from the mouth. Tuberculous gastric ulcer is mainly located in the mucous membrane of the pharyngeal arch and the back wall of the pharynx. They have irregular scalloped edges and a pale pink color. Their surface is often covered with a purulent bloom, under which pale, soft granulation is detected (Pic. 43). Ulcers can enlarge, cover large areas of the mucous membrane and spread in depth.

Diagnostics. It is relatively difficult to make a diagnosis at the onset of the disease. First of all, it is necessary to pay attention to the position of the lungs as a primary localization site. This disease should be distinguished from cancer. At the next stage, the diagnosis is determined on the basis of the clinical appearance, Pirket reaction, microscopic examination of granulations in the area of the stomach ulcer, and general examination of the patient.

Picure: 43.Tuberculosis of the pharynx

Tuberculosis of the larinx

Laryngeal tuberculosis is the most common localization of the tuberculosis process in the upper respiratory tract. Infection of the larynx with tuberculous mycobacteria - hematogenous, lymphogenous or contact, occurs when the coughed sputum adheres to the mucous membrane of the larynx and macerates it. As a result, the infection penetrates into the submucosal layer. Tuberculosis is divided into three stages in its development:

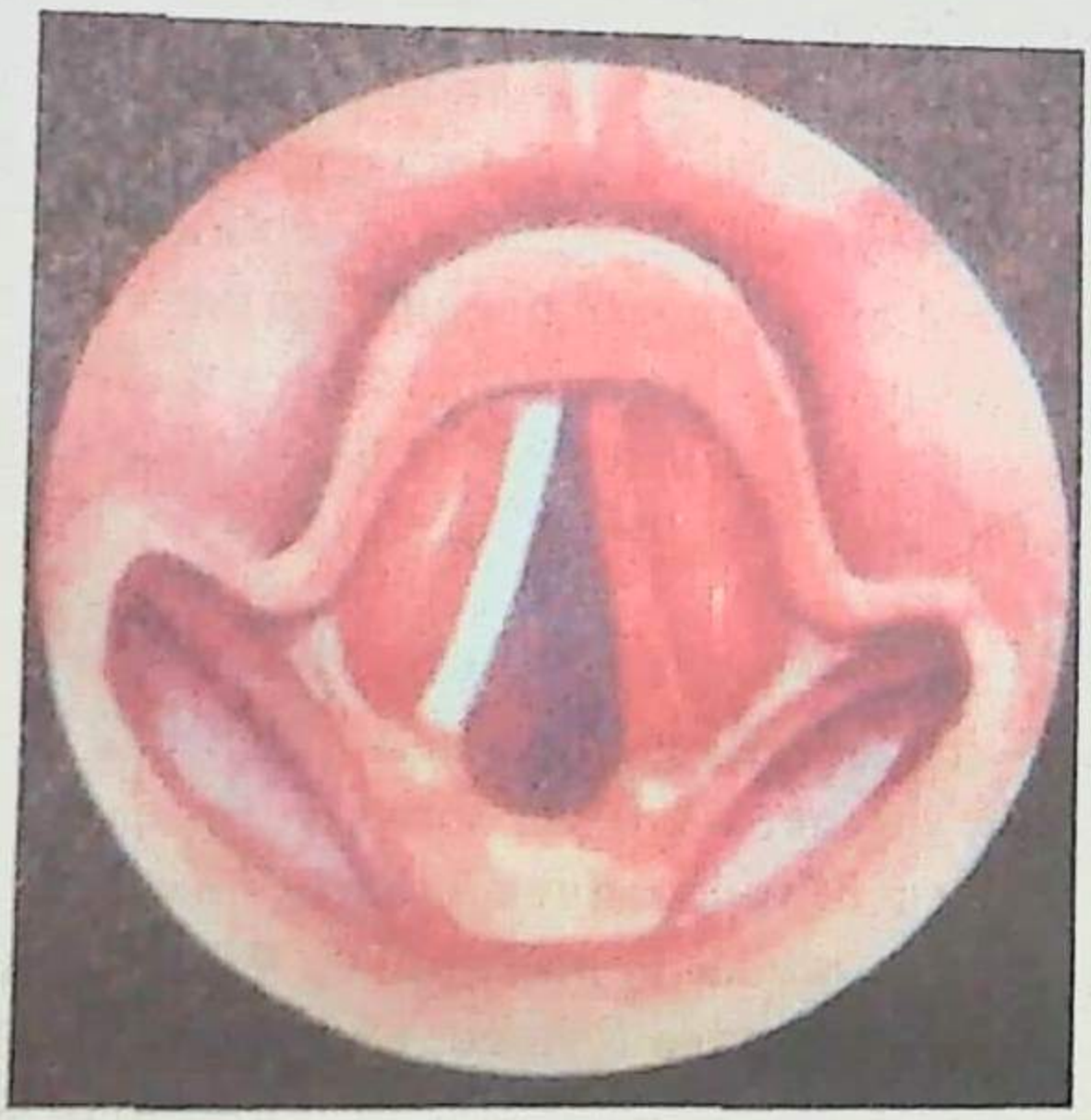
- The formation of an infiltrate;
- Wound formation;
- The decay of the uncle.

Usually, the disease affects the back parts of the larynx, that is, the laryngeal cavity, the laryngeal cavity, and adjacent areas of the vocal folds. Infiltration is manifested by the thickening of the mucous membrane, the appearance of tubercles similar to papillomas. With the further development of the process, a tuberculoma is formed, and then a stomach ulcer appears. The unpleasant process of the disease and the addition of secondary infection, the process is accompanied by perichondrium and uncleaving.

Clinical appearance. The patient's complaint of pain during swallowing is characteristic, and this process is mainly determined when it is located in the clavicle, supraclavicular area, and clavicle supralaryngeal folds. When the vocal and vestibular folds, as well as the intercranial space are affected,

the voice function is disturbed. With the appearance of infiltrates in the vocal cavity, breathing disorders are sometimes observed.

Laryngoscopic image of laryngeal tuberculosis corresponds to the stage of development of the process. Initially, hyperemia and infiltration appear in certain areas of the vocal folds, mainly in the back regions. Then the infiltrate forms ulcers, as a result of which a light gray ulcer is formed (Pic. 44). Vocal folds can be an edge ulcer - in this case, their edges are uneven, as if a hole had been made. Frequent localization of the tuberculosis process. Also, with the papillary growth of granulations, infiltrates are formed, and a tumor that reaches large volumes and protrudes into the glottis is considered to be the visible intercranial space - tuberculoma. With the development of tuberculous infiltrates, the vestibular folds have a pillow-like shape, and their surface looks smooth or uneven. A deep wound is formed with the decomposition of infiltrates. The epiglottis, affected by the tuberculosis process, grows sharply and hangs at the entrance of the larynx in the form of a tumor with a swollen mucous membrane.



Picure: 44.*Tuberculosis of the larynx*

As a rule, in the case of tuberculosis, the stomach ulcer develops, deepens and affects the upper groin and groin. But necrosis and sequestration of the larynx is a rare complication of tuberculosis of the larynx. It should be remembered that in a patient with pulmonary tuberculosis, the process of

laryngeal tuberculosis is much more difficult than in other localizations. With the elimination of the laryngeal tubercular process (usually in the infiltration stage), voice function is also restored.

Diagnostics. One-sided ulcers, hyperemia or infiltration of the vocal folds are characteristic for tuberculous laryngitis. However, with such a picture, a tumor process is also possible. In such cases, biopsy results are the basis for differential diagnosis. With non-specific inflammation of the larynx, its bilateral damage is usually observed, which also occurs with wound damage to the larynx. The reasons for the late detection of laryngeal tuberculosis are the underestimation of the history data and early subjective symptoms characteristic of specific damage by the otorhinolaryngologist and phthisiatric specialist, as well as the lack of timely examination of sputum for microbacterial tuberculosis and X-ray examination of the chest may be cage organs. If necessary, a biopsy is performed from the affected area of the larynx.

Treatment. General and local. Isoniazid and refampicin are the most effective and mandatory components of the course of chemotherapy; Pyrazinamide, ethambutol, streptomycin, viomycin (florymycin sulfate b), cycloserine are also used. Using these drugs together gives the best effect. Aminosalicylic acid (PASK) is rarely prescribed due to the drug's low anti-tuberculosis activity. A bitter general regimen, good nutrition is also prescribed. The basis of local treatment is catheterization of infiltrates and ulcers with various acids (80% lactic acid solution, etc.). 10-20% pyrogallic acid ointment is applied. A positive effect is given by irradiating the affected area of the mucous membrane with quartz through a tube.

It is recommended to rinse the mouth and throat frequently with a warm decoction of chamomile flowers, sage leaves or hydrogen peroxide. To reduce pain during swallowing, the stomach ulcer should be smeared with anesthesin oil. Food should be warm, liquid and non-reactive.

With damage to the larynx and symptoms of severe pain, novocaine blockade of the superior laryngeal nerve or intradermal novocaine blockade (according to AN Voznesensky), vagosympathetic blockade according to Vishnevsky AV.

Tuberculosis of the ear

Patients with this disease are rare, it usually occurs with hematogenously disseminated pulmonary tuberculosis. In early childhood, a mastoid cyst can be affected in the tympanic cavity without prior

inflammation. Secondary infection with microorganisms plays an important role in the development of tuberculosis otitis media.

When the tympanic membrane is damaged, tubercle-shaped isolated foci appear in its thickness, their disintegration later leads to the appearance of many holes. And the spread of the process to the bone leads to the destruction of bone tissue.

The clinical presentation of tuberculous otitis media is specific and differs from non-specific otitis media. The onset of the disease is usually painless, many holes in the tympanic membrane are formed, which unite and cause its rapid disintegration (Pic. 6.4). Only in rare cases, the perforation of the tympanic membrane can be one. Discharge from the ear is scanty at first, then increases with a sharp putrid smell. With the addition of the temporal bone to the process, extensive necrosis occurs in the tympanic cavity and in the mastoid septum with a large amount of purulent fetal discharge and a sharp decrease in hearing. In this case, symptoms of bone caries, formation of sequestrations and paresis or paralysis of the facial nerve are observed.

Treatment. Active treatment of tuberculosis is carried out according to the principles discussed above. When there is a caries-granulation process in the ear, usually against the background of general anti-tuberculosis therapy, an operation to sanitize the general cavity in the ear is performed. In the postoperative period, anti-tuberculosis drugs are used locally.

Picure: 45.Tuberculosis of the ear

The prognosis of tuberculous lesions of the upper respiratory tract and ear is usually favorable: in most cases, recovery occurs with successful treatment of the underlying disease. Prevention consists of prevention and timely rational treatment of pulmonary tuberculosis.

3.2. Injury

Ulcer is a chronic infectious disease caused by a white spirochete. All human tissues and organs, including the ENT organs, are affected by the ulcer. Infection occurs as a result of the penetration of pale treponema through microscopic damage to the mucous membranes and skin; Sexual transmission of infection is common, and non-sexual transmission is less common, in particular, it develops as a result of the introduction of infection with poorly disinfected tools that were previously used in the examination of a patient with a wound.

The incubation period is on average 3 weeks, then a red dot (or papule) appears in the infected area, which increases and becomes denser in a few days - the first wound (hard chancre) forms with an ulcer in the center is formed. 5-7 days after the appearance of a hard chancre, the regional lymph nodes enlarge. Colored treponemas multiply intensively and spread throughout the lymphatic system, as a result of which polyadenitis develops.

Wound of the nose

The wound of the nose is manifested in the form of a hard chancre, secondary and tertiary. Chancre of the nose (primary syphilis) is rare. It can be localized in the entrance to the nose, on the wings and on the skin of the nasal septum. Examination reveals smooth, painless erosion of red color 0.2-0.3 cm. The edges of the erosion have ridge-like thickening, the bottom is covered with fat, and a dense infiltrate is palpable at the bottom.

6-7 weeks after the appearance of a hard chancre, signs of a secondary wound appear - characteristic syphilitic rashes appear on the skin and mucous membranes in the form of roseolosis, papular and pustular. In the nasal area, secondary syphilides occur in the form of erythema and papules. Erythema is accompanied by swelling of the mucous membrane and the appearance of blood-serous or mucous secretions. Papular rashes appear later and are located on the skin of the entrance to the nose, less often in the nasal cavity.

When the papule is eroded, Mucous secretion constantly affects the surface of the wound, which interferes with healing. The presence of persistent rhinitis in newborns and young children, together with a thick secretion that tends to crust, should raise the suspicion of a congenital lesion.

Tertiary form of nose wound is diagnosed more often than the previous two. It is characterized by the formation of diffuse infiltrates or gumma with decomposition. Gumma can be located on the bone, on the bone surface and in the mucous layer, and the necrosis of the bone tissue occurs with the formation of sequestrations (Pic. 46). Most often, the process in tertiary syphilis is located in the bony part of the nasal septum and at the base of the nose. In the second case, contact with the oral cavity may occur during the decay of the gum. In the third period of the wound, pain syndrome is characteristic. Severe pain appears in the nose, forehead and eye sockets. The smell of damaged bone is added to the sensation of pain, and bone sequestrations are often found in separations separated from the nose. The nose often takes the shape of a saddle.

Picture 46.*The third stage of the wound*

Diagnostics. A hard chancre of the nasal passage should be distinguished from a boil. With a furuncle of the nose, limited pustules are identified that are absorbed in the center. Secondary lesions are characterized by the presence of papules on the lips, mouth and anus. At the third stage of the process development, the basis of the diagnosis is considered to be a serological study (positive Wasserman reaction) and the results of

histological examination are also taken into account. It should be remembered that in the initial period of primary syphilis, serological reactions are negative, and as a result, it is defined as seronegative.

(retraction of the back of the nose)

Larynx and larynx injury

As a sign of a general disease of the body, sore throat and larynx are observed; this can happen at any stage of the process. Chancre appears as an erythematous, erosive and ulcerated form. The process in the larynx is, as a rule, one-sided, accompanied by one-sided lymphadenitis of the regional lymph nodes.

In the second stage of the injury, most often, damage to the throat and larynx mucosa occurs at the same time and is often accompanied by skin rashes in the form of roseola and papules. Secondary syphilides are usually not accompanied by subjective feelings, therefore they can remain unnoticed and the patient will serve as a source of infection for a long time.

A specific process in the palatine tonsils is distinguished by a normal or slightly elevated temperature from the usual sore throat, and the absence of pain during swallowing. With pharyngoscopy, a secondary lesion of the larynx is distinguished by a diffuse tumor on the background of copper-red hyperemia, which spreads to the palatal arches, the mucous membrane of the soft and hard palate. Secondary laryngitis manifests as erythema, simulating catarrhal laryngitis with involvement of the vocal folds, larynx, and supraglottis. It is also possible to form papules with localization in different parts of the throat and larynx. Papules are round or oval-shaped gray-white rashes that rise above the surface and are surrounded by a red border along the edge. Such nodules and plaques, often with an ulcerated surface, are located along the tip and edges of the tongue, on the cheek and hard palate.

Picture 47.Throat wound

Specific inflammation of the larynx leads to the formation of an intralarynx fistula. If treated in time, star-shaped, whitish-yellow dense marks are formed in place of gumma. Scars in the larynx can cause deformation and stenosis of the soft palate with the back wall, and in the larynx.

Complaints of the patient at the stage of gumma formation depend on its size, localization and secondary reactive processes. Scars in the larynx cause a blocked nose, hearing impairment due to damage to the auditory tubes, nasal breathing and smell impairment. The process in the larynx is accompanied by hoarseness or aphonia. Breathing becomes difficult as the asphyxiation process progresses.

Diagnostics. Cough and laryngeal ulcer symptoms are recognized based on the detection of pale spirochete papules, a positive Wasserman's serological test.

Types of secondary lesions of the larynx are catarrhal, follicular, wound-membrane throat, tuberculosis and leukoplakia.

Leukoplakia

A limited thickening of the gray-white epithelium located in the mucous membrane of the cheek and tongue appears due to long-term exposure to non-specific substances (smoking, etc.). Tertiary laryngeal lesions should be differentiated from tuberculosis, a malignant tumor. In this case, some help is provided by examining the patient for tuberculosis, Wasserman's reaction, and histological examination of tissue fragments from the affected area.

Independent work questions

1. Modern methods of examination of ENT azos
2. Chin up
3. Stenosing laryngotracheitis in children.
4. Changes of ENT organs in AIDS
5. First aid for foreign bodies in ENT organs
6. Tumor diseases of ENT organs
7. Damage to ENT organs in Wegener's granulomatosis
8. Specific diseases of ENT organs

Answers

Modern methods of examination of the throat

Stage I - external inspection and palpation

External examination of the pharyngeal area allows to evaluate its asymmetry in tumors, inflammatory processes in the tissues. An important method of diagnosis is palpation of the larynx, its active displacement in the horizontal plane, which allows you to decide whether there is a wheeze of the moving larynx (if not, the tumor is suspected will be done).

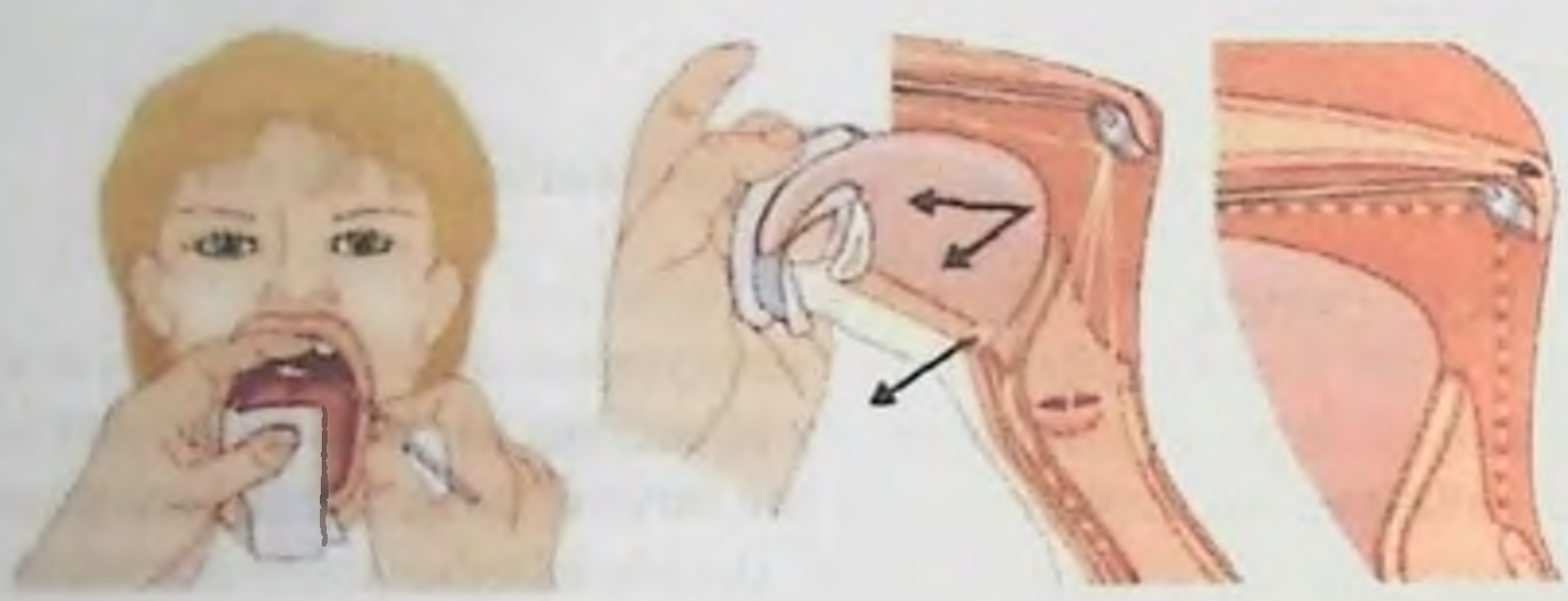
Stage II - indirect laryngoscopy

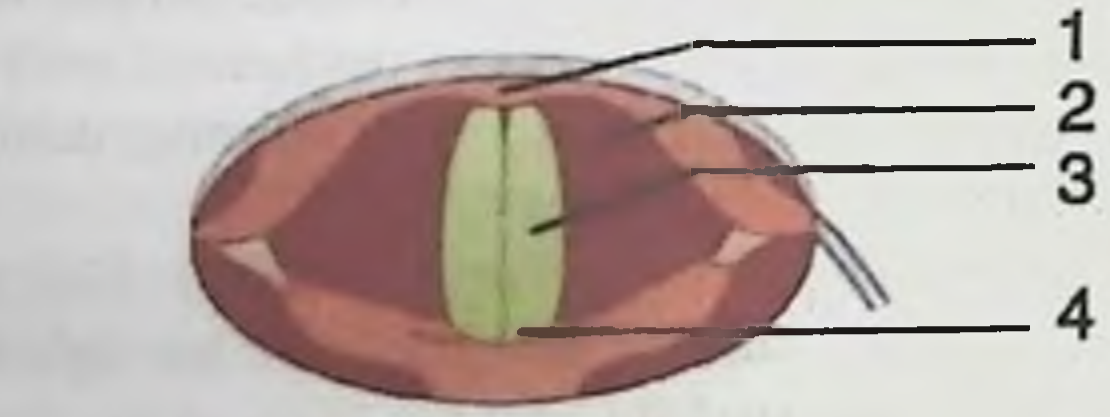
Indirect and direct laryngoscopy methods should be used to examine the larynx cavity. Direct laryngoscopy is performed with the help of special devices with laryngoscopes with automatic lighting, using the laryngoscope on the handle of indirect laryngoscopy.

Indirect laryngoscopy (hypopharingoscopy). The patient is in a free sitting position, the light source is at the level of his right ear. First, you need to catch the "rabbit", then slightly heat the glass of the throat, ask the patient to stick out his tongue, wrap it with a napkin and fix it in this position. The patient should take a deep breath through the mouth. At this time, with the mirror surface down, it is inserted into the oral cavity until it touches the soft palate (Pic. 48-50). The patient is asked to pronounce the sounds "i .. i .. i". This allows you to see the larynx during breathing and phonation. Pay attention to the color of the laryngeal mucosa, the color of the vocal folds, their mobility and closure during phonation. The symmetry of the movement of folds is noted (Pic.51,52).

With an increased reflex, they are performed by spraying an anesthetic solution (lidocaine) on the mucous membrane of the throat, the back of the throat and the root of the tongue. You can use a cotton ball to rub the probe.

Indirect laryngoscopy may not always be sufficient to diagnose the disease. In such cases, we can see the larynx using a rigid laryngoscope or a flexible fibrolaryngoscope, or using a special microscope directly using a microlaryngoscope.



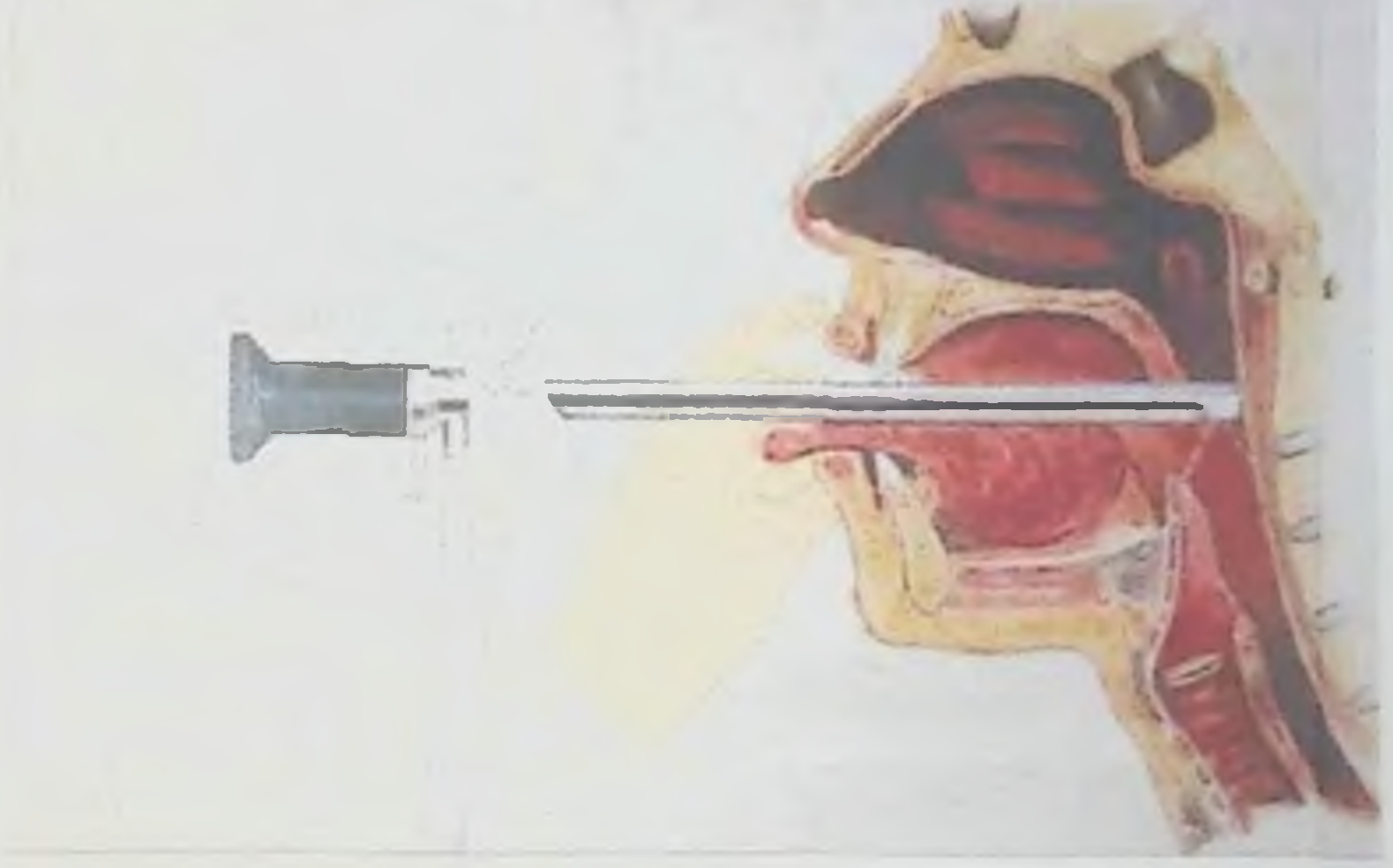


Picture 48.*In indirect laryngoscopy, the location of the laryngeal mirror in the oral part of the larynx. Image of the larynx in indirect laryngoscopy: 1 – above the larynx;*

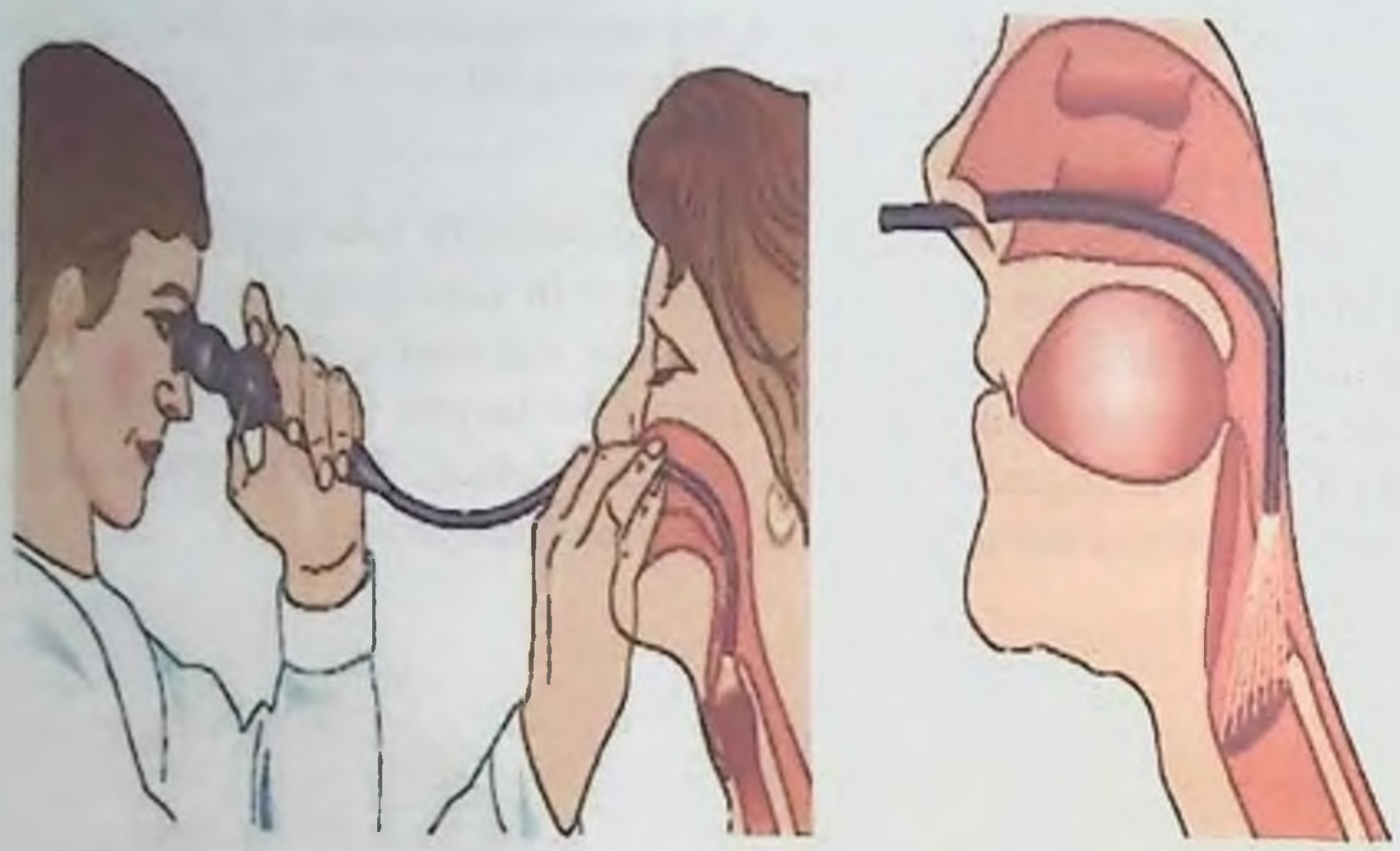
2 – vestibular folds; 3 – vocal folds; 4, 6 – cup-shaped spigot; 5 – folds of the crucian carp; 7, 8 - voice slit

X-ray of the larynx

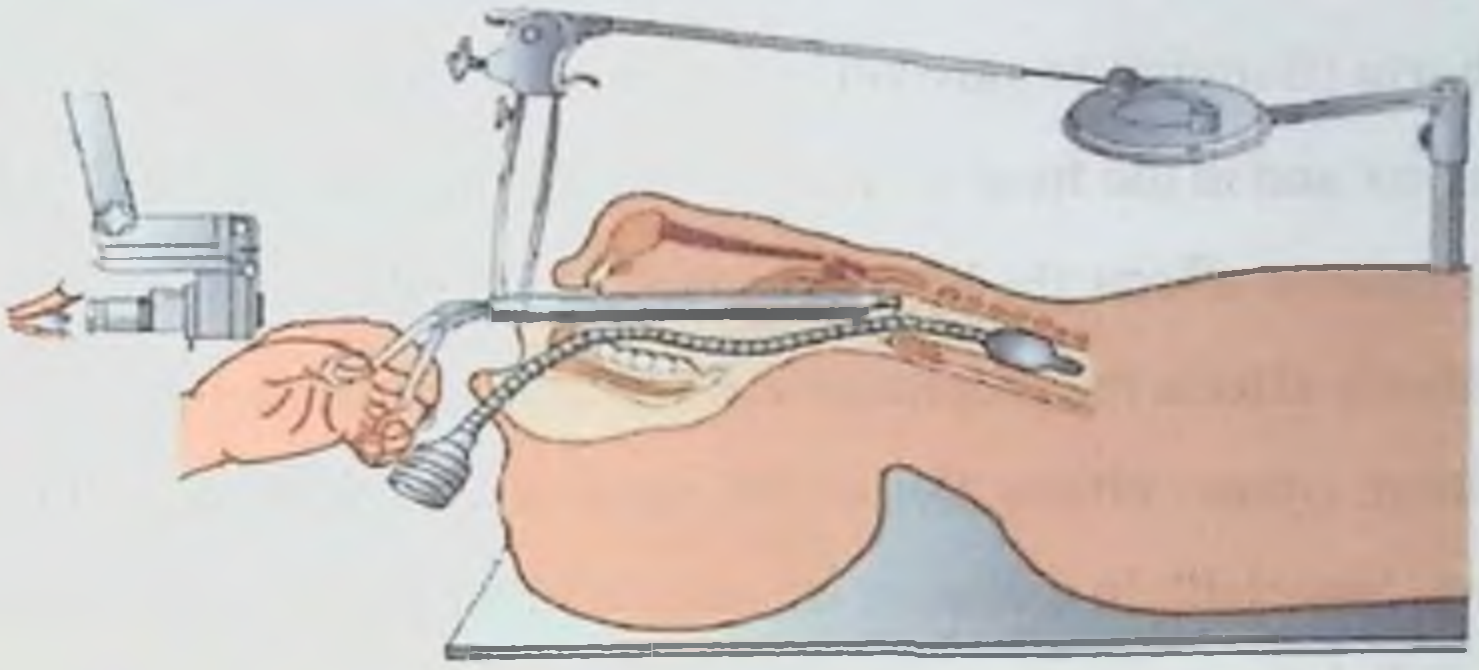
X-ray examination of the larynx, especially tomography performed on the frontal surface, is of great importance in clarifying the diagnosis. As an additional method, it is used to determine the ossification of the larynx, the shape of the air column, the condition of the larynx ventricles, foreign bodies and tumors. Laryngeal CT has high information. This method can provide information about the activity of all parts of the throat

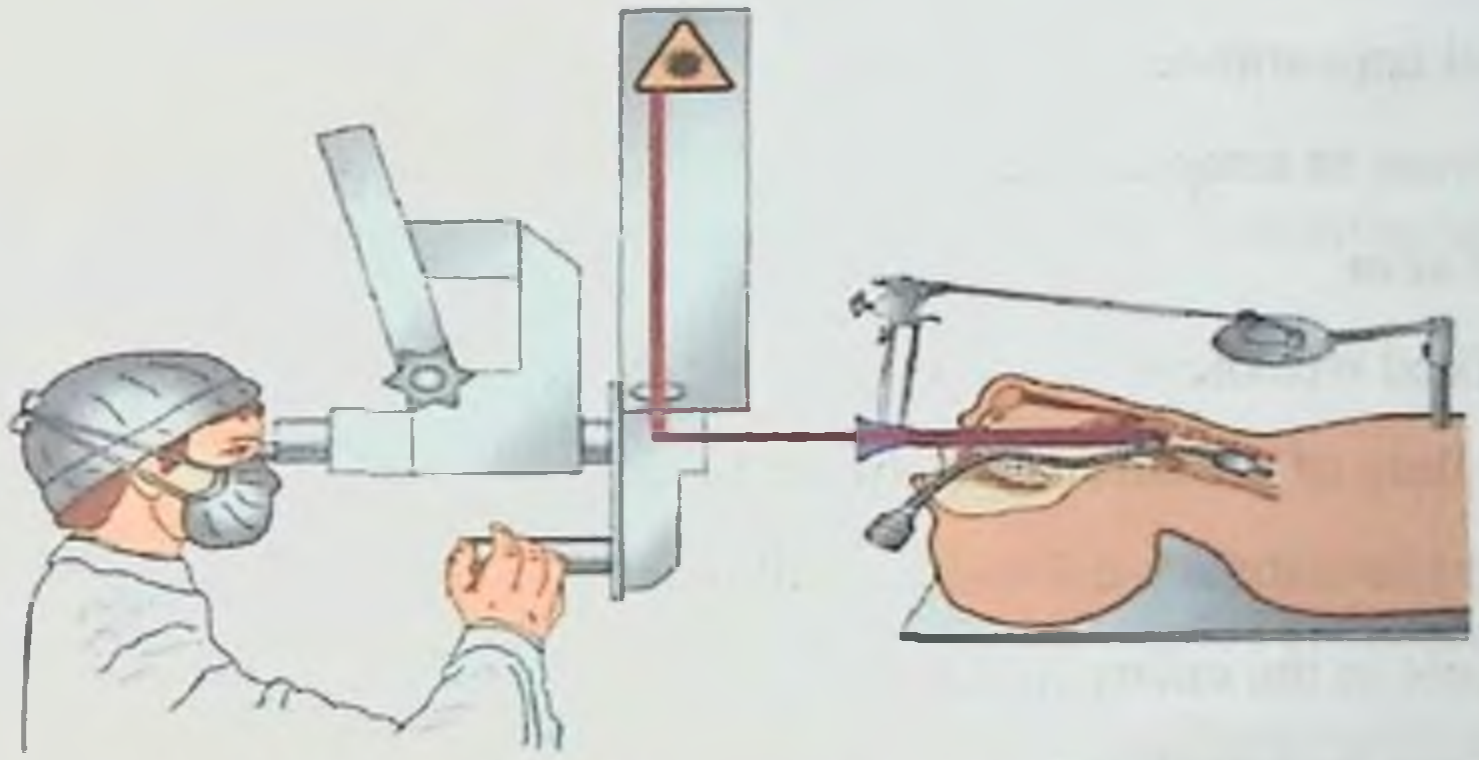


***Picture49** Examination of the larynx using a rigid laryngoscope*



Picture50.*Examination of the larynx using a flexible laryngoscope*





Picture51.*Direct microlaryngoscopy*

Picture52.*Image of the larynx in microlaryngoscopy*

Diphtheria (Bumma) is most often found in the mouth in the area of the oropharynx and in the front arches of the palatine folds and soft palate, but in most cases it affects the larynx, bronch, skin and other organs.

If diphtheria affects the oropharynx, it can lead to severe intoxication and, in addition, croup - obstruction of the airways with diphtheria film and swelling, especially in children, is considered dangerous, and hence the name of diphtheria.

Clinical appearance:

1. Increase in temperature
2. Pale skin
3. Marked weakness
4. Swelling of the soft tissues of the neck
5. Slight sore throat, difficulty swallowing
6. Tonsils in the enlarged palate

hyperemia and swelling of the pharyngeal mucosa

7. Film plaque (often gray-white) covering the tonsils extending to the palate arches, soft palate, side walls of the pharynx, larynx. enlargement of the neck lymph nodes
8. Difficulty breathing with larynx compression.

Picture53 **In the tonsils and soft palate dirty white-gray film of diphtheria**

In the tonsils and soft palate

A dirty white-gray film is a classic sign of diphtheria

Treatment.

A. The mainstay of treatment for all forms of diphtheria (except bacterial carriage) is the administration of an anti-toxic anti-diphtheria vaccine (PDS), which suppresses the diphtheria toxin.

B. Antibiotics have no significant effect on the causative agent of diphtheria

Stenosing laryngotracheitis in children.

This disease mainly develops in young children against the background of URI. It is considered dangerous for patients under 3 years of age. due to increased edema) and such children are often hospitalized. This is an acute laryngitis with a predominant localization of the process in the area of the voice of the larynx. They are usually observed in children up to 5-8 years old, which is related to the structural features of the vocal tract.

In young children, the loose tissue under the vocal folds is highly developed and easily reacts to exposure to an infectious agent. The narrowness of the laryngeal cavity in children contributes to the development of stenosis. When the child is in a horizontal position, swelling increases due to blood flow, so the patient's condition is worse at night.

_Changes of ENT organs in AIDS

AIDSin the virusIn patients with AIDS, ENT diseases develop as opportunistic diseases of fungal and herpetic etiology. Opportunistic infection is caused by opportunistic microflora, and lor patients have a specific course.

Routes of human immunodeficiency virus infection

Sex

Parenteral (blood and plasma)

From the uterus to the fetus

as well as in breastfeeding

Through donor organs and tissues.

The causative agent of AIDS is the human immunodeficiency retrovirus (HIV), whose genome can integrate into the human genome.

The average incubation period is 5 years

AIDS affects up to 35 percent of people infected with the virus

Kaposi's sarcoma

It occurs in about 21% of AIDS patients

Complaints: pain, difficulty eating, periodic bleeding

Early manifestation - necrotic ulcers of the mucous membrane of the oral cavity.

Extranodal non-Hodgkin's lymphoma

It occurs in 4-8% of AIDS patients

Complaints: headache, drowsiness, mental disorders, focal neurological signs

Herpes infection - herpes simplex and shingles

ENT doctors often encounter herpes zoster oticus (Ramsey-Hunt syndrome).

Painful rashes on the eardrum, ear canal, earlobe, tongue

Unilateral neurosensor

hearing loss

Dizziness

Neuropathy of the facial nerve

Picture54 herpetic inflammation of the retina ***Picture55*** Neuritis of the facial nerve

Candidiasis of the oral cavity, pharynx, esophagus, caused by AIDS. Itching and burning in the mouth is caused by an allergic reaction and irritation Unpleasant sensations increase when swallowing saliva, eating, especially spicy, sour or hot food.

Picture56 **Oral candidiasis in AIDS**

Picture57 **Image AIDS-Esophageal candidiasis Image AIDS-Laryngeal candidiasis**

5. First aid for foreign bodies in ENT organs

Foreign bodies in the larynx that make breathing difficult should be removed immediately. There are special methods for removing foreign bodies.

1. If the victim is conscious, it is necessary to stand behind him and ask him to bend his body forward at an angle of 30-45 °, not hard with the palm, but sharply between the shoulder blades. 2-3 times

2. If this does not help, more effective methods should be used. If the victim is in a vertical position, the assistant comes behind him, ties both hands at the level of the upper part of the abdomen and sharply compresses the abdomen and lower ribs to create a strong reverse movement of air. lung, which pushes the foreign body out of the larynx. It should be remembered that after the foreign body leaves the larynx, a reflexive deep breath occurs, during which the foreign body, if left in the mouth, can enter the larynx again. Therefore, the foreign body should be removed from the mouth immediately.

1. If the victim is in a horizontal position, then to remove the foreign body, the victim is laid on his back and with two fists sharply presses the upper part of the abdomen towards the lungs, which provides the already described mechanism.

2. If the victim is unconscious, it is necessary to put him on his bent knees and lower his head as much as possible. 2-3 times with the palm between the shoulder blades is sharp enough, but not too hard. If there is no effect, the manipulation is repeated.

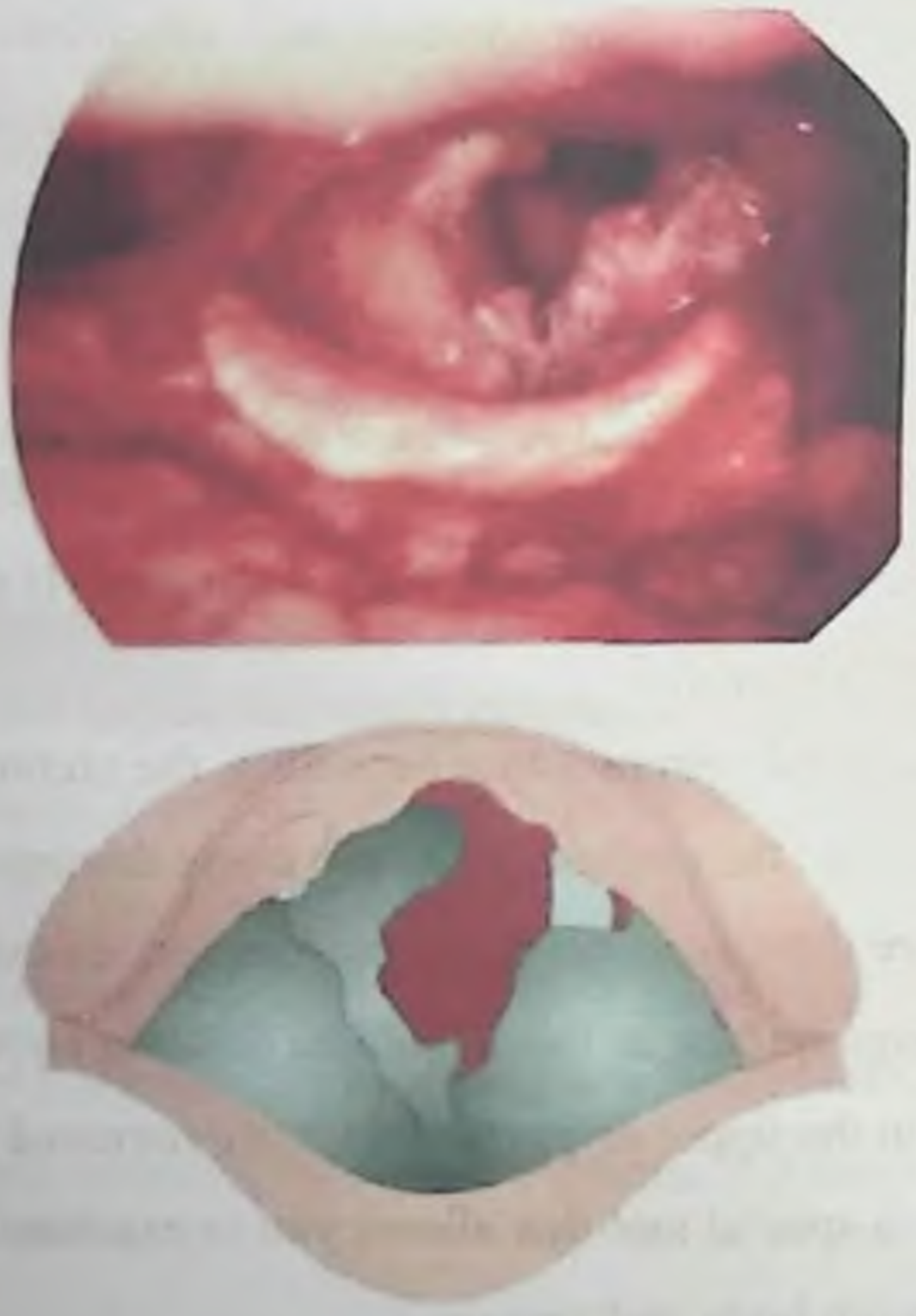
3. After the successful restoration of breathing, the victim requires medical supervision, because the methods used can cause damage to internal organs.

4. In cases where there is no danger of suffocation, do not resort to self-removal of foreign bodies, as this should be done by a specialist. Currently, foreign bodies in the upper respiratory tract are removed using a bronchoscope - a special tool that allows you to examine the airways, identify the foreign body and remove it.

Tumor diseases of ENT organs

Benign laryngeal tumors

The most common benign tumors in the larynx are fibroids located on the free edge of the vocal folds, closer to the anterior parts, or on the upper surface of these folds (Pic. 5.30). Histologically, myoma is represented by connective tissue and covered by epithelium. In appearance, they look like spherical growths, gray in color, with a thin leg protruding from the edge of the vocal fold. Sometimes there are many blood vessels in the connective tissue of such a tumor, and then the tumor acquires a red-cyanotic color. In such cases, they talk about angiofibroma. These tumors grow very slowly, and depending on the localization of their manifestation, they are early (the tumor is located at the free edge of the vocal fold and interferes with its closure during phonation) or late (the tumor is located on the upper surface of the fold and does not interfere with the closure of the vocal fold) it can.

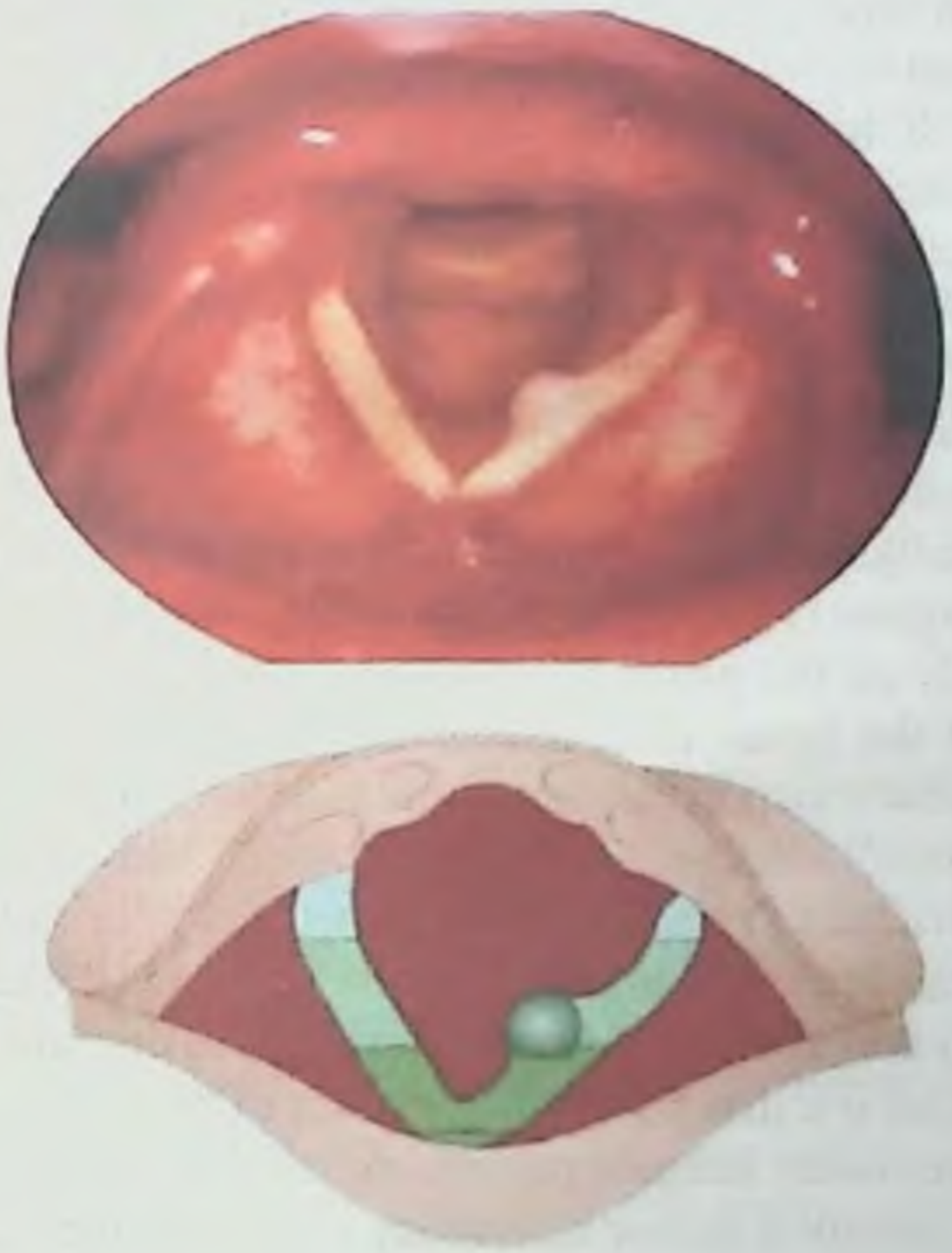


***Picture.58** Laryngeal fibroma*

The main complaint of patients with laryngeal fibroma is voice change indicators - it becomes hoarse, voiceless. Indirect laryngoscopy allows to determine the diagnosis - a pedunculated tumor is visible on the laryngoscopic mirror, sometimes with a wide base, the size of a match head or larger.

Treatment is carried out only by surgery - with the help of an operating microscope and a set of microstructures, they are removed with special forceps under local anesthesia or under general anesthesia.

In childhood, papillomas are more common than benign neoplasms, and the disease itself is called "laryngeal papillomatosis" due to its tendency to significantly spread to all parts of the larynx and even to the trachea due to constant recurrence. Papilloma is a benign fibroepithelial tumor of the upper respiratory tract, representing a single or often papillary tumor, which leads to disorders of voice-educational and respiratory functions, often recurring.



Picture.59*Laryngeal papillomatosis*

The human papillomavirus is the etiological factor of papillomatosis. The main symptoms of the disease are a decrease in voice, aphonia and gradual difficulty breathing. The diagnosis is based on the results of the characteristic endoscopic picture and histological examination of the biopsy material. Treatment - repeated operation (laryngostomy) through the mouth or after opening the larynx is considered palliative. Surgical method - laser laryngeal microsurgery is an effective method.

Laryngocele (air tumor of the larynx) developing in the thickness of the vestibular layer can be named as a larynx tumor that can simulate the pathology of the organs of the dental-jaw system. This tumor, when significantly enlarged, is identified as a spherical tumor in the jaw area. This swelling is usually painless and has a soft elastic consistency. With indirect laryngoscopy, a spherical bulge can be seen protruding from the vestibule, which can cover the breathing gap. In the X-ray, in these cases, an air gap is detected in the area of the atrial folds towards the outer space.

Treatment is surgical (external removal of the laryngocele membrane).

Tumors of the throat

Low-grade tumors found in the area of the larynx primarily include cancer - low-grade tumors originating from the epithelium, affecting different parts of the larynx, capable of exophytic or infiltrative growth, regional and distant during its development gives metastases.

Most of the time, men are affected, and larynx cancer is 25 times more common in smokers than in non-smokers. Laryngeal cancer accounts for 2 to 8 percent of malignant tumors of all localizations and 2/3 of malignant tumors of the ENT organs. The degree of development of symptoms in laryngeal cancer depends on the primary location of the tumor. The most favorable localization of the tumor is its appearance in the vocal fold. First of all, it determines an early visit to the doctor, because the symptom of voice disorder appears with small changes in the actual vocal folds. Secondly, due to its histological structure, tumor growth slows down in the vocal fold, and metastasis occurs later. The tumor of the cortical folds develops very quickly, metastasizes to the regional neck lymph nodes and does not cause symptoms for a long time, so it is diagnosed later. Cancer of the pelvic area is also called a late-diagnosed tumor, because patients do not feel any discomfort for a long time and only consult a doctor when they begin to have difficulty breathing or spit up blood.

Picture 60. Vocal folds cancer

With the localization of a cancerous tumor in the laryngeal part of the larynx (supralaryngeal, ring-shaped, laryngeal folds), patients may experience sore throat, discomfort, and sometimes pain radiating to the ear. Thus, the oncological awareness of a doctor in any specialty is necessary to register the first manifestation of a larynx cancer tumor.

There are four stages of cancer depending on the level of the larynx tumor:

I - the tumor is located in a part of the larynx, for example, in the vocal fold. There are no metastases.

II - the tumor covers the entire larynx (the entire vocal fold). No metastases.

III - the tumor spreads to other parts of the larynx (vocal fold, atrial fold, larynx). Metastases in regional lymph nodes.

IV - a large tumor of the larynx spreads to neighboring organs (root of the tongue, esophagus). Distant and regional metastases, cachexia.

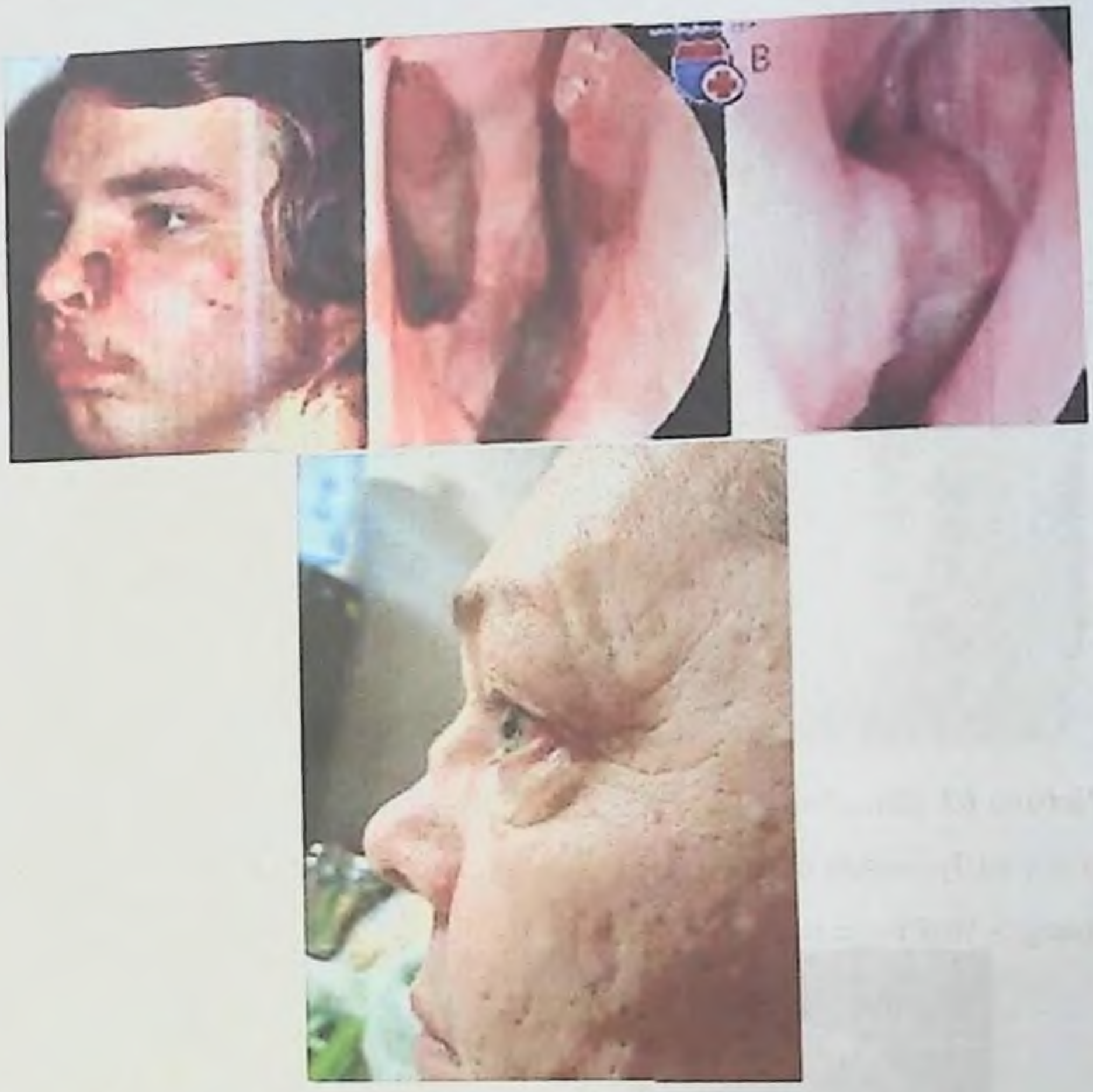
It is not always possible to accurately diagnose laryngeal cancer only by the appearance of the tumor. Limitation of the mobility of the vocal fold or its complete immobility, asymmetry in the color of different parts of the larynx are of great importance: one vocal fold is normal in color, the other is hyperemic. Tomography of the larynx in the frontal projection gives characteristic signs of the tumor of the larynx. Biopsy is crucial in diagnosis.

7. Damage to ENT azaleas in Wegener's granulomatosis Wegener's granulomatosis (VG) is a very rare severe general disease from the group of systemic vasculitis, characterized by the appearance of granulomatous lesions of the upper respiratory tract (nose [throat). This disease was first described in 1931 by the German pathologist Wegener F. The etiology of Wegener's disease is unknown. Perhaps, the disease appears as a result of the combined effect of factors of a multifactorial nature. The etiological factors of the pathology are still not fully understood. Perhaps the main role is played by a chronic infection present in the mucous membrane of the respiratory tract. Precipitating factors include delayed-type hypersensitivity that develops under the influence of bacterial agents or due to drugs.

Depending on the clinical course

There are several forms of pathology - acute, subacute and chronic. Three main stages in the development of the disease are also described: initial - changes in the upper respiratory tract are of a local nature (nasal cavity, pharynx, larynx, trachea and sometimes the mucous membranes of the middle ear are affected); generalized - internal organs, lungs and kidneys, in particular, are involved in the process of damage; terminal - the most severe, aggravated by the addition of kidney, lung and heart failure. In this regard, patients complain: nasal congestion (usually half); purulent discharge from the nose with blood; brown crusts form on the mucous membrane, after their removal it looks thin and is covered with signs of bleeding. At the next stage of the disease, perforation of the bony part of the nasal cavity (saddle nose perforation) occurs. After that, the nearby tissues, especially the paranasal sinuses, are destroyed. A characteristic feature of granulomatosis from

syphilis is the absence of destruction of the hard palate, in which case the hard palate remains unchanged.



*Picture 61 T*he condition of the nose in Wegener's disease

The general stage of the pathology is usually diagnosed after a few months or even after a few years. The lungs are characterized by cough, shortness of breath, characteristic chest pain. The skin also gives a signal about changes in the body, where ulcerative-necrotic rashes appear.

Terminal granulomatosis is life-threatening. Symptoms of pulmonary and heart failure are added to the events of azotemic uremia, which together lead to death.

Picture 62 Skin changes in Wegener's disease

In the early stages of the disease, it is important to adequately assess the changes that have occurred in the lungs. X-ray examination for this

Picture 63 Status of nasal and nasolabial cavities in MSKT in Wegener's disease

At the same time, laboratory tests are required: urine and blood tests, biopsy of the mucosa of the upper respiratory tract, etc. Treatment of Wegener's granulomatosis Treatment of Wegener's granulomatosis is based on the use of cytostatics. The duration of such therapy can be about a year until a stable remission is achieved. The rapid development of the disease is the reason for intravenous administration of drugs. Otherwise, the patient may not live even six months (mortality reaches 80%).

Early therapy leads to a positive prognosis.

SPECIFIC DISEASES OF ENT ORGANS

Tuberculosis. Syphilis. Scleroma Tuberculosis of the larynx Transmission of infection usually occurs through airborne droplets and saliva

Clinical manifestations:

1. Initial stage

loud wheezing unilateral vocal fold redness (monochorditis)

2. Ulcerative - infiltrative stage:

The mucous membrane is pale and swollen

There are many necrotic ulcers, superficial, irregular in shape, yellowish in color

3. Ulcer-necrotic stage (final stage)

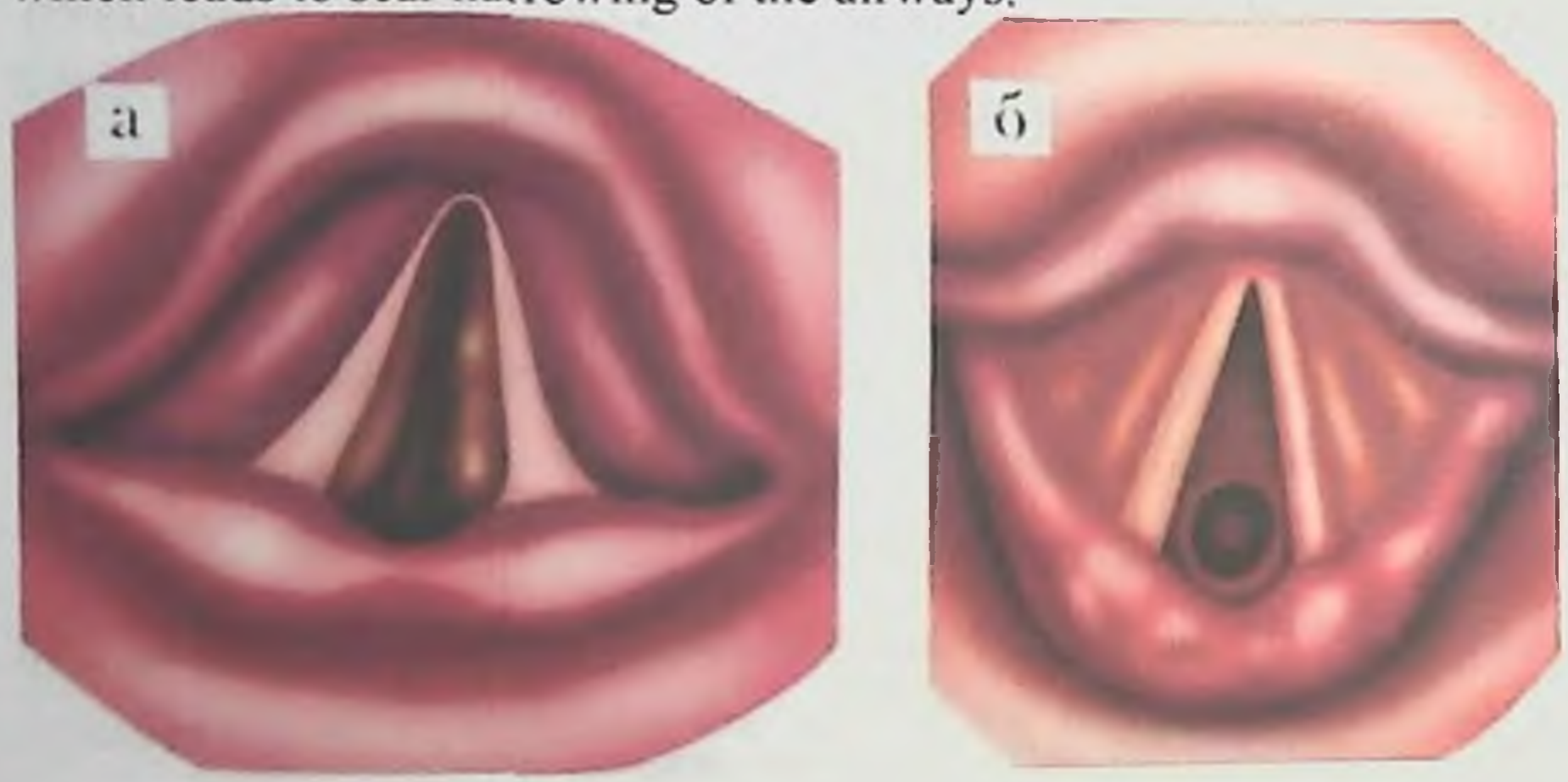
Perichondritis develops The skin in the area of the larynx turns red, and fistulas appear on it The mobility of the vocal cords may be impaired and lost

Scleroma of the upper respiratory tract Chronic infectious disease is high affecting the mucous membrane of the respiratory tract has a specific rigger Klebsiella scleroma (Frisch-Volkovich bacillus).

Latent period from 2 to 10 years. This disease is characterized by a slow and progressive course. It has 3 periods according to its classification/Infiltrative, Infiltrative – scarring, Scarred

Clinic Complaints:

Dryness and congestion in the nose A thin, viscous discharge with crusts, sometimes with a faint odor reminiscent of rotten fruit. In the initial stages, dense infiltrates are located in physiologically narrowed areas (nasal vestibule, choana, nasopharynx, subglottic space of the larynx, bifurcation of the trachea, bronchial branches). In the late stage, infiltrates form a scar, which leads to scar narrowing of the airways.



Picture 64.Laryngeal scleroma indirect laryngoscopy A-infiltrate in the subglottic space B -scar stenosis

In the diagnosis of laryngeal scleroma, the following laboratory tests are mainly performed.

a. Positive serological tests Wasserman, Borde-Gangu

b. Histological examination of biopsy material

d. Bacteriological examination of sputum (detection of Frisch-Volkovich bacillus)

Treatment of laryngeal scleroma There is no specific treatment

Symptomatic conservative treatment: Antibacterial therapy (aminoglycosides)

Surgery:

Swelling of the airways

Removal of Infiltrates in the airways

Electrocoagulation of infiltrates (CO2 gas laser, Surgitron, coblator)

Syphilis

It is observed in secondary and tertiary stages Primary syphilis (chancre) in the larynx is extremely rare. Secondary syphilis can appear in the following forms

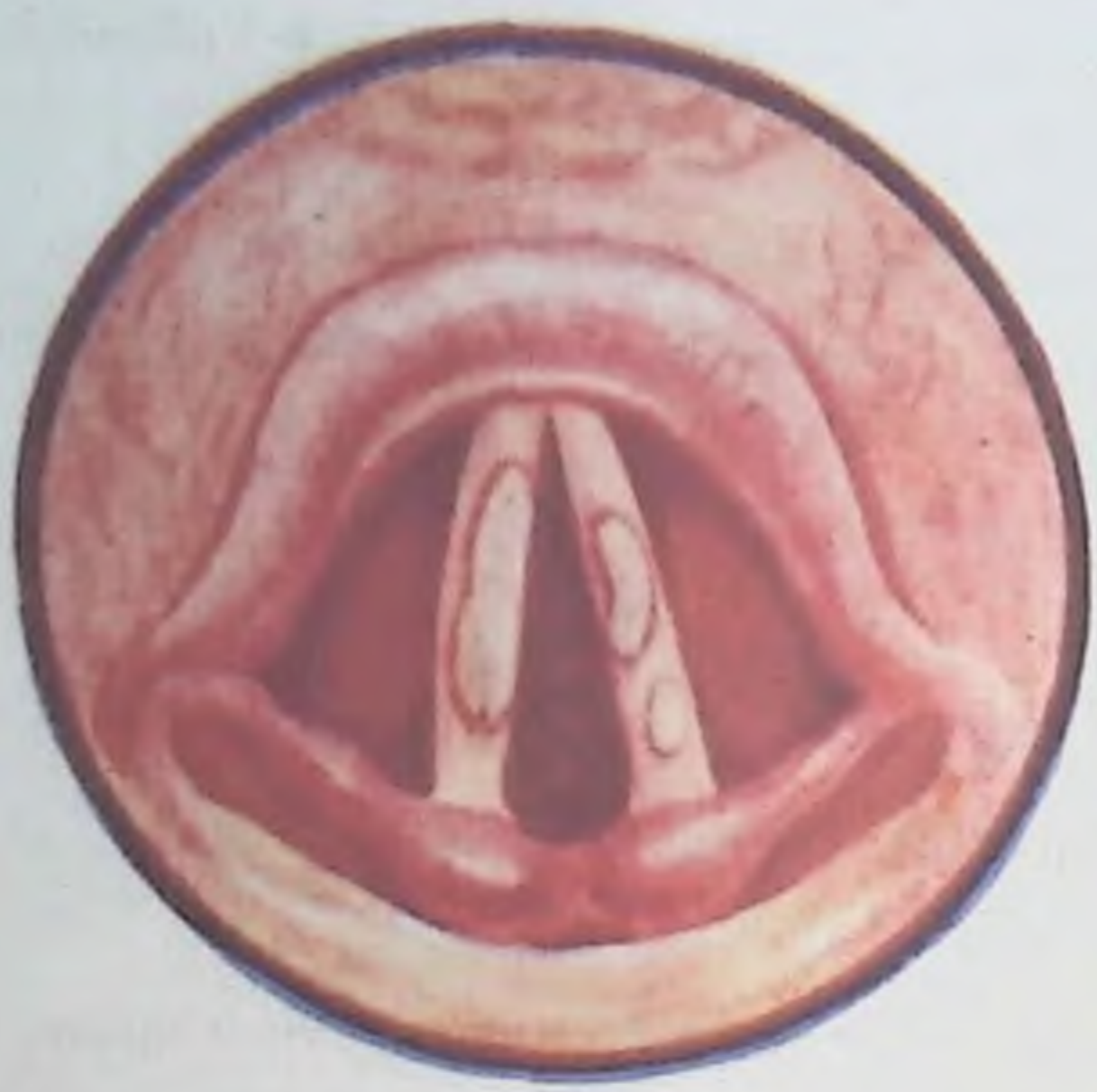
A. Erythema (the clinic is similar to acute catarrhal laryngitis, the mucous membrane becomes loose and copper-red. Complaints of hoarseness and sweating are characteristic)

B. Papules (localized in aryepiglottic folds, epiglottis

D. Solid form (in the vocal folds, subglottic space; possible infiltration, difficulty breathing, up to asphyxia)

S. Erosive form (they last the most severely)

Wounded form



Picture 65.Papules of the vocal folds

Tertiary syphilis (Gumma)

Complaints: dysphonia, respiratory failure, dysphagia, pain syndrome Gums are mainly located in the moving parts of the larynx (epiglottis, vocal cords) and the back wall of the larynx. Syphilitic scars, rough, narrowing its mucous layer, developing in the place of bumps With scar stenosis of the larynx, after treatment, it is sometimes necessary to perform plastic surgery to restore its mucous membrane.

Picture 66. Syphilis of the larynx: gummi infiltrate of the right half of the larynx

Picture 67. Syphilis of the larynx: epiglottis defect and scarred membrane in the subglottic space

LIST OF MEDICINES USED IN ENT

Antibiotics. Penicillins.

✧-Amoxicillin-capsule 250 and 500 mg;powder for suspension preparation250 mg in 5 ml.

Amoxicillin + clavulanic acid (amoxiclav) - tablet 375, 625 mg; powder for injection 600 mg, 1.2 g in a vial.

Ampicillin - tablets 250 mg; capsule 250 mg;powder for suspension preparation.

Amoxicillin + clavulanic acid (augmentin) – tablets 250 mg + 125 mg, 500 mg + 125 mg, 800 mg + 125 mg; powder in a vial for injection 500 mg + 100 mg, 1.0 g + 200 mg.

Cephalosporins.
Cefazolin - powder in a vial for injection 500 mg, 1 g.
Cefuroxime - powder in a vial for injection 250 mg, 750 mg, 1.5 g.

Cefotaxime - powder in a vial for injection 1.0 g.
Ceftriaxone - powder in a vial for injection 250 and 500 mg, 1.0 g.
Cefepime - powder in a vial for injection 500 mg, 1.0 g.
Cefpirom - powder in a vial for injection 1.0 and 2.0 g. -
Fluoroquinolones.
Ciprofloxacin - tablets 100, 250 and 500 mg; solution in a vial for infusion 10 mg in 5 ml, 2 mg in 1 ml.

Levofloxacin (ceiling) - tablet 250 and 500 mg; solution in a vial for infusion 5 mg/1 ml - 100 ml.

Macrolides:
Azithromycin (sumamed) - tablets 125 and 500 mg; capsule 250 mg.

Roxithromycin (rulid) - tablet 150 mg.

Spiramycin (Rovamycin) - tablets 1.5 and 3 million ME; 1.5 million ME in powder vials to be sent to Vienna.

Clarithromycin (Clacid) - tablets 250 and 500 mg. - Carbapenems.

Imipenem + (cilastatin) (tienam) – 1.0 g in powder vials for intravenous infusion and intramuscular injection.

Meropenem - powder for intravenous injection 500 mg, 1 g. Tetracyclines.

Doxycycline - capsule 50 and 100 mg. - Imidazoles.

Metronidazole - 0.5% solution for intravenous injection in 20 ml ampoule; 0.5% solution for intravenous infusion in a vial of 100 ml.

Antifungal drugs.

- Fluconazole (diflucan) - capsule 50, 100, 150 and 200 mg.
- Ketoconazole (Nizoral) - tablet 200 mg.
- Itraconazole (orungal) - capsule 100 mg.
- Nystatin - tablets 250 and 500 thousand XB.
- Clotrimazole - ointment 1% and 1% solution in a vial of 15 ml.
- Chlornitrophenol (nitrofungin) - 1% 25 ml alcohol solution in a vial.

Test questions on the topic

The anterior wall of the nasopharynx borders on
*nasal cavity
base of the skull
retropharyngeal space
the mouths of the Eustachian tubes

The predominant locations of scleromatous infiltrates in the respiratory tract
*narrowed areas (nasal entrance, choanae; pharynx, larynx); bifurcation of the trachea;
narrowed areas (nasal entrance, choanae; larynx);
choanae; pharynx, bifurcation of the trachea;
entrance to the nose, pharynx, larynx); bifurcation of the bronch;

At the 1st degree of hypertrophy of the pharyngeal tonsil, adenoid tissue
covers the entire coulter
*covers the upper third of the coulter
covers two thirds of the coulter
hangs into the oropharynx

In grade 2 hypertrophy of the pharyngeal tonsil, adenoid tissue
covers the entire coulter
covers the upper third of the coulter
*covers two thirds of the coulter
hangs into the oropharynx

In grade 3 hypertrophy of the pharyngeal tonsil, adenoid tissue
*covers the entire coulter
covers the upper third of the coulter
covers two thirds of the coulter
hangs into the oropharynx

For what examination are mirrors with a diameter less than 1 cm required?
anterior rhinoscopy
medium rhinoscopy
*posterior rhinoscopy
oropharyngoscopy

Principles of local treatment of chronic catarrhal and hypertrophic pharyngitis
*removal of secretions from the mucous membrane of the pharynx, soothing irritation.
gargling with a 2% solution of protargol;

rinsing the throat with antiseptic solutions;
gargling with antiseptic solutions, warm drinks;

What could dense, painless lymph nodes on the neck be a manifestation of?
malignant tumor of the nasopharynx; syphilis;
malignant tumor of the nasopharynx, oropharynx, larynx; tuberculosis;
*malignant tumor of the nasopharynx, oropharynx, larynx; syphilis;
scleroma; malignant tumor of the nasopharynx; syphilis;

The resonant function of the pharynx is carried out by
*size and shape of the pharynx
articulatory apparatus
vocal folds
muscles of the pharynx

What diseases should false croup be differentiated from?
with tuberculosis of the larynx;
with erysipelas of the larynx;
with acute pharyngitis;
*with diphtheria of the larynx; tuberculosis of the larynx; erysipelas of the larynx;

Follicular tonsillitis is differentiated from
diphtheria
acute pharyngitis
*does not require differentiation
bacillary sore throat

Functions of the pharynx
*respiratory food-conductive protective
digestive
phonatory
protective

Chronic tonsillitis is differentiated from
catarrhal angina and hypertrophy of the palatine tonsils
*chronic pharyngitis and hypertrophy of the palatine tonsils
hypertrophy of the palatine tonsils
pharyngomycosis

What do you need to have to perform a posterior rhinoscopy?
forehead reflector, Kilian mirror, artificial lighting
forehead reflector, nasal mirror, artificial lighting
*forehead reflector, nasopharyngeal mirror, spatula, artificial lighting
forehead reflector, nasal mirror, spatula, artificial lighting

What is a true croup?
diphtheria of the larynx in the vestibular region;
diphtheria of the nose, throat;
isolated diphtheria of the larynx;
* diphtheria of the larynx, preceded by diphtheria of the pharynx and nose;

Subjective symptoms in tuberculosis of the pharynx
sore throat;
*sore throat; bad smell (secondary infection);
sore throat; dysphagia;
dysphonia; unpleasant odor;

The tonsils are located in the nasopharynx
* tubal and pharyngeal
pharyngeal
palatine
lingual

It is located in the peripharyngeal space
*internal carotid artery
common carotid artery
superior thyroid artery
external carotid artery

The pharynx's alimentary function involves
*muscles of the pharynx
lymphoid tissue
viscosity of mucus
secretory apparatus

The tonsils are located in the oropharynx.
*palatine
pharyngeal
pipe

lingual

eading factors in the occurrence of subatrophic pharyngitis
dust
high humidity, low air insolation
*low humidity and high insolation
voice load

The upper wall of the pharynx starts from
vault of the skull
*base of the skull
level of the hard palate
level of the root of the tongue

Types of pharyngoscopy
*mesopharyngoscopy epipharyngoscopy hypopharyngoscopy
parapharyngoscopy
epipharingoscopy
hypopharyngoscopy

Types of chronic hypertrophic pharyngitis
limited, diffuse, granular;
granulose, diffuse;
lateral, medial, diffuse;
*granular, lateral ridges;

The pharynx is innervated by nerves
*wandering, glossopharyngeal
trigeminal
glossopharyngeal
additional

The pharynx is located at the level of the cervical vertebrae
*1-6
1-4
1-5
1-3

The pair pharyngeal lymphadenoid ring includes
*2 palatine tonsils and 2 tubal tonsils
2 tubal tonsils
2 laryngeal tonsils and 2 tubal tonsils

2 sublingual tonsils

The unpair pharyngeal lymphadenoid ring includes
*adenoid and lingual
2 tubal tonsils
2 laryngeal tonsils and 2 tubal tonsils
2 sublingual tonsils

The pharyngeal openings of the auditory tube open at the moment
*swallowing
yawning
inhale
exhale

The pharyngeal openings of the auditory tubes open
*on the lateral wall of the nasopharynx
on the back wall of the nasopharynx
on the upper wall of the nasopharynx
on the anterior wall of the nasopharynx

The boundary between the upper and middle floors of the pharynx is considered to be the plane drawn
*through the soft palate
through the hard sky
through the root of the tongue
at the level of the entrance to the esophagus

Agranulocytic angina is characterized by
hyperemia and sharp enlargement of the palatine tonsils
*necrosis and deep ulcers on the tonsils and other parts of the pharynx
increase in the number of leukocytes in peripheral blood
decrease in the number of leukocytes in peripheral blood

Angina in acute leukemia is characterized by
enlargement of the tonsils and hemorrhages under the mucous membrane of the pharynx
*ulcers with necrotic plaque on the tonsils and other parts of the pharynx and hemorrhages under the mucous membrane of the pharynx
spotty whitish rashes on the tonsils and hemorrhages under the mucous membrane of the pharynx
hemorrhages under the mucous membrane of the pharynx

To reduce the volume and decrease secretion in chronic catarrhal and hypertrophic pharyngitis, prescribe

*solutions of collargol, protargol 1-2%, lubrication of the mucous membrane of the pharynx with iodoglycerin;

lubrication of the mucous membrane with a 2-3% solution of silver nitrate;

gargling with antiseptic solutions;

lubrication of the mucous membrane with a 2-3% solution of silver nitrate, gargling with antiseptic solutions;

To remove foreign bodies from the pharynx, use

*tweezers and clamp

clamp

probe and clamp

spatula and clamp

Complaints of a patient with atrophic pharyngitis

*dry throat

bad breath

pain when swallowing

hoarseness

A retropharyngeal abscess is most often located at the level

*oropharynx

nasopharynx

larynxopharynx

equally common in all parts of the pharynx

The posterior palatine arch is formed by

*palatopharyngeal muscle

stylopharyngeus muscle

superior pharyngeal constrictor

palatoglossus muscle

The posterior wall of the nasopharynx borders on

* bodies of the cervical vertebrae

nasal cavity

base of the skull

the mouths of the Eustachian tubes

What changes in the tonsils occur in chronic hypertrophic pharyngitis?

*enlarged hyperemic palatine tonsils and lingual tonsil;

hyperemic tonsils;

the palatine tonsils are fused with the palatine arches;

palatine tonsils are unchanged;

Situational issues

1. A 2-year-old boy developed wheezing from his mother's milk for 3 months, difficulty in breathing was observed gradually, noisy breathing was observed in the last days. Indirect laryngoscopy: The laryngeal slit is narrowed, there are cauliflower-shaped lesions. Other ENT organs are unchanged.
Task: Make a diagnosis.

2. The patient is 56 years old, his complaint is wheezing for a month. There is no pain when swallowing. The patient smokes and drinks alcohol. Laryngoscopy: laryngeal mucosa is pink. His voice is swollen, distorted, limited in movement, vocal cords do not connect to the end in phonation. Other ENT organs are without pathology. Neck lymph nodes are not enlarged. Task: Pour the diagnosis.

3. A 30-year-old patient underwent a tracheostomy in the second stage of laryngeal tenosis. After 3 hours, it became difficult for the patient to breathe through the tracheostomy, crepitation was observed in the front part of the neck.
Task: Make a diagnosis.

4. A 2-year-old child was brought to Lor Bulimia with laryngeal stenosis of the 4th degree (terminal stage).
Task- Determine the optimal surgical approach.

5. The patient, 40 years old, complains of dryness and itching in the throat, dry swallowing, rapid loss of voice. He has been sick for 2 days, he attributes his illness to a cold. Objectively: his general condition is satisfactory. Mucous secretions with hyperemia of the laryngeal mucosa were detected. The vocal cords are infiltrated, their mobility has not changed. His voice is hoarse, his breathing has not become difficult. Other ENT parameters are unchanged.
Task: Pour the diagnosis.

6. A 34-year-old patient complains of severe pain in the throat, pain when swallowing, difficulty breathing, coughing and wheezing. Objective: body temperature 39.0, inspiratory panting. On palpation, the neck lymph nodes are painful around the larynx. Indirect laryngoscopy: the mucous membrane is infiltrated and swollen, swollen, the vocal cords are not swollen. Other ENT organs without pathology Task: Pour the diagnosis.

7. The patient is 45 years old, his complaint is hoarseness, hoarseness of voice, swallowing, discharge of mucus. The patient has been sick for 5 years. Laryngoscopy - the stagnant mucous layer is hyperemic, strongly manifested in the vocal folds. The blood vessels are enlarged, there is a mucous discharge in the pharynx. Other ENT organs are without pathology.
Task: Make a diagnosis

8. A 50-year-old patient complains of hoarseness, a sore throat, dry swallowing from time to time. The patient has been ill for 2 years. Coop smokes. He works in a dusty enterprise. Indirect laryngoscopy: laryngeal mucosa and vocal cords are persistently hyperemic, laryngeal movement is not disturbed. His voice was hoarse, his breathing was not difficult.
Task: Make a diagnosis

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STUDY GUIDE

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