A scenic landscape featuring a calm lake with a small island in the center. The island is covered with a mix of evergreen and deciduous trees, some of which are showing autumn colors. The surrounding forest on the hills is dense and green. The water is clear and reflects the surrounding greenery and sky.

Examination (inspection) of a patient.
General inspection of a patient.
Inspection of separate parts of
patient's body.

Assistent professor
Chumakova Natalia Sergeev

Inspection (examination)

- Inspection (examination) (inspectio) starts when we first see the patient, as soon as we start talking to him.
- The examination consists of **General and local examination**. Doctor's findings should be recorded in the section "Current condition (Status praesens)" and **organ systems inspection** of the hospital Patient's history sheet. Organ systems inspection is done before the physical examination (palpation, percussion, auscultation).

Patient's bearing and gait in Bechterev's disease

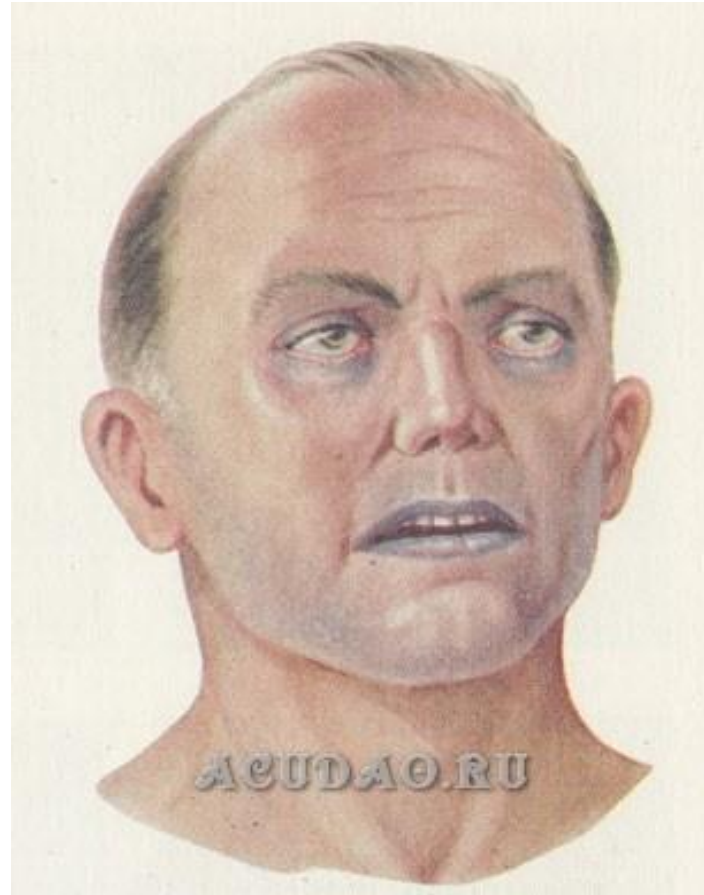


General inspection

- Evaluation of patient's general condition;
- Estimation of condition of consciousness (or mental state);
- patient's position;
- body built (habitus) - constitution, high, body weight;
- body temperature .

At the local examination we perform:

- 1. inspection of body parts: head, face, neck, body, arms and legs;
- 2. assess the condition of the skin, skin appendages (nails, hair) and visible mucous;
- 3. subcutaneous fat with the existing entities (vessels, lymph nodes, etc.);
- 4. determine the condition of the muscles
- 5. osteo-articular system



Acrocyanosis

1. General condition of the patient

General condition of the patient is assessed on the basis of full and comprehensive investigation.

General condition can be:

- satisfactory,
- moderate,
- severe,
- very severe,
- terminal,
- agonal,
- clinical death

- In a **satisfactory condition**, a patient can walk easily, is willing to talk to other patients, has a clear consciousness. The disease is in a phase when it's compensated by the functions of the body.
- In a **moderate condition** the patient is trying to avoid movements, is not willing to communicate to other people, however, he is able to take care of himself, his consciousness is clear. The disease is in the stage of decompensation of the basic functions of the body, but there is no immediate threat to life currently.

- In **severe condition** the patient is lying in bed and can't walk, his mind may be clear, but sometimes stupefied (stupor, sopor), body function decompensated, there is a threat to life.
- In a **very severe condition** the patient is passive, the mind may remain clear, but often stupefied (stupor) , some patients are unconscious (in coma). In this state the basic life functions of an organism are violated and without urgent and energetic medical care the patient will die. Extremely severe condition may be in case of diseases, involving coma, shock and pulmonary edema.
- **Clinical death** is the state when a patient doesn't breath and heartbeat stopped. The blood pressure and pulse are not defined on the great vessels, but irreversible changes haven't happen in the internal organs and particularly in the brain.

2. Consciousness

- Not disturbed consciousness is named clear. In clear consciousness a patient is actively talking to a doctor, well oriented in a place, time and space.
- Impairment of consciousness may be caused by depression of consciousness or excitement.

There are following types of the impairment of consciousness (in the order of increasing severity):

- - **Stupor (stun)** – stun condition. Talking to a patient you can take him out of this condition for a short period of. The patient is disoriented in the environment, answers questions slowly, belatedly;
- - **SOPOR (or sleep)** – stage of deep stun. The patient does not respond to others, although he still feels everything, including pain. He doesn't answer questions or answers in monosyllables ("Yes - no"). React to inspection.
- **Coma** - a state of deep oppression of the Central nervous system and disorder of the regulation of vital body functions. The patient is unconscious. Respiration and the cardiovascular system is working. Basic reflexes dropped down or not detected at all.

Arousal can be accompanied by a feeling of euphoria, confused mental state, psychomotor agitation, delirium.

- **Euphoria** is a state of excitement, inadequate to the general condition of the patient. The patient himself doesn't consider this condition as critical, and is rather optimistic about it.
- **Delirium (delirium)** may be silent and violent. The most important task is to identify whether the patient has a fever or not. In case of a fever, the most likely diagnosis is febrile delirium. Once we identify that there's a fever, we need to understand the cause of the fever.
- If delirious patient does not have a fever, you should consider that he got poisoned, or drunk, or has uremia, hepatic encephalopathy, hypoglycemia, brain diseases.

3. Position of a patient



Orthopneic position



Рис. 7. Вынужденное положение больного при:
а) приступе бронхиальной астмы; б) — экссудативном перикардите; в — сильном
изладе, вызванном острой болезнью; г — саркомерите или протуре ар-
териальной; д — стенозе; е — эмболии.

An active position

- **An active position** is when a patient can take care of himself, and can move actively. You should take into consideration, that depending on the age, the level of physical activity may be different.
- **Please note!** Sometimes seriously ill patients can retain active position.

Passive position

- **Passive position** is when a patient is unable to take care of himself (coma, severe weakness, paralysis).



Puc. 497

Defense (forced) position

- **Defense position** is a position that a patient takes unconsciously to minimize the pain. He can change the position himself, but it will increase the pain and worsen his condition. Sometimes a defense position is so typical for a certain disease or syndrome, that we can immediately make a suggestion about a diagnose. In a defense position a patient can be lying, sitting or standing.

Defense (forced) position



For example:

Patients with inflammation of the pleural sheets

- (dry pleurisy, pleuropneumonia) and intensive pleural pain often take a defense position, lying on the sick side, or sit, pressing the chest on the affected side. This position limits the respiratory motion of the inflamed pleural sheets and their rubbing on each other, and it helps to reduce the pain.

Bronchial Asthma attack

- In case of a **Bronchial Asthma attack** (gasp, accompanied by a sudden shortness of breath) patient would take a defense position, sitting and resting his hands on the back of a chair, or the edge of the bed, or his knees. This allows him to fix the shoulder girdle and to involve additional respiratory muscles, particularly the muscles of the neck, back and chest muscles that help enhance the exhale.

Cardiac asthma attack

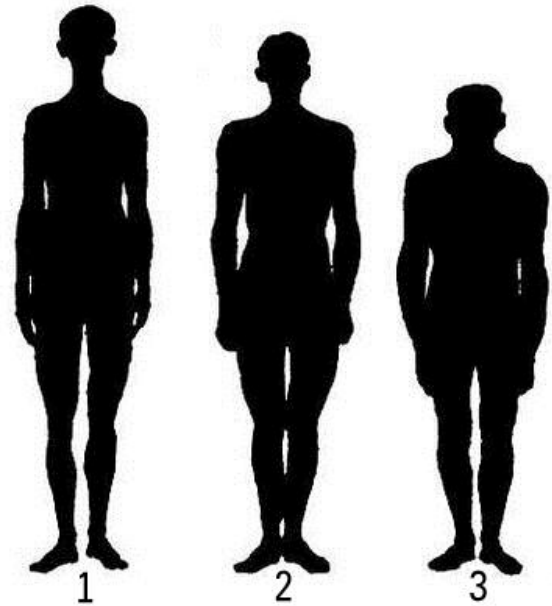
- In case of a **cardiac asthma attack** and **pulmonary edema** caused by the overflow of vessels of the lesser circulation with blood, the patient tends to be in a vertical position (sitting), with the legs down. This reduces blood flow to the right parts of the heart and allows to relieve small circle of blood circulation slightly (position orthopnoe)

4. Body construction (Habitus).

- **4. Body construction (Habitus).** A collective term that includes constitutional type, anthropometric data (height, body weight), condition score. The body construction of a patient can be normal or abnormal. In case of normal body construction both halves of the body are symmetrical, the sizes of body parts (head, body, limbs) are proportional, there's no deformation of the spine, chest or other parts of the body. Abnormal body construction can be seen in asymmetry of parts of the body, imbalances of their size or deformation in any part of the body.

Constitution

- This is the group of functional and morphological peculiarities of an organism which are formed due to congenital and acquired properties, and determine patient's reaction on exo- and endogenous influences.
 - asthenic
 - hypersthenic
 - normosthenic



Types of Constitution (based on M. V. Chernorutsky):

- **Normosthenic type** has a normal body construction with a proportional balance of body parts, well-developed skeletal muscles, normal form of the chest with rib angle close to a square corner.

In Asthenic type

- **In Asthenic type** the body is mainly developed in length. The muscles are poorly developed, a patient has sloping shoulders, long neck, narrow and flat chest (its transverse dimension substantially exceeds the anteroposterior), epigastric angle is narrow (less than 90°). The ribs are oblique, intercostal spaces are enlarged. Blade-bones are not adhering closely to the chest.

Hypersthenic type

- **Hypersthenic type** is when the body is mainly developed in width; patient's height is average (or below average), extra nutriment, the muscles are well developed. Shoulders are wide, neck is short. Belly is increased in size. Chest is wide, its anteroposterior size is increased and close to the cross size. Epigastric angle is obtuse (more than 90°), the ribs are more horizontal than in normosthenic type, intercostal spaces are narrow.

Gigantism and nanism



Alimentary obesity



Abdominal type of obesity



Obesity in patient with Cushing's disease



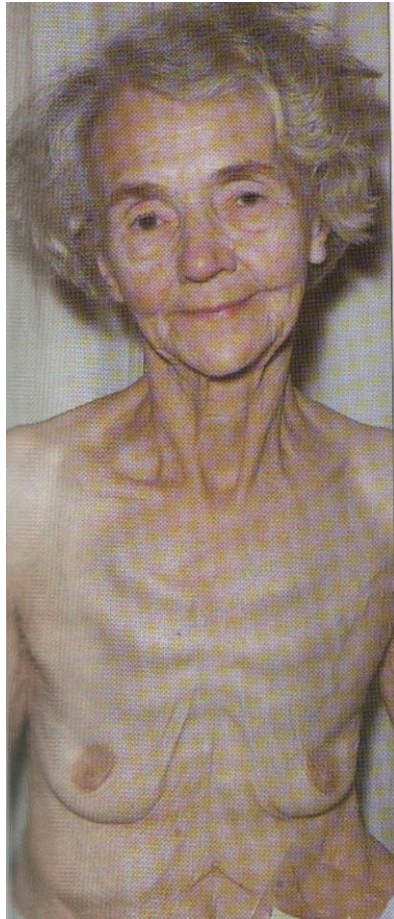
Assessment of the constitutional type has an important diagnostic value.

- People with **asthenic type** have a relatively small heart, positioned vertically (hanging heart), lower position of the diaphragm; the boundaries of the lungs, liver, stomach, kidneys are often omitted. People with asthenic type typically have hypotonia, decreased secretory and motor activity of the stomach, hyperfunction of thyroid and hypophysis, low level of hemoglobin, cholesterol, blood glucose. They often suffer from duodenal ulcer, thyrotoxicosis, neuroses, tuberculosis.

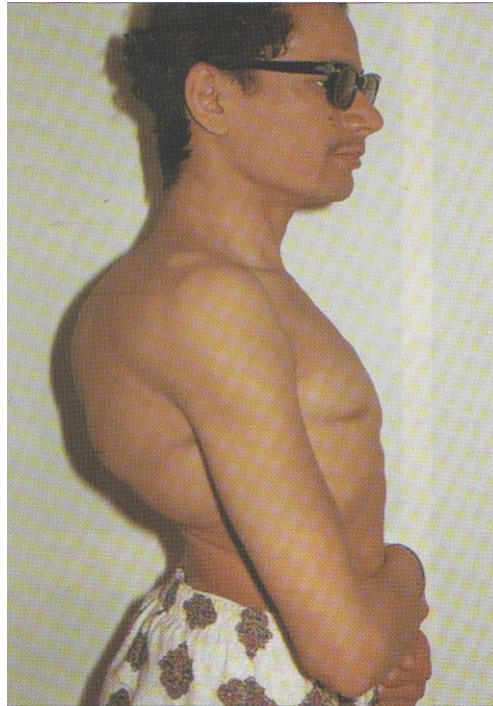
Assessment of the constitutional type has an important diagnostic value.

- People with **hypersthenic type** have a relatively big size of heart and aorta, high standing of the diaphragm, a tendency to higher blood pressure, higher content of hemoglobin, cholesterol, blood glucose. They often suffer from obesity, coronary heart disease, hypertension, diabetes mellitus, metabolic-dystrophic diseases of the joints.

Cachexia



Kyphoscoliosis





LOCAL EXAMINATION

Inspection of separate parts of patient's body.

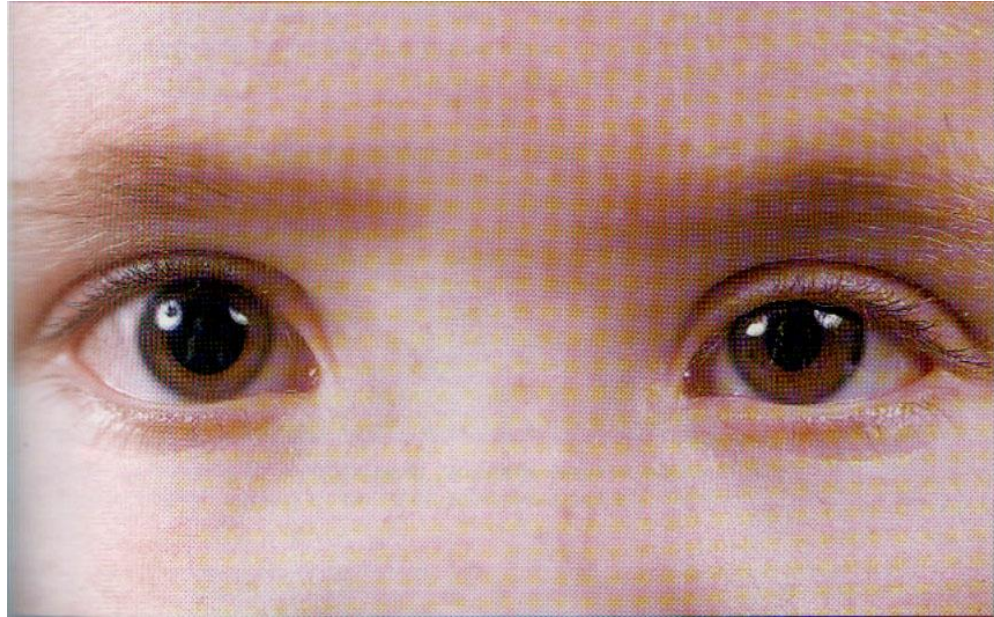
- Inspection of a head
- Inspection of a face
- Inspection of eyes and eyeleads
- Inspection of a nose
- Inspection of oral cavity
- Tongue
- Inspection of a neck
- Inspection of skin
- Mucous membranes o eyes, lips, oral cavity
- Subcutaneous fat tissue
- Edema
- Puffiness
- Lymph nodes
- Muscles
- Bones
- Joints

Inspection of a face

- **Inspection of a face**

You should assess a facial expression, the presence of pathological mask, deformation of the nose, asymmetry of the nasolabial folds. It is important to assess

Anisocoria



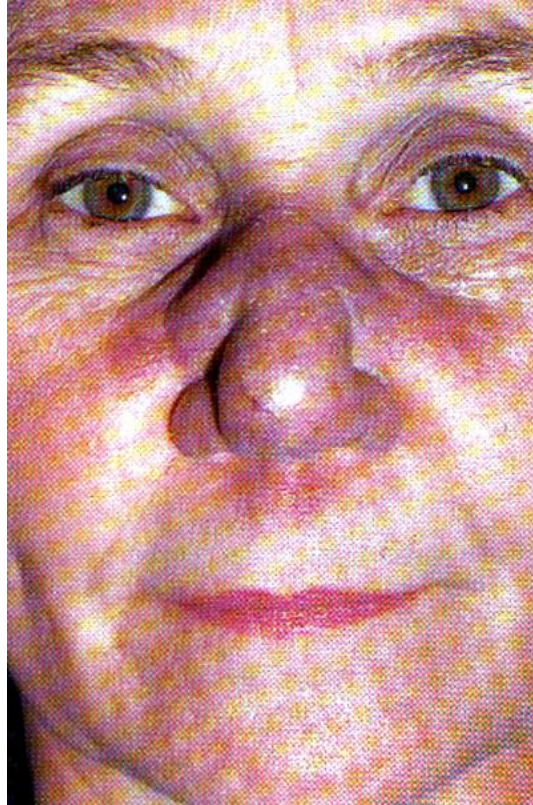
Inspection of conjunctive



Baldness



Rinoscleroma



Quincke's edema of the lower lip



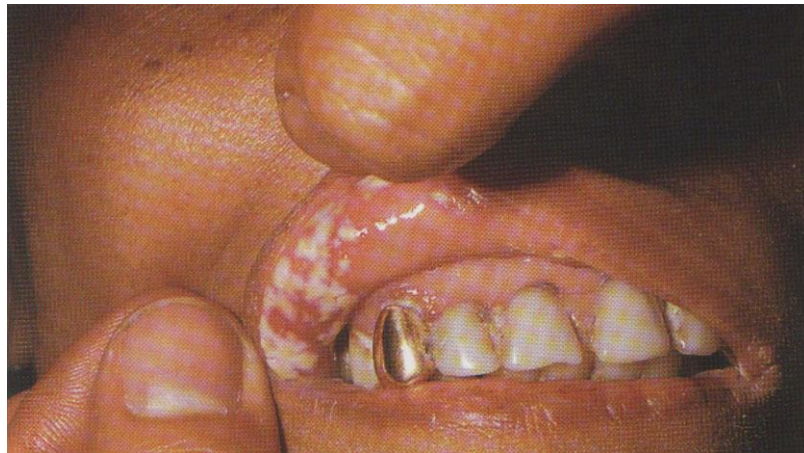
Herpes labialis



Inspection of a tongue (brown-yellow cover)



Oral moniliasis



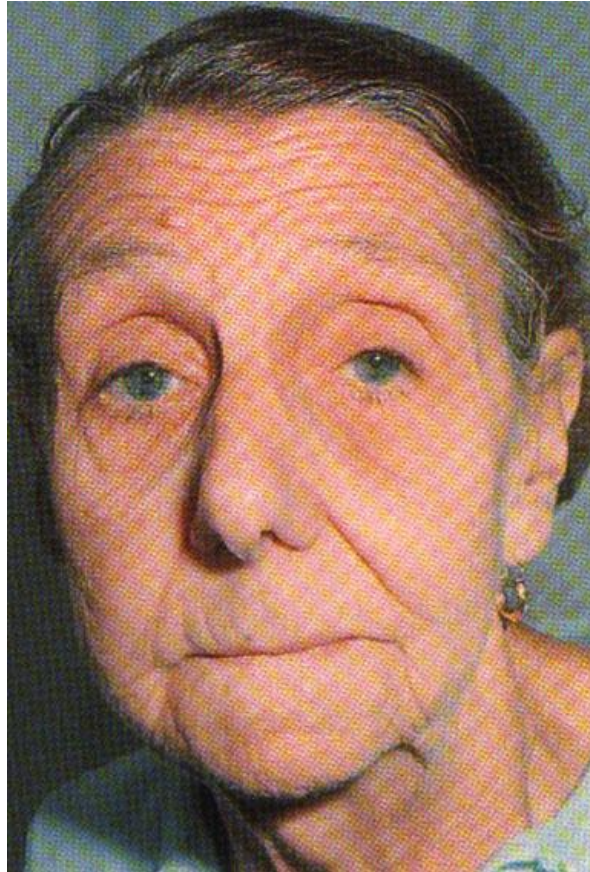


Swelling of neck veins

Goiter 306



Facial expression



Patient's face

- The patient's face often reflects many of the defining characteristics of his illness, and sometimes allows to roughly identify the main pathological process that affects the patient.

Feverish face

- - **Feverish face** (face of a patient with a fever) excited expression, the skin is hyperemic, feverish gleam in his eyes. In croupous pneumonia, we can see a feverish blush, more on the affected side.

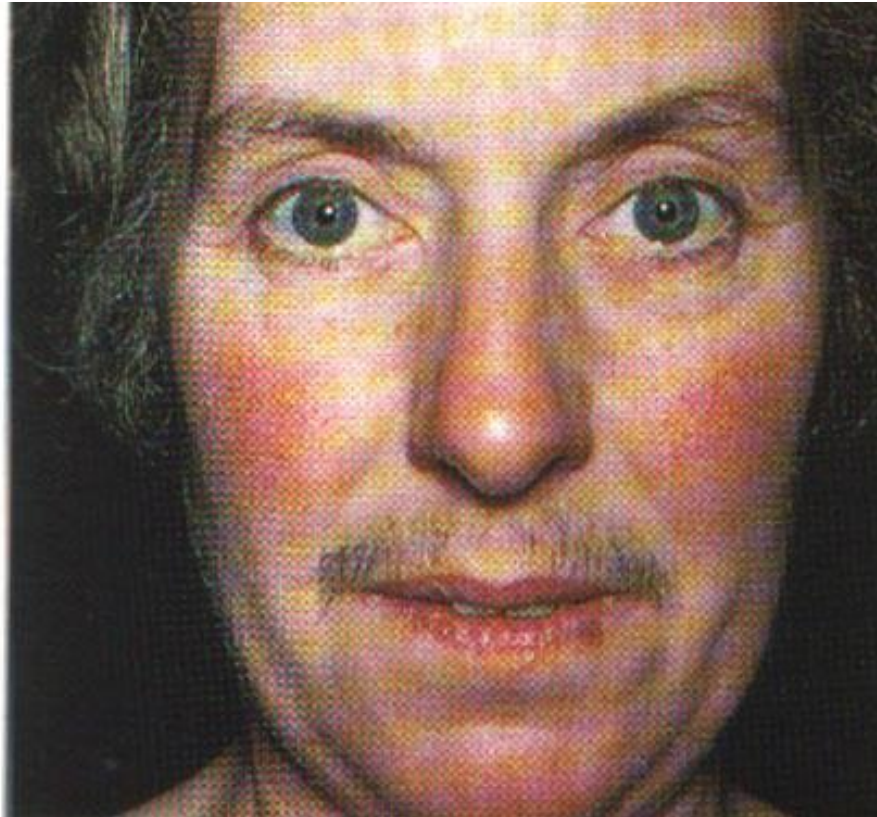
Renal edema on the lower eyelids



Puffy face

- **Puffy face** - pale, puffy face, with edema of the upper and lower eyelids can indicate kidney disease, local venous congestion with frequent attacks of breathlessness and cough, compression of the lymphatics with large effusion in the pleural cavity and pericardium, mediastinal tumor, compression of the superior Vena cava).

Inspection of a face (mitral stenosis)



Facies mitralis

- - **Facies mitralis** - (the face of the patient with decompensated mitral heart defects, most often stenosis of mitral orifice) has a pronounced cyanosis of the lips, cyanotic blush on the cheeks in the form of so-called “mitral butterflies”.

Corvisart's face

- - **Corvisart's face** is typical for patients with severe heart failure. The face is puffy, the skin is yellowish-pale with significant cyanosis of the lips, tip of nose, ears. Mouth is half open. Eyes are dull.



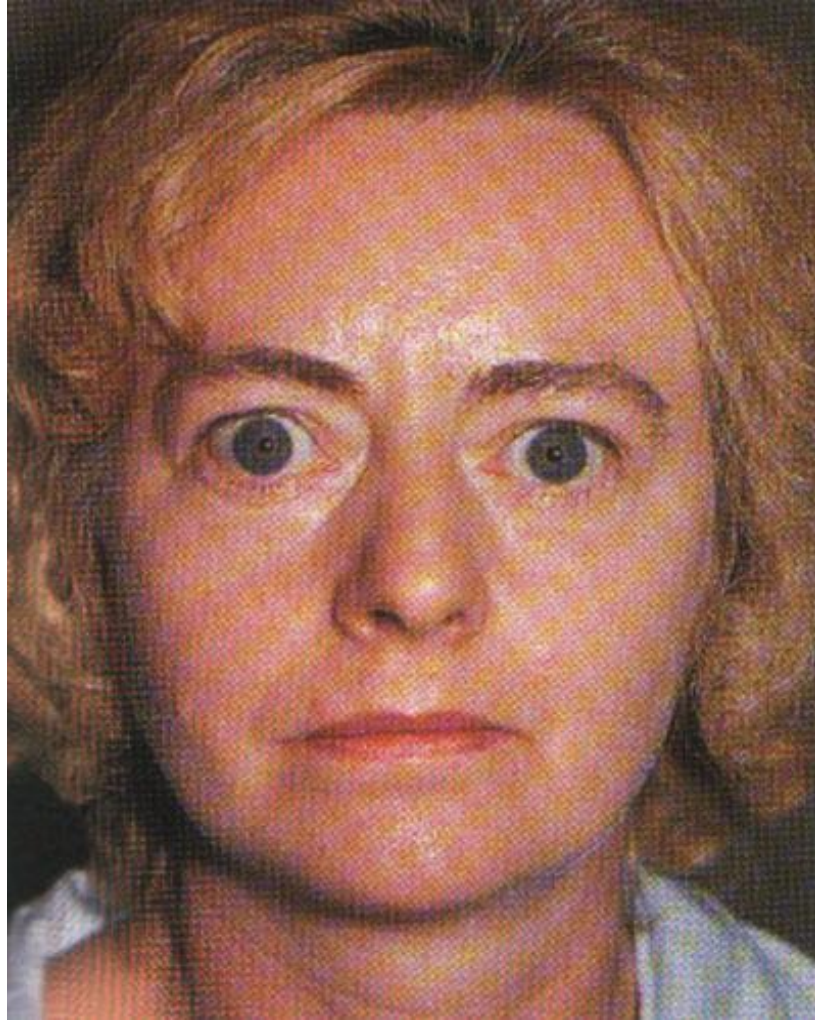


severe heart failure

Facies Basedovica

- **Facies Basedovica** – a face of a patient suffering from hyperthyroidism (thyrotoxicosis). The face is anxious, angry or frightened, eye slits are expanded. Characterized by a peculiar gleam in his eyes, protrusion of the eyeballs or exophthalmos.

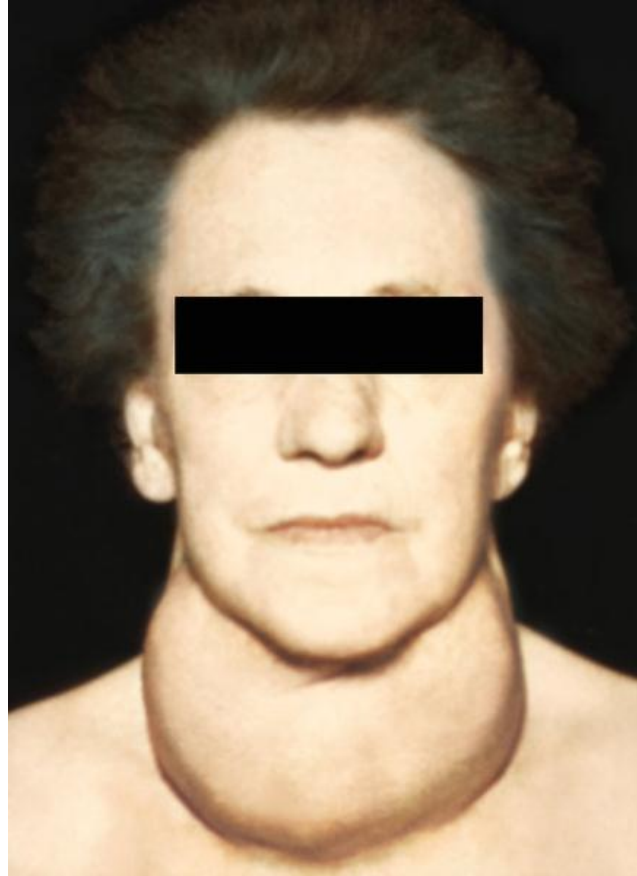
Hyperthyreosis



Goiter 306



Large goiter



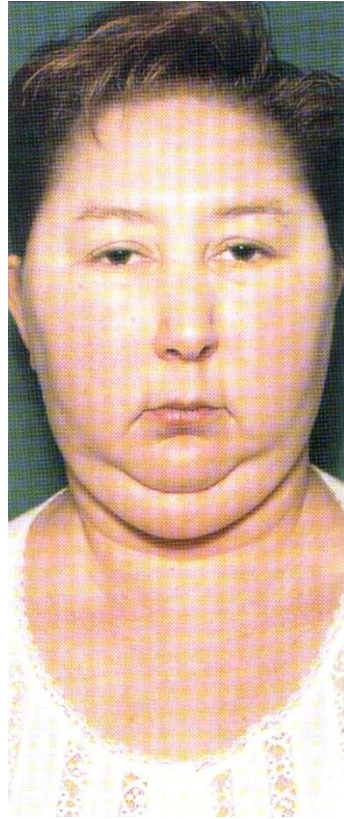
Nodular goiter



- **Facies micsedemica**

- - **Facies micsedemica** – the face of a patient with hypothyroidism (myxedema). The face is rounded, puffy, stiff, pale. Nose and lips are thick. Facial expressions are typically limited, look is blunt, sometimes senseless, which make the face very unexpressive. The eye slits are narrowed, hair on the outer half of the eyebrows are missing.

Facies micsedemica Hypothyreosis



- **Acromegalics face**

- - **Acromegalics face** – disproportional increase of the remote parts of the body and extruding parts of the face (cheekbones, jaw, ears, nose, eyebrows).

Acromegaly



Moon-shaped face in Cushing's disease

- **Moon-shaped face** – intensely red, round, shiny face. Women can also have beards, moustaches (disease or syndrome of Itsenko-Kushinga).

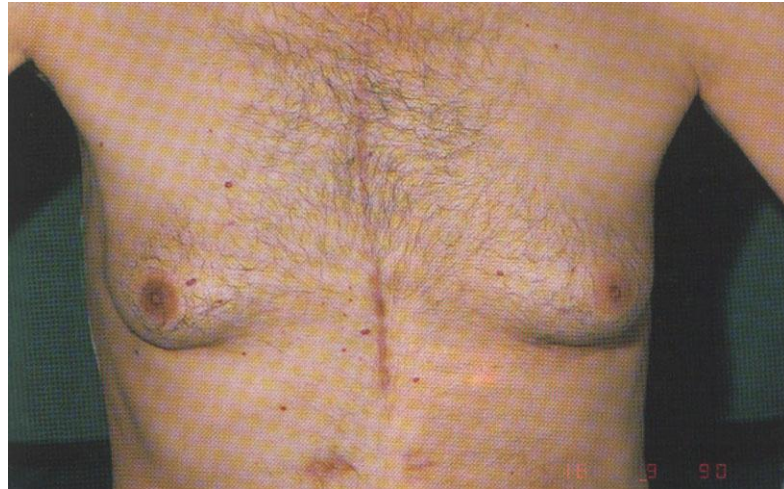
Moon-shaped face in Cushing's disease



The face of a patient with hirsutism

- - **The face of a patient with hirsutism**, which developed due to excess of testosterone in the body, caused by polycystic ovarian degeneration. Male pattern of hair distribution.

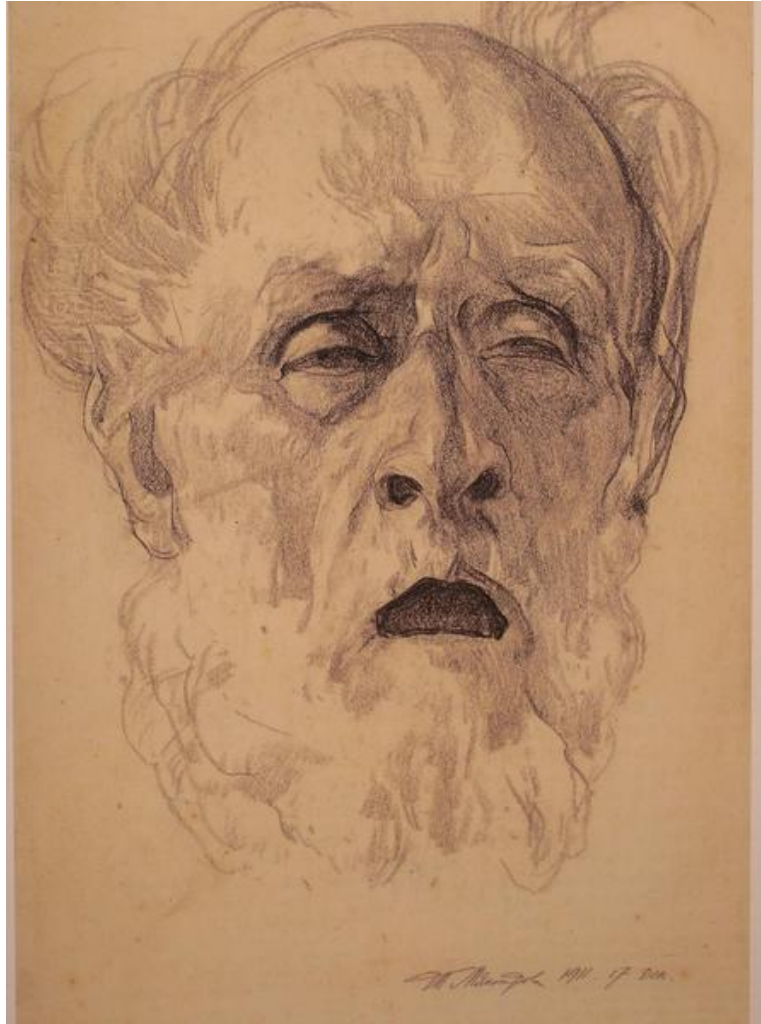
Gynaecomastia



Hippocratic face

- **Hippocratic face** is typical for patients with peritonitis, perforation of gastric ulcer or duodenal ulcer, intestinal obstruction. The face was livid, haggard, with sunken dull eyes and a pointed nose. We can see drops of sweat on the face.

**Hippocratic
face**

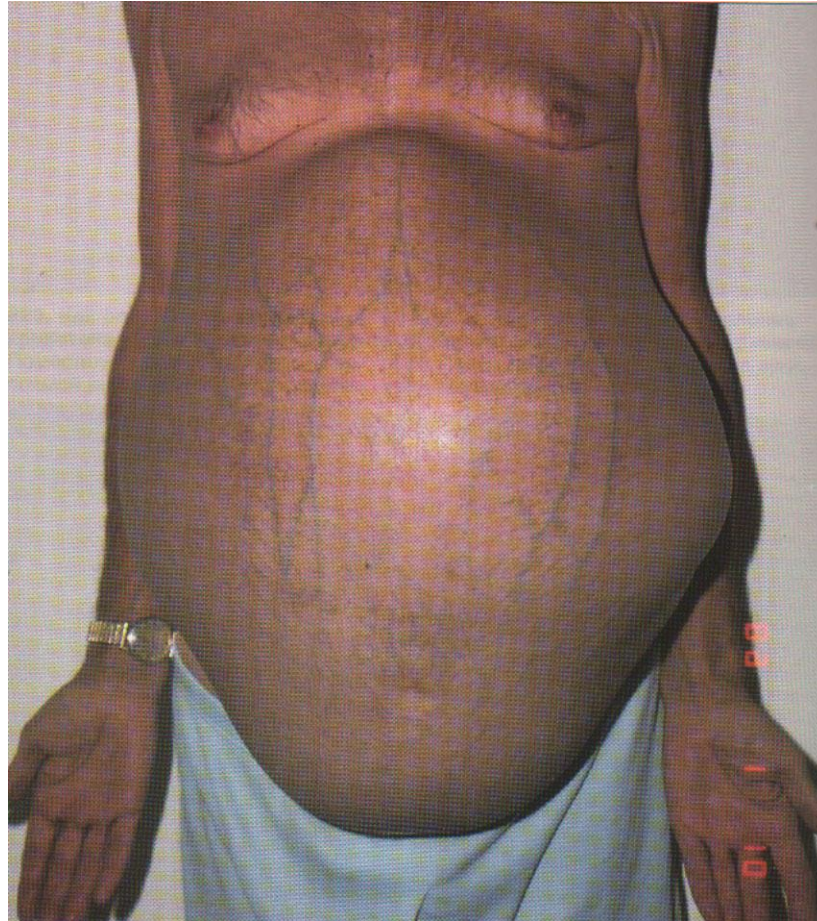


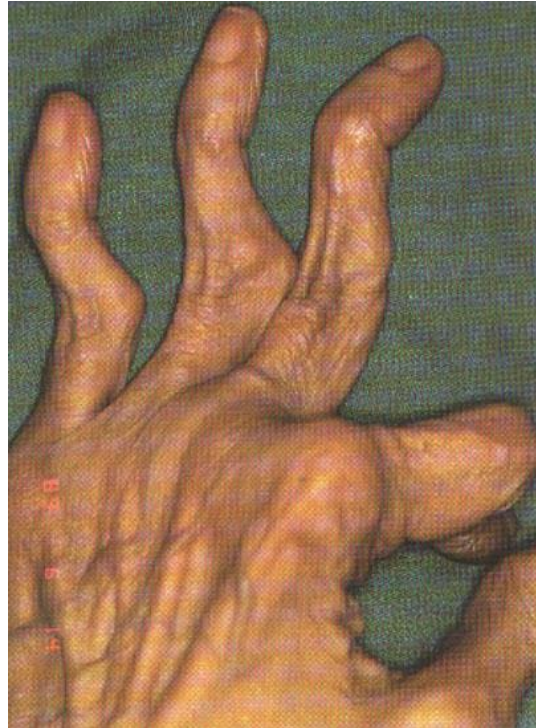
**Hippocratic
face**



- **Inspection of the trunk.** Examination of the chest, abdomen, lumbar area is very important in diagnostics of pathology of the internal organs and is described in the section, related to inspection of respective organs and systems.
- **Limbs.** As a rule, pathological changes of bones and joints are described in details in the relevant section of medical history "osteo-articular system."

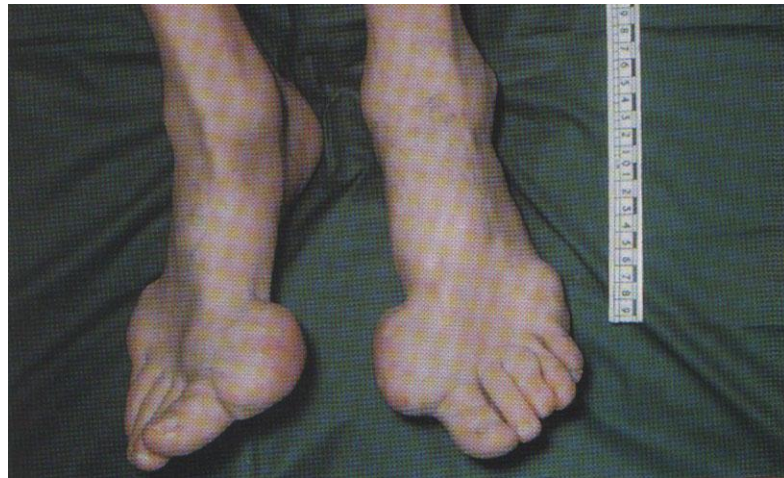
Ascites





Rheumatoid arthritis

Gout



Dupuitren's contracture



“Clubbing fingers”



Trophic ulcers



Examination of the skin, skin appendages (nails, hair) and visible mucous

- **Skin**

Studying the skin, we need to pay attention to:

1) color

2) humidity

3) elasticity

4) turgor

5) skin rashes and damage

6) the condition of hair, nails (skin appendages) and visible mucous.

The color of the skin.

- **The color of the skin.** Medical practitioner mainly see the following changes of the color of the skin and visible mucous: pallor, flushing, cyanosis, jaundice and brown (bronze) skin color.

Pale skin

- Pallor may be caused by two main reasons:
- - 1) anemia of any origin with a decrease in the number of erythrocytes and hemoglobin in a unit volume of blood;
 - 2) disorders of the peripheral circulation:
- **Remember! Pale skin, caused by anemia, is always accompanied by pallor of the visible mucous membranes and conjunctiva, which is not typical for the case of constitutional pale and pallor, caused by spasm of peripheral vessels.**

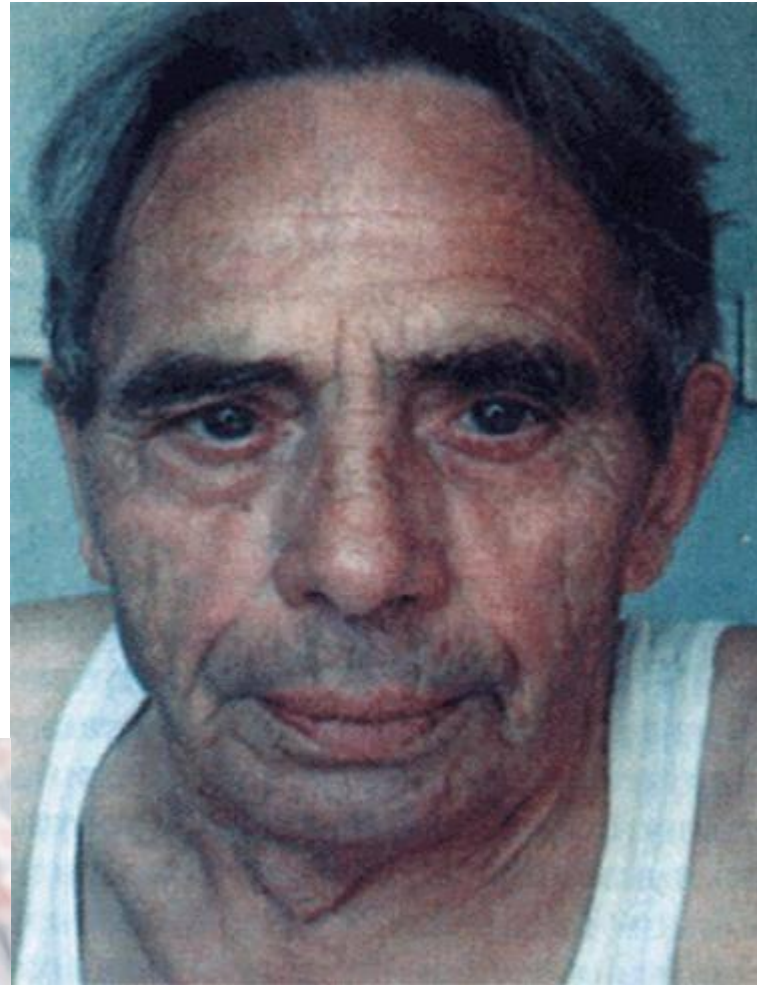
Cyanosis

- **Cyanosis** - bluish coloration of the skin and visible mucous due to the increased amount of reduced hemoglobin in the peripheral blood (in a limited area of the body or diffusive). Cyanosis appears when the concentration of reduced hemoglobin in capillary blood is more than 50 g/l (the norm is less than 30 g/l).

Cyanosis



**Peripheral
cyanosis
(acro-
cyanosis)**



**Central
(pulmonary)
cyanosis**



Central (pulmonary) cyanosis

- **Central (pulmonary) cyanosis.** Central cyanosis is observed in case of deficit of oxygenation of blood in the lungs in acute and chronic bronchopulmonary diseases, pathologies of the pleura, when of venous blood can't easily flow to the lungs (tetralogy of Fallot, pulmonary stenosis of the trunk), the mixing of arterial and venous blood in the left ventricle of the heart or in the arteries in case of congenital and acquired septal defects of the heart or large arteriovenous anastomoses, etc. The Skin has a diffuse, gray shade. The skin is warm because of the accelerated blood flow.

Peripheral cyanosis (acrocyanosis)

- **Peripheral cyanosis (acrocyanosis)** – appears when the blood flow slows down in the periphery. In these cases, extraction of oxygen by tissues increases, which leads to increased content of reduced hemoglobin (more than 40-50 g/l), predominantly in the distal (cyanosis of the lips, the tips of the fingers and toes, nose, earlobes). In this case limbs are cold due to the sharp slowdown of peripheral blood flow. Peripheral cyanosis is observed in case of a heart failure, varicose veins, thrombosis, disorders of the peripheral vascular tone and microcirculation (polyglobulia), local inflammation etc.

Jaundice

- **Jaundice** in most cases is caused by suffusion of the skin and mucous membranes by bilirubin, when it's quantity increases in the blood. Initial symptoms of jaundice (subicteric) are detected better during the inspection of the sclera, the soft palate and the lower surface of the tongue.

Jaundice



Bronze (brown) color of the skin

- **Bronze (brown) color of the skin** is observed in case of adrenal insufficiency. Brownish pigmentation is usually seen not diffusive, but in a form of spots, especially on the skin of exposed body parts (face, neck, hands), as well as in areas exposed to friction (in the armpits, in the lumbar area, on the inner thighs, genitals) and in skin creases of the palms. Separate spots can be seen on the mucous membranes of the oral cavity. Palms, soles of the feet, sclera are not affected.

Palmar hyperpigmentation in Addison's disease



Skin rashes and damage.

- **Skin rashes and damage.** Skin rash and hemorrhages occur in many diseases of the internal organs and are seen as an important diagnostic feature. Separate skin rashes (or morphological elements) affect different skin layers: epidermis, dermis, subcutaneous tissue, and in some cases skin appendages: sweat glands, sebaceous glands, hair follicles. In their morphological attributes, the presence and the nature of the inflammatory response and other signs, skin rashes significantly differ from each other.

Vitiligo



Petechial rash



Erythema annulate



THANK YOU !

