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A textbook for self-preparation for practical classes in propaedeutics of internal diseases for students of all faculties of medical institutes.

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Abstract

The study of methods of physical examination of patients, described in the manual, allows the student to better formulate qualifications (the ability to assess morphofunctional, physiological states and pathological processes in the human body in order to solve professional problems) and to identify the disease, or to determine the presence or absence of the disease, is aimed at increasing the readiness of patients to collect The first topic that introduces the student to the clinic of internal diseases is the concept of internal diseases propaedeutics (diagnostic bases). The purpose of this science is guided by the rational approach to the evaluation of the main manifestations of diseases of internal organs.

Key words: propaedeutics of internal diseases, physical examination of patients, the main manifestations of diseases of internal organs.

The training manual was discussed at the meeting of the Department of Internal diseases of the pediatric faculty of SamMU.

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The manual is intended for the independent preparation of 3,4,5 - course students, clinical interns and masters of all faculties of medical institutes for practice lessons in the field of Internal Medicine.

INTRODUCTION

THE PLACE OF PROPAEDEUTICS OF INTERNAL DISEASES IN THE TRAINING OF A DOCTOR

The study of clinical disciplines begins in the second year of medical universities. And the first subject that introduces the student to the clinic of internal diseases is propaedeutics (fundamentals of diagnosis) of internal diseases. The purpose of this discipline is to provide a basis for a rational approach to the assessment of the main manifestations of diseases of internal organs. The tasks of the section include:

1) mastering the basic physical methods of research;

2) identification of the main symptoms and syndromes (combinations of symptoms that have a single origin) that occur in diseases of the internal organs;

3) general introduction to the most common diseases of the internal organs (private pathology). By analyzing the manifestations of the disease, which may be the same in different types of pathology, students learn to find signs that make it more or less likely to establish the correct diagnosis, which makes learning the basics of diagnosis (propaedeutics) of internal diseases a very important stage in the formation of clinical thinking. In the future, in the IV-VI courses, continuing to study internal diseases, students get acquainted not only with typical, but also more rare, complicated forms of diseases, in which the issues of differential diagnosis are especially important.

The term "propaedeutics" comes from the Greek. propaidey, which means "I teach in advance". Propaedeutics leads the student to an in-depth study of diseases of internal organs in the departments of faculty therapy and faculty surgery, and most importantly-creates the basis for successful mastery of all the details of private pathology.

Throughout the period of development of clinical medicine the study of internal diseases always wore an integrating nature, which is due to the need for systematic use at the bedside knowledge from the courses of normal and pathological anatomy, normal and pathological physiology, biochemistry, pharmacology and related clinical disciplines.

THE IMPORTANCE OF SPECIALIZATION AND INTEGRATION IN MEDICINE

The history of the development of medicine is characterized by an ongoing process of differentiation of medical specialties, the allocation of new medical professions. This is due to the expansion of general medical knowledge and especially the emergence of new special methods of examination and treatment of the patient, the mastery of which often requires time-consuming training.

Already earlier, from the section devoted to internal diseases, subsections were distinguished that study nervous, mental, skin, and infectious diseases. Knowledge of the basics of internal diseases is necessary in ophthalmology, otorhinolaryngology, obstetrics and gynecology. Over the past decades, endocrinology, hematology, cardiology, pulmonology, gastroenterology with hepatology, nephrology, rheumatology, and allergology have continued to be formed into special sections. Increasingly, specialists in these areas master the methods of X-ray, endoscopic, morphological studies, which contributes to an even greater fragmentation of specialties. So, in nephrology, there are specialists engaged in the treatment of chronic renal failure (CRF) with the help of an artificial kidney (hemodialysis). But these doctors at the same time should have knowledge of cardiology, pulmonology, gastroenterology, hematology. On the other hand, there is no doubt about the need to preserve the general specialty of the therapist, who is often forced to diagnose and treat patients with a combination of diseases of various internal organs. Thus, in parallel with the processes of differentiation of medical specialties, there is a tendency to integrate many aspects of clinical methods; the internist (therapist) is a key figure in this trend.

The selection of individual specialties in clinical medicine does not, however, eliminate the need for a detailed and always as detailed examination of the patient with special attention to the lifestyle, which implies clarification of food preferences, smoking experience and alcohol abuse, as well as familiarity with the hereditary history. Long-term monitoring of the patient and his family members, including children, in many countries is carried out by a general practitioner (family doctor), whose duties include not only the diagnosis and drug treatment of diseases

of internal organs. The emergence of the specialty of a family doctor is the best proof of the trend of integration in medicine, since a general practitioner should not only have a deep understanding of various aspects of the clinic of internal diseases, but also constantly improve in certain sections of it (cardiology, nephrology, pulmonology) in the system of continuous medical education, as well as training in so-called related disciplines, such as endocrinology.

A very important feature of the activity of family doctors is the ability to closely observe their patients in the environment in which they live, especially in the family. They are better able to assess the circumstances that affect health and, most importantly, can have an adverse impact on the health of family members (for example, the already mentioned features of lifestyle, family habits, etc.).

The close interweaving of specialization and integration processes is clearly manifested in the need to master approaches to diagnosis and treatment in urgent situations. To a doctor of any specialty, certain requirements are imposed, providing for knowledge of the main emergency conditions, when it is necessary to provide urgent medical care. And of course, any doctor needs to be aware of the possibilities of the main methods of diagnosis and treatment, which are owned by narrow specialists in related fields.

FUNDAMENTALS OF DISEASE PREVENTION, THE CONCEPT OF RISK FACTORS FOR INTERNAL DISEASES

Causal factors of diseases

An important feature of modern medicine is a thorough systematic assessment of the etiological (causal) factors of diseases. Throughout the entire period of study of internal diseases, their etiology has always been the most important section in the activities of clinicians. At the same time, attention has long been paid to the importance of environmental factors and their interaction with heredity (genetic factors).

"The concept of a disease is continuously connected with its cause, which is exclusively always conditioned by the external environment acting either directly on the diseased organism, or through its closest or distant relatives" (S. P. Botk).

Modern etiological factors of internal diseases. (Fig.0.1-0.4).

Fig.0.1-0.4-Modern etiological factors of internal diseases.

• Infection, including viral (hepatitis B, C, D, cyto-megalovirus, etc.)

• Parasitic infestations (ascariasis, opisthorchiasis, strongyloidosis, trichinosis, etc.)• Alcohol abuse

* Medicines

* Tuberculosis (paraspecific reactions)

* Tumors (paraneoplastic reactions)

* Environmental and occupational impacts

• Metabolic disorders

* Genetic factors

* Exposure to environmental factors:

- hypothermia (cold)
- trauma (including mental)
- insolation (including within the limits of the feeling of comfort)

Among the variety of modern etiological factors of internal diseases, infection (including parasitic infestations and tuberculosis) still occupies an important place.

Various groups of viruses, including hepatitis B, C, and D. Infection with hepatitis B and C viruses causes the development of a number of internal diseases; in recent years, for example, a significant frequency of detection of hepatitis B virus markers in patients with systemic vasculitis, primarily nodular periarteritis, has been established.

Alcohol retains and probably becomes even more important as a cause of various internal organ lesions, in addition to its unconditional role in the occurrence of chronic progressive alcoholic liver disease (steatosis with fibrosis, acute and chronic hepatitis, cirrhosis of the liver, which ends in some patients with the development of hepatic cell carcinoma). Currently, the etiological role of alcohol in the defeat of the heart (alcoholic heart disease with severe congestive heart failure, various arrhythmias, quasi-ischemic syndrome), kidneys (more often hematuric, but sometimes nephrotic, as well as rapidly progressive variants of glomerulonephritis) is clearly proven.

In modern conditions, special attention should be paid to the medicinal etiology of diseases, the universal nature of which, for the first time in our country, as you know, drew the attention of Academician E. M. Tareev - for many years, he and his students convincingly proved the possibility of modifying drugs for almost any disease. Drug reactions - from dermatitis, fever, agranulocytosis ("the main triad of drug intolerance") to the clinical picture of a developed polysystem disease such as systemic lupus erythematosus (SLE, for example, in response to the administration of hydralazine or novocainamide), nodular periarteritis (in response to sulfonamides), chronic hepatitis (in response to the use of methyldopa, nitrofurans, isoniazid), fibrosing alveolitis (in response to the use of amiodarone, nitrofurans, cytostatics) or a picture of a predominant lesion

of some organ (nephritis, hepatitis, myocarditis, thyroiditis, orchitis, epididymitis, encephalitis) - now well known and are the reason for the hospitalization of a large number of patients admitted to clinics. A variety of non-specific drug syndromes are well known, among which skin, joint, hematological, and obstructive syndromes are particularly frequent. Knowledge of drug etiology of all these manifestations is becoming extremely important as the number of patients using these or other drugs is growing and some of them becomes essentially a population (for example, the widespread use of non-narcotic analgesics and nonsteroidal anti-inflammatory drugs (NSAIDs).

Risk factors

Since, unfortunately, it is not always possible to implement such an etiological approach to understanding the disease, a good opportunity to solve problems is to use the concept of so-called risk factors, which is widely used in the world.

The XX century opened a new direction in the activity of the doctor-the prevention of diseases, the importance of which was spoken by outstanding clinicians of the past, who often put preventive activity above medical work. "To prevent the development of the disease, to reduce the number of those who are ill, will be even more important than to cure the sick," wrote S. P. Botkin. In many ways, it was about the prevention of infectious diseases, while in relation to diseases of internal organs, it was usually meant to prevent exacerbations of an already existing disease. However, when studying the conditions of occurrence of a particular disease, doctors of the past tried to understand their complex impact, when it is sometimes difficult to separate the actual etiological factor from environmental factors, especially lifestyle, habits that develop over generations of the patient's family. Classic ones

"Clinical lectures" by one of the luminaries of the Russian clinical school G. A. Zakharyin contain examples of such a thoughtful interest in the multifactorial assessment of the conditions of the onset of the disease. In the second half of the twentieth century, this approach received an important justification - the concept of risk factors was formulated, which allowed us to go beyond one patient and talk about the real possibilities of

population-based disease prevention in a large number of people who consider themselves healthy.

Risk factors are understood as a number of factors of the external and internal environment that:

* associated with a higher incidence of the disease, according to single-stage population studies;

* increase the risk of developing the disease, according to prospective population studies.

* Their elimination or correction helps to reduce the risk of developing the disease or prevent exacerbations. The main risk factors for diseases of the cardiovascular system (CVD) were established in the process of the famous Framingham Heart Study, which began more than 50 years ago and changed the approaches to understanding many diseases, primarily those that are widespread in the population (primarily cardiovascular and oncological). Today, it is quite obvious the importance of introducing a doctor, including an internist, into preventive activities, the concept of which is determined by the results of studying risk factors.

History of the Framingham Study

The history of this study originates in the city

Fig.5

Framingham, located in the suburbs of Boston, the largest university center in the United States. The choice of the research team fell on the city of Framingham for several reasons: on the one hand, the population of this city was small and, thus, it was possible to trace the fate, including changes in the state of health, of each resident over a long period; in addition, the proximity of Framingham to Boston allowed us to count on the support of

this study from highly qualified specialists of the Medical Faculty of the University of Boston. Finally, in 1911, a successful study was conducted in Framingham to study the prevalence of tuberculosis in the region.

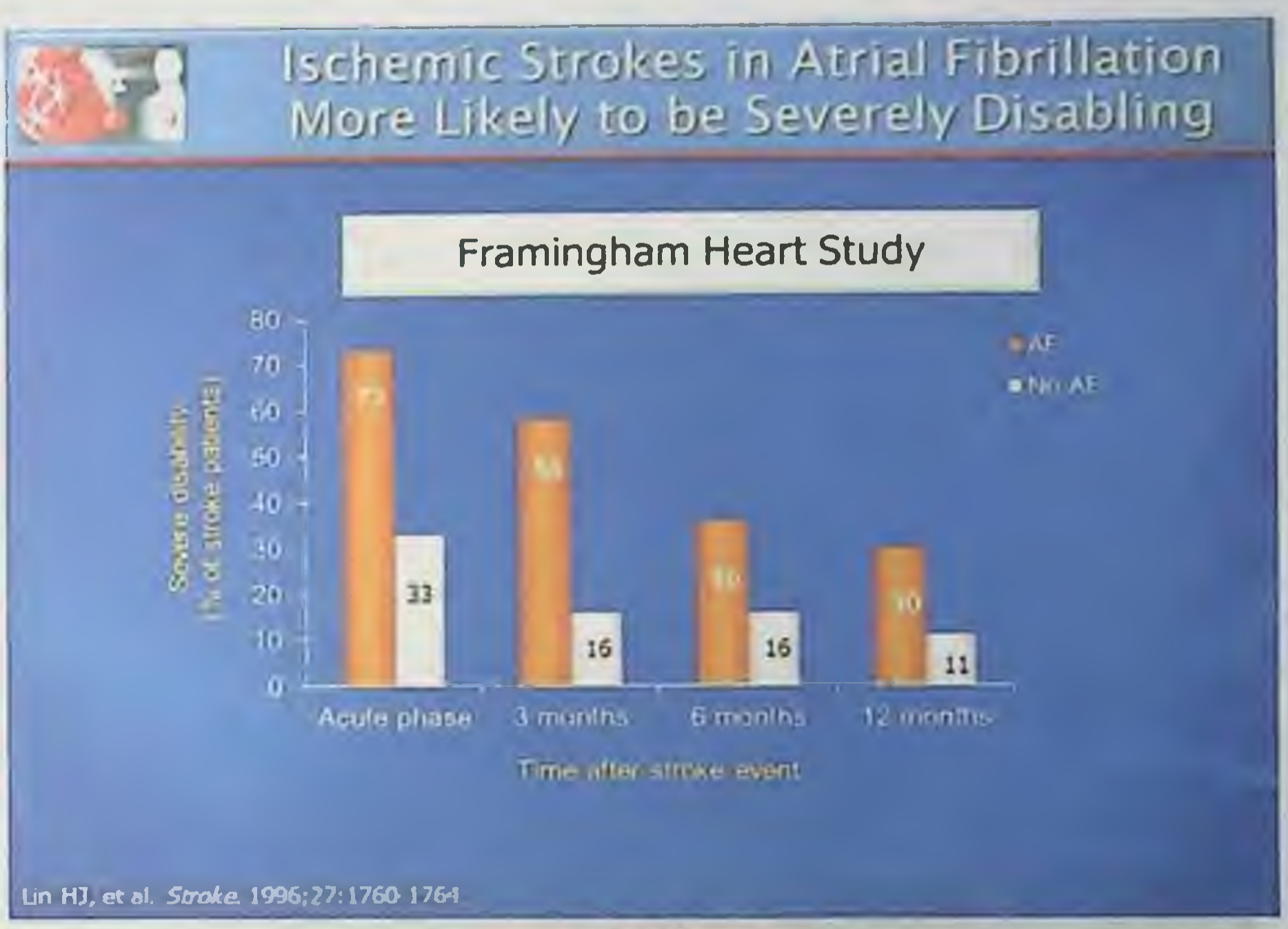

Fig.6

The main purpose of the study was to identify factors that affect the development of diseases of the cardiovascular system. Initially, the study cohort included 5,209 men and women aged 30 to 62 years living in Framingham. Since 1948. A periodic (once every 2 years) comprehensive survey of the cohort participants was conducted, which included a physical examination, a survey based on formalized questionnaires aimed at identifying factors related to the patients ' lifestyle (including dietary characteristics, smoking addiction, degree of physical activity), and laboratory studies.

In 1971, a study was launched to study the risk factor profile of circulatory diseases in first-degree relatives of participants in the original cohort (Framingham Offspring). The results of this study allowed us to present the regularities of the development of CCC diseases depending on the degree of exposure to certain risk factors, including hereditary ones, on the

material of two subsequent generations (children and grandchildren of patients included in the cohort in 1948). The beginning of the third stage of the Framingham study can be considered 1995. - the start date of the Framingham Omni study aimed at studying risk factors for cardiovascular diseases in genetically homogeneous closed groups. This study included representatives of five national minorities living in this city. In addition to the possibility of studying the regularities of the development of cardiovascular diseases in isolates, the results of this study can contribute to the description of changes in morbidity in the interaction of two genetically heterogeneous populations (i.e., during the assimilation of a national minority - the so-called "Americanization").

The concept of " prospective cohort study»

The Framingham study was the first prospective cohort study. The concept of "prospective" implies observation of the study group for a long time without any external intervention, which provides greater reliability in identifying certain patterns, and the term "cohort" - the inclusion in the study of a large group formed due to natural causes, without the intervention of researchers (in this case, the population of an entire city).

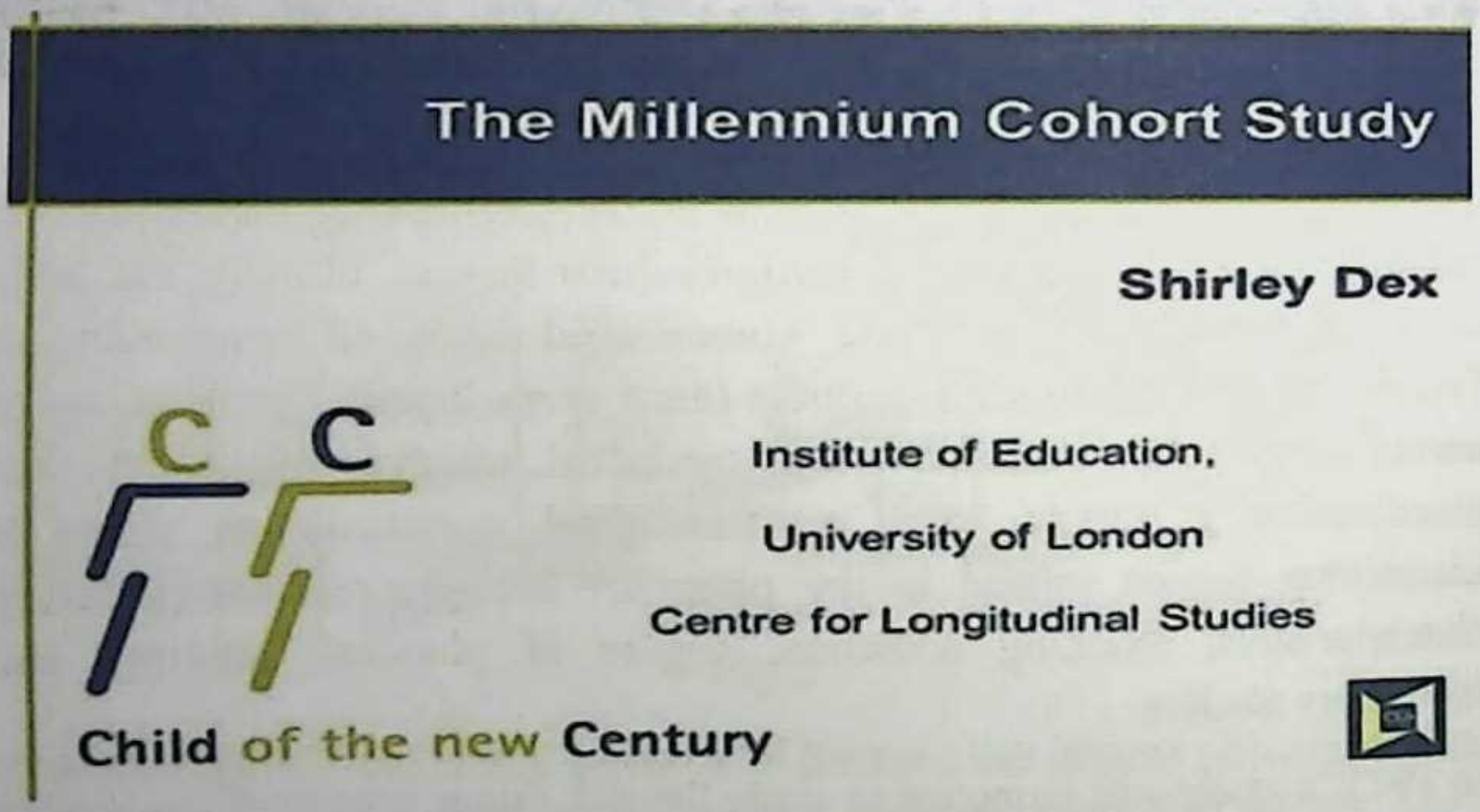

Fig.7

From the standpoint of evidence-based medicine, the results of this type of research are currently considered the most reliable. The structure of the cohort study implies:

* inclusion in the study group of a large sample consisting of subjects exposed and not exposed to possible factors;

• in the future, both groups are monitored for a long time, and for each specific period, the number of newly occurring cases of the disease or its complications in the two groups - exposed and not affected by the studied factor is estimated; • based on a comparison of the frequency of newly occurring cases of the disease in both groups, the significance of the impact of the studied factor is estimated.

Two key characteristics - the need to use very large samples and the long duration of observation, which ensure maximum reliability of the results of this study-simultaneously make it difficult to conduct prospective cohort studies. Along with the Framingham study, and largely due to it, a significant amount of information about the patterns of many metabolic disorders (obesity, hyperuricemia) and cardiovascular diseases, as well as factors predisposing to cardiovascular complications and chronic renal failure, is constantly supplemented by the results of other multicenter studies.

Of particular interest are the results of observation of closed populations united, for example, by a common ethnic factor (African Americans, American Indians). It should be borne in mind, however, that these results cannot be fully extrapolated to representatives of all races, although they are often more demonstrative: so, African-Americans represent a natural model of the rapid development of some complications of arterial hypertension (kidney damage, visual organ, chronic insufficiency).

Currently actively forming large (national, continental) registers patients with many chronic disorders (with acute myocardial infarction, suffering from chronic renal failure, etc.). The purpose of such registers is to clarify the influence of specific risk factors on the progression of the disease and the likelihood of complications, identifying the right volume of care and, most importantly, the optimization of preventive strategies. The data from these registers significantly complement the understanding of the role of individual risk factors obtained in the course of prospective studies.

Changeable and immutable risk factors

The original aim of the Framingham study was to identify specific etiological factors of atherosclerosis and related CCC diseases. However, over time, it became obvious that the occurrence of this group of diseases is associated with the action of various factors, some of which, although they can not be attributed to etiological, but at the same time plays a very significant role in their development and therefore requires independent study. Thus, some changes in laboratory parameters (in particular, the concentration of different fractions of cholesterol), lifestyle characteristics (type of diet, presence or absence of smoking), hemodynamic parameters (blood pressure level) can significantly increase the likelihood of developing certain diseases [for example, coronary heart disease (CHD)]. Despite the fact that the impact of each of these factors on the human body is often not enough to cause the development of the disease, and, therefore, they can not be attributed to etiological, if they are present, the probability of the disease increases many times. This group of factors is called "risk factors" (1961). There are changeable (modifiable) and immutable (unmodifiable) risk factors.

Fig.8

* Risk factors that can be reduced by drug and non-drug interventions (e.g., hypertension, hypercholesterolemia, smoking) are considered to be variable.

* Immutable risk factors cannot be corrected (e.g., age, gender).

The results of the Framingham study made it possible to convincingly prove the role of hypercholesterolemia (1957), arterial hypertension (1957, 1970), diabetes mellitus (1974), menopause (1976), and obesity (1967) as risk factors for CHD and stroke. It should be specially noted the selection of factors related to lifestyle (smoking, sedentary lifestyle), which can be corrected with the help of non-drug effects. The importance of identifying this group of risk factors is considered proven, persistent struggle with them can give more significant results than existing methods of treatment of arterial hypertension and hyperlipidemia in an already existing disease.

As the Framingham study continues, the understanding of risk factors is supplemented with new data-the significance of hyperfibrinogenemia (1987), lipoprotein (a) (1994) and an increase in the size of the left ventricle (1994) is shown. Some of the recently identified risk factors, such as hyperhomocysteinemia (1996), are now already among the proven ones.

Assessment of the degree of exposure to risk factors should be comprehensive. Thus, the cumulative effect of smoking, hypertension and high cholesterol concentrations on the development of atherosclerosis is described, and therefore the management of a patient exposed to two or more risk factors should be more active.

In recent years, a general trend is the expansion of indications for early administration of certain classes of drugs for preventive purposes (statins, antiplatelet agents), which implies the need for their reception by persons who do not make complaints. Recommendations to adhere to such "aggressive" therapeutic strategies are necessarily based on the results of large controlled studies and always require a thorough analysis of their effectiveness and safety.

Primary and secondary prevention

The concept of risk factors, which substantiates the importance of early detection and elimination of risk factors in order to prevent diseases of population significance, has become the basis for the development of prevention in the clinic of internal diseases.

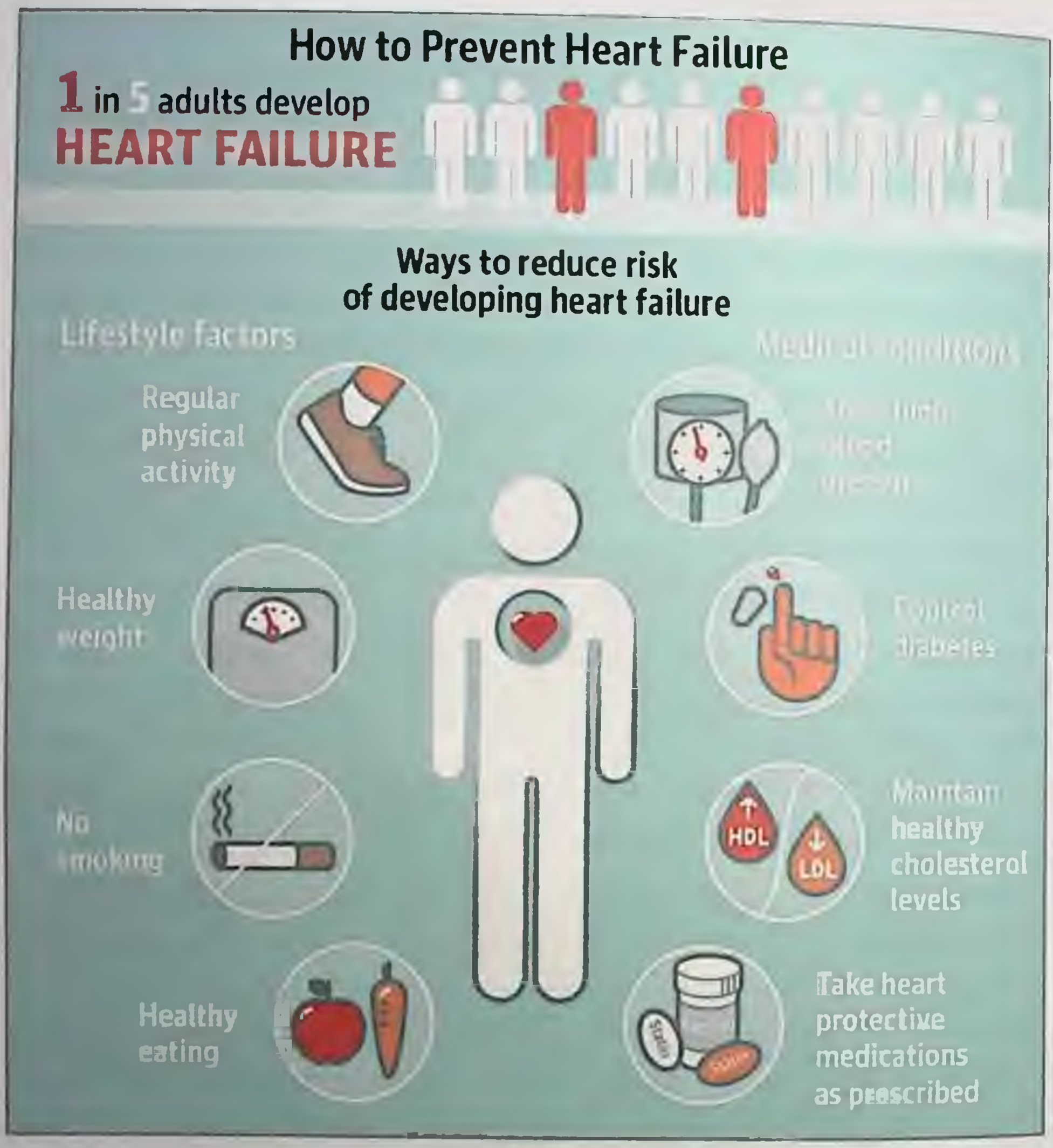

Fig.9

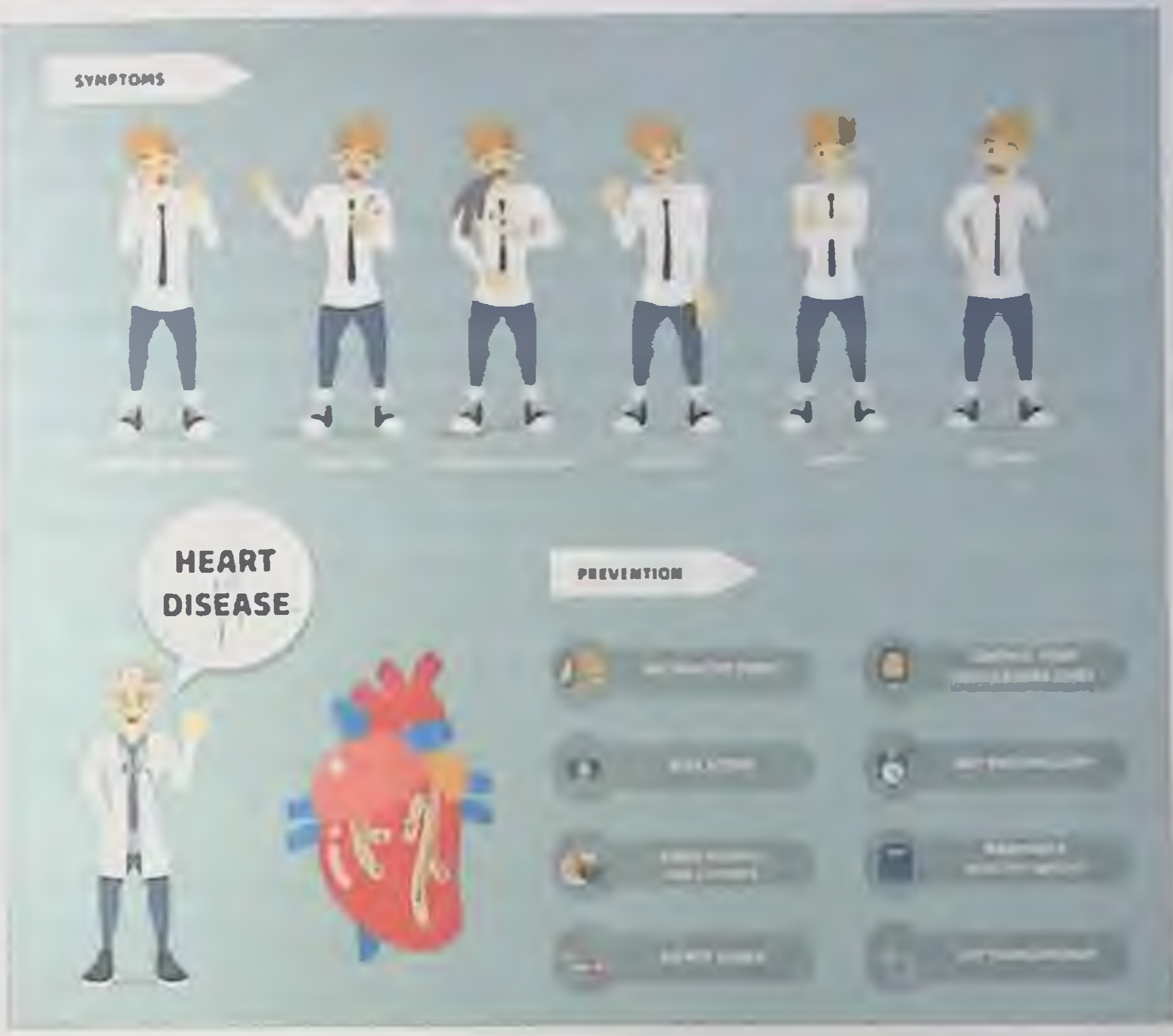

Fig.10

* Primary prevention is the identification and correction of risk factors in people exposed to them, but not yet suffering from the disease (for example, antihypertensive therapy in a patient with arterial hypertension leads to a reduced risk of myocardial infarction, strokes and CRF).

* Secondary prevention involves the correction of risk factors in individuals suffering from the disease, in order to prevent the development of complicated forms of the disease (the fight against hypercholesterolemia significantly reduces the risk of recurrent myocardial infarction in a patient with CHD).

Primary and secondary prevention is one of the most important tasks facing a general practitioner. Prevention of atherosclerosis and related diseases of the CCC in the population allows you to maintain the health of

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the working-age population, which is fundamentally important not only in the social, but also in the economic aspect.

Thus, the concept of risk factors is a very important component of medicine of the XXI century, its preventive direction. Along with traditional diagnostic and therapeutic activities, a modern clinician should be familiar with the principles of this concept and actively implement them in their screening programs, which allow identifying people who consider themselves healthy, but are at high risk of developing a serious disease.

In general, the fight against risk factors is a real way to prevent diseases. Along this path, many developed countries have managed to reduce mortality, for example, in CHD and a number of other diseases. In this regard, it is important to mention the development of clinical non-infectious epidemiology, which helps in studying the relationship of morbidity and mortality of the population with the influence of various factors, such as environmental (environmental pollution in certain regions), the frequency of alcohol abuse, smoking, etc.

PROGRESS IN DIAGNOSIS AND EVOLUTION OF PATHOLOGY

Modern medicine widely uses numerous highly informative instrumental and laboratory research methods, which increases the accuracy of diagnosis, expands and deepens the understanding of the causes, essence and manifestations of many diseases and, thus, significantly changes the nature of modern medicine. Undoubtedly, the accuracy and timeliness of diagnosis of diseases of the gastrointestinal tract (GI) have significantly increased due to the use of radiography and endoscopy (for example, retrograde pancreatocholangiography is recognized as the "gold standard" in the diagnosis of primary sclerosing cholangitis). Some heart and vascular diseases can be diagnosed with great accuracy using echocardiography (ecg) and angiography. Volumetric formations in the lungs and abdominal cavity are detected using computed tomography (CT), including high resolution. In Vivo morphological examination of tissues allows us to differentiate, for example, different types of hepatitis and nephritis, while clarifying their etiological factors and indications for more active treatment.

The possibilities of laboratory research are changing significantly. For example, the determination of the content of various substances in the

blood and urine, in particular hormones, allows in doubtful cases not only to diagnose diseases of the endocrine organs with hyper or hypofunction, but also to establish a violation of their function in other diseases, which is also important when choosing treatment. Determination of the content of certain hormones allowed us to identify, for example, forms of endocrine arterial hypertension that were previously considered essential (i.e., without an identified cause). There is a possibility of laboratory determination of a number of substrates, which to a certain extent can be attributed to markers of certain pathological conditions (for example, determination of the level of troponins-troponin I and troponin T - in the diagnosis of acute myocardial infarction and acute coronary syndrome).

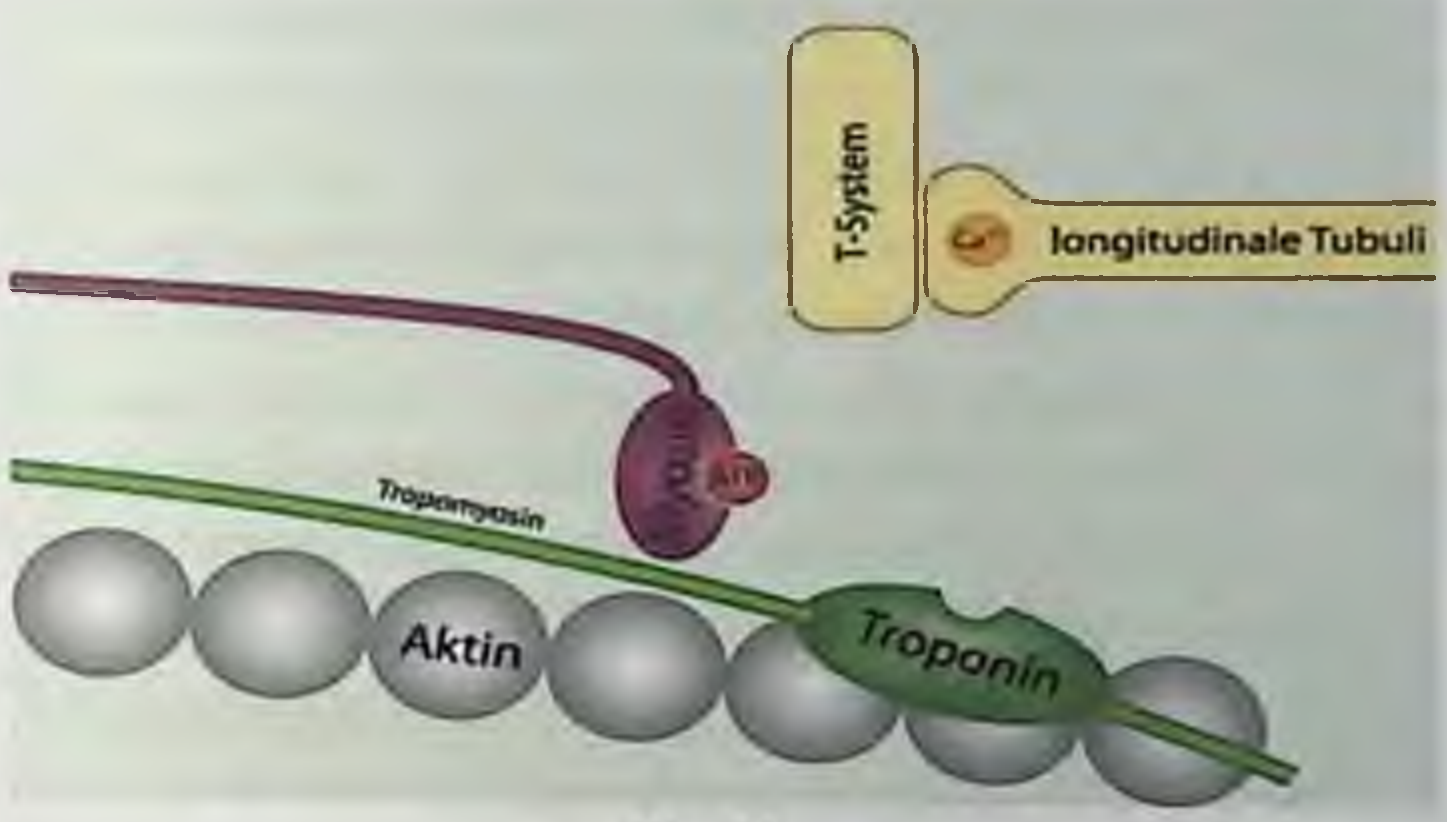


Fig.11

Clinical experience teaches that no matter how perfect new research methods are, the data obtained with their help can rarely be used without taking into account the results of a traditional examination of the patient. This applies primarily to questioning, which is often crucial in diagnosis, as well as to traditional physical examination methods such as examination, palpation(palpation), tapping (percussion), and listening (auscultation). Progress has led to a certain revision of the value of some traditional methods and the symptoms they reveal, although many of them remain relevant today.

The current stage of development of the doctrine of diseases is characterized by major changes in approaches to understanding the mechanisms of human diseases, their classification, diagnosis, and

treatment. Changes in living conditions, the strengthening or weakening of the influence of various environmental factors contribute to the appearance or increase in some types of pathology, as opposed to a decrease in the frequency of others, and the possibilities and achievements of exact sciences - primarily genetics and molecular biology-make the most optimal tactics for managing patients.

Today, there is already extensive information about the decoding of the human genome, and the description of human genomic sequences has led to the creation of a giant genetic database, which is often not easy to navigate. However, it is very important for the clinician to know whether the results of these fundamental studies, including numerous data on the association of various diseases with specific genetic abnormalities, are really of practical interest. There is an opinion that genetic disorders primarily cause the development of relatively rare diseases, but this once again confirms the thesis about the importance of violations of the function of one gene for the normal functioning of the body. The main purpose of clinical and genetic comparisons is to reveal the interactions between the genetic characteristics of individual individuals and the population as a whole (taking into account the influence of the external environment), to reveal the relationship between individual mutations, which is very important due to the fact that most diseases are polygenic in nature.

PROGRESS IN THE TREATMENT

The problem of treatment has always been the most important for the clinician. The systematic introduction of highly effective treatment methods, primarily drugs, into everyday practice has significantly changed the course of many previously fatal diseases. We can name a number of medicines, the very appearance of which was considered as an outstanding achievement of science and was crowned with the award of the Nobel Prize. These are vitamin B12, which made pernicious anemia curable; penicillin and streptomycin, which changed the prognosis for many infectious diseases, including tuberculosis; glucocorticoids (prednisone), used in the treatment of rheumatoid arthritis and many other diseases; H2-receptor blockers of histamine and proton pump inhibitors, highly effective in gastric ulcer disease. The emergence of a large number of drugs led to the emergence of a new medical specialty - clinical pharmacology, which is rapidly developing in modern conditions. It studies changes in the

patient's body that appear in response to the introduction of drugs, including a number of other effects, including side effects, as well as the relationship of these changes with the dynamics of the drug concentration in the blood (pharmacokinetics).

Active drug treatment can practically stop the development of the underlying disease, but the patient may die as a result of a new pathology caused by drugs - iatrogenic, i.e. associated with the activities of the doctor. Dyspeptic phenomena (nausea, vomiting, etc.), the appearance of rashes on the skin, as well as violations of the functions of the blood (agranulocytosis, hemolytic anemia), liver (chronic hepatitis), kidneys, lungs and other organs are associated with the side effect of drugs. Traditionally, iatrogenic diseases were considered those that arose as a result of statements and actions of a doctor (medical worker in general) that contradict the principles of deontology, traumatizing the human psyche. However, even 300 years ago, the famous Thomas Sydenham ("English Hippocrates", as he was later called), emphasizing the great danger of verbal trauma, spoke about the possible dangers of other influences of the doctor (prescribing drugs, etc.). Modern clinicians have expanded the concept of "iatrogenic", that is highlighting the unwanted effects of medicinal effects and various medical manipulations

(invasive research methods, etc.). This is represented as much as possible in the doctrine of drug disease (in particular, the" big drug disease " according to E. M. Tareev), which means a set of signs that often indicate the involvement of many organs and systems (skin, joints, blood vessels, kidneys, lungs, etc.), the appearance of which is associated not so much with the toxic, but with the immune mechanism of action of one or another drug. So, during the existence of antibiotics, the lives of many millions of patients were undoubtedly saved. However, the same antibiotics caused the development of anaphylactic shock, which killed thousands of patients. A modern doctor should have maximum information about adverse drug reactions and methods of monitoring in order to timely identify undesirable effects of the drug used.

Non-specific drug syndromes

* Fever

* Skin syndrome-dermatitis, urticaria, panniculitis, erythema nodosum, vascular purpura • Joint syndrome

* Hematological syndrome-cytopenia, agranulocytosis, anemia

* Bronchial obstructive syndrome

• Nanoorange defeat nephritis, chronic active hepatitis, fibrosing alveolitis

* Systemic manifestations - SLE, nodular periarteritis

GCP-QUALITY CLINICAL PRACTICE

The emergence of clinical pharmacology contributed to the formation of a system of principles that found their expression in the provisions of the so - called GCP (good clinical practice-quality clinical practice) concerning the organization, management, ethics and deontology of clinical trials. The testing of new drugs is based on these principles in international clinical practice.

A clear definition of the indications for treatment, i.e. the diagnosis of the main clinical syndrome or disease with an assessment of contraindications, is recorded in a special protocol of the study devoted to the testing of a new drug. At the same time

it is necessary to objectify the effect of the drug, i.e., to assess the dynamics of the painful process and compare the available indicators with those of a specially selected comparison group. Testing of new drugs is carried out in four phases. The first phase involves evaluating the effect of the drug on experimental models. The second phase is fundamentally important for the research of new drugs and is usually carried out on healthy volunteers. In the fourth phase, the main attention is paid to side effects, since large groups of patients are included in the treatment.

The most important principle of GCP is compliance with ethical standards. At the same time, it is assumed that the patient or subject (a healthy volunteer), in accordance with generally accepted human rights standards, should be informed about the methods of diagnosis and treatment and the likely risk of these measures, which allows him to decide for himself whether this risk is justified. In accordance with this, in some countries, patients are offered to give written informed consent to a number of potentially dangerous diagnostic and therapeutic procedures, for example,

bicycle ergometric load with dynamic registration of an electrocardiogram (ECG), which allows to assess coronary circulatory disorders. When testing new drugs, the high activity of which has been proven in preliminary studies, especially experimental ones, the approval of the so-called ethical committee of the medical institution is required.

HISTORICAL SKETCH

It would be a mistake to think that "the progress of technology as such provides ease of diagnosis" (E. M. Tareev). It is the traditional methods on which clinical medicine of the past was based that still remain unshakable. Based on them, the modern doctor forms himself as a clinician. Such a foundation is, of course, the principles of Hippocratic healing that have stood the test of time for almost 25 centuries and the "Canon of Medical Science" of Avicenna. These two founders of copper-

The Qins combine the attitude to it not only as a craft, but also as a science and art, interest in identifying the causes of disease, systematization of symptoms, philosophical aspects of medicine in general, the disease and the patient in particular, ethical problems of healing, which found maximum expression in the "Hippocratic Oath"recognized throughout the world today. Modern diagnostics with the use of physical methods (i.e. with the use of human senses) originates in Greek medicine, although some of its beginnings existed in ancient Egypt, Babylon, China; however, the latter did not receive convincing documentary evidence.

Greek medicine began to develop very early, evidence of which is found in Homer in the Iliad (approximately IX-VIII centuries BC).

Hippocrates, who lived around 460-370 BC, was a contemporary of the thinkers and writers Plato, Socrates, Aeschylus, Sophocles. He is known not only as an outstanding doctor and medical figure, but also the author of written works that contain descriptions of many diseases (42 clinical observations), demonstrate the high level of medicine of that era, including a thorough study of anamnesis, as well as the use of examination, palpation, direct auscultation, sputum and urine studies. The school of Hippocrates affirmed the view of diseases as natural phenomena that must be studied, predicted, prevented, and treated. However, the ancient Greeks still lacked systematic knowledge of anatomy, pathology (autopsies were not performed) and ideas about nosology.

The next major doctor who went down in history was also the Greek Galen (doctor of the Roman emperor Marcus Aurelius), who lived in the second century AD and left numerous works not only on medicine, but also on experimental physiology, which remained important for 15 centuries, until Andrew Vesalius. The latter compiled anatomical descriptions based on numerous autopsies and became a solid foundation for the further development of physical research methods in diagnostics.

The further progress of medicine is closely connected with the development of the history of peoples and states, reflecting to a certain extent the development of science and knowledge in general. So, it is worth mentioning the Englishman Thomas Sydenham, who in the XVII century studied the course of a number of infectious diseases and their epidemics, such as plague, cholera, described gout as a special form of the disease, different from other diseases of the joints. He also formulated the principles of distinguishing individual nosological forms of diseases based on essential objective signs and criteria.

Fig.12. David Teniers (the younger). Rural doctor. The XVII century. (The doctor examines the lumen of the patient's urine.)

Morgagni in the XVIII century in Italy firmly introduced the method of clinical and anatomical comparisons and left a number of the first

descriptions of such forms of diseases as stomach cancer, syphilitic aortic aneurysm, croup pneumonia.

The subsequent development of diagnostics is connected with the discovery of a number of methods of physical research and the formation of national clinical schools, which have always had leaders-outstanding doctors. As a rule, they made scientific generalizations, but more often they were outstanding personalities in themselves, who treated famous historical figures of that time - political leaders, military leaders, etc.:

* Percussion, proposed by Leopold Auenbrugger in 1761 and widely used

popularized by Jean Corvisart - a distinguished French physician who treated Napoleon Bonaparte;

• auscultation with a stethoscope, suggested Rene La hannekom, who wrote a book on the application of this method.

Fig.13. Renee Laennec

Although the measurement of body temperature has been practiced in various forms for centuries, a serious impetus in its development was the development of a temperature scale by Celsius in 1743. A detailed study of

temperature curves in various pathological processes was carried out in Germany by Wunderlich.

For the first time, the measurement of blood pressure (BP) was carried out in Cambridge by S. Hales in 1733 by a direct method. For clinical practice, this study became possible after the appearance of a cuff into which air was pumped, and a mercury pressure gauge proposed by rivarocci in 1896, but especially after the discovery of vascular tones by N. S. Korotkov in 1904, which made it possible not only to more accurately assess systolic blood pressure, but also to measure diastolic blood pressure on the ulnar artery.

In addition to these outstanding medical scientists, we should also mention Sir William Osler (1849-1918), who was born in the United States and worked in Canada and Great Britain, who created the first modern fundamental guide for doctors and students and described for the first time a number of important symptoms of internal diseases.

1. GENERAL PRINCIPLES OF DIAGNOSTICS

To assess as much as possible all the details of an emerging or developing disease, and not only to state its presence, is important first of all in order to alleviate the suffering of the patient, prolong life or cure it. Today, the cure of the patient, including from very severe suffering, is increasingly becoming a reality, although, as before, in any case, the doctor should be able to comfort the patient.

Understanding the nature of the pathological process (for example, infectious-inflammatory, autoimmune, tumor, etc.), the cause of the disease (if possible), morphological changes in organs, the degree of decline in their functions - all this is included in the concept of "disease recognition" and is closely related to a carefully conducted examination of the patient.

The very concept of "disease" is quite multifaceted. A disease (lat. morbus) is a violation of the normal functioning of the body, which prevents or changes the normal functioning. Often, the clinical manifestations of a particular disease determine the signs of damage to individual organs or systems, sometimes only one organ, but in all cases, the disease is the involvement of the entire body in the pathological process, so the assessment of the state of the body as a whole is always very important.

The disease is a response to environmental factors (for example, eating disorders, environmental pollution, adverse climatic conditions), specific infectious agents (bacteria, viruses, helminths, fungi), congenital disorders (various gene abnormalities) or a combination of these factors. The outstanding Russian clinician E. M. Tareev wrote: "Disease is the body's reaction to changed environmental conditions, violation of specific forms of adaptability of the body. It is the interaction of the environment and the organism with its changing reactivity that should always be taken into account when judging the cause and origin of any disease."

Mastering the general principles of diagnosis, the ability to evaluate the data of a particular patient's medical history (history of the disease, family history, life history), the results of a complete clinical study, including additional laboratory and experimental studies, are absolutely mandatory

for a doctor of any specialty. It should be emphasized that the more new diagnostic methods are offered, the more important traditional methods of examination will become, because they not only form clinical thinking, medical art and healing in general, but also constantly reinforce and develop them, remaining the cornerstone of diagnosis, as well as teaching students internal medicine. Physical examination is not only one of the main diagnostic methods, but also the basis for the formation of the relationship between the doctor and the patient. Emerging new methods allow you to refine and supplement (often very important details) the data that the doctor receives through a physical examination.

1.1. INTRODUCTION TO THE PATIENT

To begin acquaintance with the patient, you should find out the last name, first name and patronymic (the latter should be used in communicating with the patient), age, profession and place of work. Of course, certain features of communication with the patient-physician or long-suffering and interested in medical information of the patient; they can be a conversation including details about the various surveys in the past with clarifying the relationship of the patient to the data obtained, which allows us to estimate the inner picture of the disease (in particular, its own assessment of the patient's condition and the seriousness of the situation). At the same time, not only specific drugs with their dosage should be specified, but also the effect of therapy. The data obtained during the previous examination (hospitals, polyclinic) is very important, so it is always necessary to refer to the available extracts from medical records. It should be borne in mind that special medical literature is increasingly read by people who do not have a medical education, and popular medical information is constantly appearing in the press, which allows many patients to be very oriented in this area, although not always correctly.

Before starting the examination of the patient, the doctor should create optimal conditions for both himself and the patient (for example, the patient should not be in an uncomfortable position, his excessive and prolonged exposure should be avoided); in addition, it is necessary to make sure that nothing will interfere with the conversation and examination.

1.2. PROCEDURE AND COMPLETENESS OF THE SURVEY

Existing approaches to the examination of the patient are aimed at developing the doctor's skill of completeness of studying the patient in a certain sequence. They are based on the principles of "from the general to the particular" and "from the simpler to the more complex".

* The principle of "from the general to the particular". General examination of the patient includes the determination of the state of consciousness, position of the patient, physique (constitution), facial expression, body temperature, anthropometric data (for more information, see chapter 3, section "Clinical Anthropometry"). Examination of individual systems and organs is considered private.

* The principle of "from simpler to more complex". When studying each system, the doctor first uses simpler physical methods - questioning, examination, and then more complex-palpation(palpation), tapping (percussion), listening (auscultation). Of course, the simplicity and complexity of research methods are very relative. Nevertheless, quite often the doctor during the study of the respiratory system asks additional questions, for example, about nosebleeds, and when studying the digestive system - about difficulties in swallowing or passing food through the esophagus (liquid and solid), etc.

The study of the patient begins with the skin and mucous membranes, then examine the subcutaneous fat, lymph nodes, musculoskeletal system (joints, bones,

muscles). After that, the respiratory, circulatory, digestive, hepatobiliary, urinary, endocrine, nervous, and sensory systems are examined. At the same time, each organ or system is studied in a certain order.

* Lymph nodes are examined, starting with the occipital, then - submandibular, cervical, supraclavicular, axillary, ulnar and, finally, inguinal.

* Examination of the respiratory system begins with the nasal passages, paranasal sinuses, larynx, consistently moving to the assessment of the lower respiratory tract and the lungs themselves.

* The digestive system is examined starting from the oral cavity (including the tongue, teeth, tonsils), then-the esophagus, stomach, small and large intestine.

Most often, in patients suffering from chronic diseases, the disease can be presented already by questioning and studying extracts from previous medical histories. However, it is often crucial to examine the patient with the help of physical, as well as laboratory and/or instrumental methods of research.

1.3.THE DIAGNOSTIC PROCESS

The doctor in the process of practical activity builds a certain own system that is most convenient for him, so it is quite difficult to talk about the universality of the main approaches of diagnostic strategy and tactics, but there are some common points that are widely used by clinicians. Unconditional principle: in the diagnosis of human diseases, the most important place still belongs to the clinical examination, based primarily on classical methods. Nevertheless, with the help of a number of additional and special research methods (laboratory, X-ray, ultrasound, morphological, etc.), it is possible to clarify the features of changes in one or another organ, more accurately determine their localization (the place of stenosis of the coronary artery using coronary angiography, etc.) and even establish morphogenetic changes (various methods of studying tissue obtained during organ biopsy). The final diagnosis is the result of a careful comparison of all the results obtained.

The concept of questioning and physical examination

From the first moment - the moment of acquaintance with the patient and his questioning-the doctor begins to think about the incoming information, formulating for himself emerging problems or diagnostic assumptions and planning ways to solve them.

In some cases, the diagnostic assumption appears already at the first glance at the patient. * For example, in severe spinal deformity as a result of ankylosing spondyloarthritis (Bekhterev's disease), patients are characterized by a "Petitioner's pose"("supplicant's pose") (Figure 14).

Fig. 14. "Petitioner's pose"("supplicant's pose") in Bekhterev's disease. The torso is fixed in the flexion position, the head is lowered-characteristic manifestations of ankylosing spondyloarthritis.

* The doctor can immediately detect jaundice, cyanosis, edema, forced posture, facial asymmetry, slurred or other speech features, assess the degree of activity of the patient, which immediately directs the diagnostic search in a certain direction.

* Neatness or slovenliness in clothing, behavior (anxiety, apathy) allow you to get an idea of the patient's personality and often - about its change under the influence of the disease.

* The facial expression may reflect unpleasant or painful sensations (pain, anxiety), for example, the lack of facial expressions (an indifferent face) is possible in a deep depression or comatose state. In other cases, the assumption of a specific clinical symptom, syndrome, or even disease in general is sometimes a fuss-

It is used in the study of anamnesis from the moment of finding out complaints. For example, the first complaint of shortness of breath, which increases with physical exertion, should cause the thought of heart failure (and, accordingly, heart disease) or chronic obstructive pulmonary disease (COPD). In assessing this symptom, concomitant complaints can immediately help. So, a long cough with repeated exacerbations brings the doctor closer to the idea of lung disease. At the same time, long - term pain in the heart, especially behind the sternum, information about past myocardial infarctions, which almost all patients are well aware of, allow us to think about heart disease and most likely-about CHD, complicated by heart failure. Nevertheless, it is possible that shortness of breath occurs in an untrained person who is concerned about his health without sufficient grounds, i.e. in the absence of serious lung and heart disease, which can sometimes be proved only with a special targeted examination.

Such a general assessment of the patient is very important, but in most cases it is possible to detect certain symptoms and significantly approach the correct diagnosis only with a special, often repeated examination in connection with the assumption of a disease (or with additional examination methods). In this regard, symptoms are of particular importance, which become available for detection as they gradually increase only at a certain stage of dynamic observation of the patient. Examples are the delayed appearance of jaundice in acute hepatitis, an enlarged spleen, and the occurrence of diastolic murmur at the listening point of the aortic valve in subacute infectious endocarditis. Of course, a symptom such as fingers in the form of drumsticks (Hippocratic fingers) can form when observing the patient for a long period, and the time of detection of this sign depends not so much on the ability of the doctor to visually assess the appearance of the fingers, but on whether he pays attention to the appearance of the fingers at all, i.e. whether he is looking for this particular symptom. As the well-known modern cardiologist Paul White wrote: "...you can not be sure of the absence of symptoms and signs if you do not specifically find out and look for them."

Thus, an objective study is usually modified in connection with the data obtained and the assumptions that have arisen.

* So, if a young person is found to have persistent arterial hypertension, then it is necessary to measure blood pressure not only on both hands, but also on the legs.

• If the presence of hemoptysis and infiltrate in the lung suggests a pulmonary embolism (PE), the circumference of both legs should be measured to exclude thrombophlebitis of the deep veins of the lower extremities as one of the possible causes of thromboembolism.

In fact, no matter what symptom we are talking about, there are always several assumptions about its cause and mechanism of occurrence. Systematic examination of organs and systems, as well as obtaining new important facts, allows you to concretize the diagnostic idea, but it is very important to constantly maintain objectivity, open-mindedness of judgments, readiness to perceive and evaluate new facts and symptoms in comparison with those already identified.

In conclusion, it should be added that the success of the diagnostic process depends on how fully the doctor will be able to identify the signs of the disease (or diseases) and understand why these signs are present in a particular patient. It would be a mistake to assume that a diagnostic concept can be drawn up only on the basis of what is read in a textbook, monograph, manual or heard once at a lecture. The diagnostic concept is ultimately formed at the patient's bedside, i.e. "from the patient".

An individual feature of the doctor is the ability to identify and formulate the symptoms of the disease, to make logically correct conclusions and, as the outstanding obstetrician-gynecologist V. V. wrote. Snegirev in the preface to the clinical lectures of G. A. Zakhar'in in 1909, " ... from the mass of basic and transient symptoms to create a picture of the past and present state of the patient, as a talented artist with individual imperceptible strokes recreates the eternal beauty of nature or collects disparate sounds into chords and harmonies."

1.3.1. Additional examination methods: laboratory and instrumental

Currently, in clinical practice, many and diverse methods of examination are very often used, traditionally called additional ones-these are laboratory and instrumental methods. Sometimes additional methods are

very important not only for diagnosis, but also for constant monitoring of the patient. Thus, the more or less prolonged existence of hyperglycemia (increased blood glucose) in diabetes mellitus can significantly accelerate the progression of kidney damage (diabetic nephropathy). Therefore, for adequate correction of the disease is extremely important regular (sometimes several times a day) determination of glucose in blood, made possible also at home, when the patient himself determines the rate using a special antigen (individual meter). In the process of diagnosis, a plan is usually drawn up for an additional examination of the patient, taking into account the data of the examination conducted earlier, although it should not be entirely based on previously established diagnoses. At the same time, respect for the opinion of colleagues who have supervised the patient in the past or are currently participating in his examination is an indispensable ethical rule. In all difficult or unclear cases, you should not neglect the opportunity to get additional advice from colleagues, including in the form of a joint discussion at a consultation.

Currently, it is increasingly possible to detect serious health changes in people who do not consider themselves sick or who have consulted a doctor about other medical problems, which can also be detected by using additional research methods. Thus, during a routine X-ray examination, a peripheral infiltrate (tumor?) in the lung, in the laboratory - proteinuria, microhematuria (latent glomerulonephritis?), in the general blood test - hyperleukocytosis with lymphocytosis (lymphocytic leukemia?). In such cases, urgent treatment (including surgery) is necessary, sometimes allowing the patient to save his life. Therefore, both in the hospital and on an outpatient basis, including during medical examinations, in addition to the use of physical methods, it is necessary to-

changing the range of additional studies (General blood and urine tests, x-ray chest, ECG, etc.). Currently this residence for certain categories of persons are supplementary to a number of other studies, including endoscopy, ultrasonography (us), it is important for early detection of several diseases.

Sometimes the significance of the information obtained remains unclear, and the diagnosis can be clarified only with dynamic observation (often

quite long), including against the background of trial treatment (diagnosis ex juvantibus*).

With regard to methods of additional examination, primarily instrumental, the concept of invasiveness is very important. Invasiveness of the research method (Lat. invado, invasum - attack, invade) - the degree of violation of the integrity of the barrier between the environment and body tissues during the study. Non-invasive methods of research include, for example, ultrasound, ECG, X-ray examination and conditional endoscopy, since the integrity of the barriers during its conduct is not violated. Invasive research methods include angiography, biopsy, etc. Taking into account a certain risk for the patient during these studies, it is necessary to obtain his consent (the so-called informed consent of the patient).

1.3.2. From symptom to diagnosis

During questioning and additional examination of the patient, the doctor identifies certain symptoms, then on their basis the doctor comes to a conclusion about the diagnosis. However, in many cases, the abundance of symptoms significantly complicates the diagnostic process. To facilitate the diagnosis and systematization of symptoms, the concept of "syndrome"was introduced.

Syndrome - a set of symptoms united by a common pathogenesis. Based on the specific symptoms and signs obtained with the help of basic and additional examination methods, a number of syndromes characteristic of diseases of a particular organ system can be identified. The identification of syndromes is an important step on the way to a correct diagnosis.

* Diagnosis ex juvantibus (Latin juvo - to help, facilitate, be useful) - a diagnosis based on the evaluation of the results of the treatment.

Various diseases are characterized by the combined presence of certain sets of symptoms. Thus, the process of diagnosis consists of three stages:

* identification of symptoms;

* combining symptoms into syndromes (a single mechanism of pathogenesis);

* proper diagnosis based on the characteristic combination of syndromes (if necessary, also differential diagnosis of diseases manifested by the

same syndrome). Specificity, sensitivity and informativeness of research methods and clinical signs

In case of additional examination of the patient, it is necessary to take into account the sensitivity, specificity and informativeness of the methods used. To assess the specificity and sensitivity of the research method as a percentage, special methods have been developed.

The sensitivity of the method for identifying a specific trait is the ratio of the number of patients with the presence of a trait according to the applied research method and the number of examined patients with the actual presence of this trait (expressed as a percentage). If the method or test is highly sensitive, it reveals pathology in most patients with this disease (true positive results) and only in a small number of patients gives false negative results. For example, the sensitivity of ECG indicators before and after bicycle ergometry to detect ischemia, according to various authors, is from 50 to 80%, which means: out of 100 patients with myocardial ischemia that actually occurs during physical activity, the method allows you to detect its ECG signs in 50-80 people, while the rest receive false negative results. The sensitivity of a sign or symptom in a particular disease is an indicator that reflects the frequency of occurrence of a sign in a given disease.

* Specificity of the method for identifying a specific trait (it is calculated on the basis of a survey of healthy individuals) - the ratio of the number of examined healthy patients who have no trait (true negative results) and the total number of healthy patients (expressed as a percentage). In other words, specificity reflects the frequency of" errors " of the study method in healthy individuals. For example, the specificity of bicycle ergometry is from

80 to 95%, which means that out of 100 patients without really existing myocardial ischemia, 80-95 people with bicycle ergometry will not show characteristic signs, while the remaining 5-20 people will get a false positive result. The specificity of a sign or symptom in a given disease is an indicator that reflects how often the sign occurs in people who do not have this disease.

* Informativeness of the study - a non-quantitative characteristic of the method that reflects the amount of useful information obtained from the

use of this method in a particular pathology and, therefore, allows you to judge how much this method is necessary in each specific case. For example, a chest X-ray survey is uninformative for the diagnosis of tension angina.

The provisions regarding sensitivity, specificity and informativeness apply to all research methods - both clinical and additional, since the absolute majority of detected pathological signs can be detected in various diseases (specificity is not absolute!), and many very characteristic signs for some diseases may occur only at a late stage of the disease or do not occur at all in some patients.

Symptoms that are strictly pathognomonic for a particular disease are very rare. Some combinations of symptoms may be more specific to a particular pathology. Attempts are being made to develop so-called diagnostic criteria for a number of diseases, which, according to a number of clinicians, make it possible to speak about a specific diagnosis with greater confidence based on a set of signs. Such diagnostic criteria have strictly defined sensitivity and specificity; they include both general clinical signs and those obtained through additional research and, what is very important to emphasize, are often revised. For example, the American Rheumatology Association's revised criteria for the diagnosis of SLE have a sensitivity and specificity of 96%. Nevertheless, the "criterion diagnosis" can not be considered absolute, especially since often in a particular patient, this approach is leveled by individual characteristics of the manifestations of the disease.

In the diagnosis of diseases, the concept of the so - called gold standard is sometimes used, for example, the "gold standard" for the diagnosis of primary sclerosing cholangitis-retrograde pancreatocholangiography. In the diagnosis of various diseases, the use of highly sensitive research methods (for example, the detection of rheumatoid factor, C-reactive protein concentration) is very important.

Characteristic signs of the disease can be detected, including with the help of additional research methods (including invasive). Most often, the doctor is able to identify almost all the important manifestations of the disease, allowing you to get closer to the correct diagnosis, but sometimes it is

necessary to "finish", giving the whole picture completeness and clarity. Such a" key " sign can be the gender, age, nationality of the patient, etc.

* For example, periodic attacks of abdominal pain accompanied by fever in a patient of Armenian or Arab ethnicity allow us to speak with confidence about the so-called periodic disease, or Mediterranean fever.

* Symptoms of pulmonary hypertension in a young woman may be associated with the use of certain appetite suppressants (anorectin) prescribed for the treatment of obesity.

1.3.3. Formulation of the diagnosis

Analysis of the totality of all the data obtained allows us to formulate a diagnosis. First of all, the main nosological form is called, i.e. a disease that has a characteristic clinical picture and morphological changes and is associated with certain etiological factors, which, however, can not always be detected. Since most diseases occur with exacerbations and remissions, indicate the appropriate phase of the disease. Formulate a functional diagnosis. There are syndromes and complications included in this nosological form (for example, bleeding in gastric and duodenal ulcers).

In any case, the diagnosis is formulated in accordance with the accepted classifications. This is necessary to standardize the work of the doctor, as well as to obtain uniform statistical data, both domestically and internationally. To obtain statistical data on various diseases around the world, specialists of the World Health Organization (WHO) have developed an International Classification of Diseases (ICD), where each nosological unit is assigned an alphanumeric code. Currently, including in Russia, ICD 10 revision (ICD-10) is used.

Thus, the formulated diagnosis is the result of a multi-phase search and, most importantly, attempts to understand the mechanisms of occurrence of the detected clinical signs, and their connection to factors internal and environment the patient environment, to represent the complex system of modifications in response to these factors.

It is necessary to keep in mind the possibility of a random combination of symptoms, so it is necessary to carry out both a post-syndrome justification and a differential diagnosis; in each case, facts should be given, both confirming and contradicting the assumption that has arisen. In the process

of understanding clinical data, it is necessary to decide which symptoms are key and which are questionable.

1.4. MEDICAL DOCUMENTATION

Registration of various medical documentation is one of the important duties of a doctor. It is necessary primarily for the systematization of information about the patient, as well as for the continuity of information, since the patient is rarely treated by only one doctor.

The main document that combines all these data is the medical history (as they used to say - "mournful sheet").

Medical history

Medical history - a document compiled for each patient in the hospital and intended for recording information about the diagnosis, course and outcome of the disease, as well as medical and preventive measures taken during the patient's stay in the hospital.

The medical history has several sections.

* Title page.

* Data of the examination of the doctor of the emergency department.

* Initial examination of the doctor of the department where the patient was admitted.

* Diary entries.

• The results of additional methods of examination and consultations of specialists.

* Epicrisis (stage and discharge).

In addition, the medical history may include a graphic representation of the course of the disease.

Graphic representation of the course of the disease

Records of the initial examination of the patient contain very important data on the history of the disease, life history, etc.

The choice of key manifestations can be expressed in the graphic design of the medical history. The graph should show data that has already been

understood by the doctor (and not just individual symptoms and syndromes) and is essential for assessing the nature and course of the disease. At the same time, we should try to reflect the dynamics of manifestations, i.e. their evolution, including under the influence of treatment. It is also important to consider the scale of time, meaning the disease not only in years, but if necessary, and by months and even days with recent hospitalization. The graph also shows the most important results of a single examination of the patient: for example, angiography, ultrasound, endoscopy. An example of a graphic representation of the disease in right-sided lower lobe pneumonia is given in Chapter 5 (see Figure 5-3).

1.4.1. Diary

In the diaries you should first reflect the dynamics of complaints and changes in the organs, using words like "improved", "reduced", "increased", "there", "gone", "grow", avoiding the terms "status unchanged" "complaint same", etc. In the diary can be given additions to the history, impressions of a doctor about an internal picture of the disease, the probable factors influencing the course of the disease and its changes, tolerability, conclusion about the effectiveness and side effects of drugs.

Epicrisis

Stage epicrisis. The dynamics of the patient's condition is periodically evaluated (1 time in 7-10 days) in the so-called stage epicrisis, where upcoming studies and changes in treatment are also planned.

Discharge epicrisis. Following the hospitalization issue a discharge letter, which reflect the diagnosis, summary data of the anamnesis, inspection and examination of the patient (mainly pathological manifestations or important for the differential diagnosis data), describe the treatment, the dynamics of the patient's condition, recommendations for treatment and preventive interventions and disability.

Particular importance is attached to the brief justification of the diagnosis and instructions concerning the difficulties of diagnosis and the features of clinical observation. As an example, the following is a variant of such a justification for a patient with CHD.

"The diagnosis presented some difficulties. Pain in the heart area was not quite typical for angina-

ter and more resembled cardialgia. However, the presence of risk factors for atherosclerosis (arterial hypertension, hypercholesterolemia, smoking, overweight), a positive bicycle ergometric test, and a good effect of nitrate treatment allow us to think about CHD. There are no signs of circulatory failure. The patient needs dynamic monitoring with ECG monitoring against the background of repeated tests with physical activity; also, it is necessary to monitor the level of blood pressure and lipid content in the blood. Long-term outpatient administration of antihypertensive drugs prescribed in the hospital is recommended. The patient can work in his specialty as a designer."

When issuing a discharge epicrisis on hand, the doctor should explain in detail to the patient his recommendations.

1.4.2. Temperature sheet

It is very important to clearly draw up the temperature sheet, which must be done simultaneously with the entries in the diary. On the temperature sheet, in addition to the temperature curve, which usually records the morning and evening body temperature, the pulse is marked in red, if necessary, the respiratory rate, blood pressure, daily diuresis and the amount of fluid taken per day (daily fluid balance), stool frequency, body weight are recorded. In addition, they take out the most characteristic and dynamic symptoms of the disease (the presence of edema, bleeding, skin rashes, etc.) and the main appointments. It is especially important to show the effect of the main treatment on the manifestations of the disease. The list of appointments

In this section, the doctor indicates all medications and other prescriptions.

1.5. THE RELATIONSHIP OF PATIENT AND DOCTOR

1.5.1. Deontology

Medical deontology (from the Greek deon, deonsos - due, proper; logos - teaching) is a set of ethical norms and principles of behavior of a medical worker in the performance of medical tasks.

their professional duties. The need for deontology in the activity of a doctor is primarily due to the doctor's ability to harm the patient with his actions or words, i.e. to cause negative iatrogenic reactions.

Due to the fact that the doctor's communication with the patient can become a source of fear, irritation, psychoneurosis, it is necessary to avoid in the presence of the patient the use of terms and expressions that can be misinterpreted or can frighten the patient. It is important to have a correct, adequate assessment of the patient's psychology, his intelligence, and the degree of awareness. It is advisable to clarify the internal picture of the disease, i.e. the patient's own assessment of his condition, the severity of the situation and certain manifestations of the disease. In case of overestimation of their severity or distorted ideas, the doctor's conversations with the patient and even psychotherapy are necessary.

In some countries, doctors consider it appropriate to provide the patient with complete information about the severity of the disease, including a sad prognosis, motivating this by the need for the patient to make a number of preparations, in particular to dispose of their property, etc.However, as a rule, such information can have a negative psychological effect, cause a sense of doom, depression, depression. Therefore, it is rather inhumane to report information that can cause such feelings. In any case, even if the patient somehow learned or guessed about the danger that threatens him, the doctor should focus his attention as much as possible on the facts that contribute to an optimistic view of the situation, the appearance of hope, raising the mood. In such cases, the doctor has a great psychological burden: he must understand the patient's condition, calm him down, distract his attention from anxiety, fear, etc. The doctor's position is especially difficult when the patient is in a hopeless state. And it is at the bedside of the dying that the modern physician, as he did thousands of years ago, must support hope, for "?the best doctor is the one who can inspire the patient with hope: in many cases, this is the most effective medicine" (S. P. Botkin).

In general, the psychological contact of the doctor with the patient is very important for the effective management of the treatment process. The tone of the conversation should not be overtly instructive, mentoring. It is advisable to address the patient by name and patronymic. It is necessary to

find out the circumstances that traumatize the psyche and, conversely, have a favorable psychological effect on the patient. It is always important to find a topic for conversation that allows you to establish proper contact with the patient. You should not get into an argument, leading to the emergence of antagonism and bringing balance to both sides.

The study of each patient is certainly a clinical study, and both the doctor and the patient are equally actively involved in it.

At all stages of the examination of the patient, a large range of ethical problems is very clearly manifested, although many of them are solved more easily (especially in the early stages of communication with the patient), if the culture of communication, the appearance of the doctor, his manner of examination does not cause a negative attitude in the patient.

Very often, ethical problems arise when it is necessary to use instrumental, in particular invasive, research methods, as well as when choosing one or another method of treatment. This is due to the fact that even the use of non-invasive, such as radiopaque, research methods can be accompanied by complications. And when using more complex methods (bronchography, catheterization, various endoscopic examinations), the severity (for example, rupture and perforation of the organ wall, bleeding, embolism, cardiac arrest) and / or the frequency of complications increase, although they do not exceed 0.2 - 0.3%.

Especially difficult is the situation when the doctor needs to decide on the use of diagnostic procedures that are accompanied by an organ injury, for example, pleurocentesis, biopsy. For example, with a liver biopsy, the risk of complications such as bleeding, subcapsular hematoma, pneumothorax, peritonitis, pleural shock, and damage to the bile duct is very real. And medical institutions that use these methods of research are more often in a less favorable position compared to institutions that do not conduct them and, therefore, do not take risks. Of course, it should be emphasized that the trend of conducting a "biopsy of everything that can be probiopsirovat" should not be fundamental. However, many years of experience in using these methods in medicine, correctly established diagnoses in thousands of patients with their help, and, finally, the associated possibility of rational treatment of patients convince of the expediency and necessity of their implementation.

Another large range of ethical problems in the work of a modern doctor is associated with his medical activities, primarily with the conduct of drug therapy. Complications of drug therapy are well known, and sometimes drugs can even induce a clinical picture similar to such bright diseases as SLE (for example, when using no-vocainamide), fibrosing alveolitis (nitrofurans), nodular periarteritis (sulfonamides).

For many years, doctors followed the motto of the eminent physician Sir William Osler: "Aequanimitas et imperturbabilitas "("Balance of mind and equanimity").

* Imperturbability (imperturbabilitas) W. Osler emphasized, comparing this quality with the composure and self-control necessary for a doctor in any circumstances, helping to maintain clarity of judgment in moments of greatest stress and generally gain the patient's trust. The development of this quality, according to Osler, is facilitated by the accumulation of experience and a good knowledge of various aspects of pathology.

* The balance of the spirit (aequanimitas) is identified with the life philosophy developed by the thinking physician. It is difficult to achieve, but it is necessary in times of success and failure. More tolerance will allow you to rise above the challenges of life.

The call "Aequanimitas et imperturbabilitas" was once widely recognized by doctors around the world, and it should be remembered today. "It is necessary to have a true vocation for the work of a practical doctor," wrote S. P. Botkin, " in order to maintain mental balance under various unfavorable conditions of his life." And further: "The moral development of the practitioner will help him to maintain that mental balance that will enable him to fulfill his sacred duty to his neighbors and to the Motherland, which will determine the true happiness of his life."

In conclusion, it is necessary to say that no matter how bright the clinical picture of the disease is, it is impossible to lose the patient as a person behind its symptoms. An astute doctor always considers the various manifestations of the disease as signs related to the pathology of a particular patient at a given moment of the disease. The words of a major Russian pathologist I. V. Davydovsky became an aphorism: "On a hospital bed lies not an abstract disease, but a specific patient,

that is, there is always some individual refraction of the disease." Paraphrasing, we can say that the picture (canvas) of the disease is outlined by the disease itself, its etiology, the laws of development (pathogenesis), but the patient with his individual somatic and mental characteristics creates a complete image of the disease according to this picture.

"Pay more attention to the specific patient than to the specific features of the disease," wrote Sir William Osler. This is also the meaning of E. M. Tareev's statement: "The diagnosis should be the basis for the treatment and prevention of an individual patient." That is why studying the symptoms of diseases only from a textbook (which students often abuse) is a big mistake. "Look, and then reason, compare, draw conclusions. But first see" (D. Osler). These words are in tune with what was said by outstanding Russian clinicians Matvey Yakovlevich Mudrov, Grigory Antonovich Zakharyin, Sergey Petrovich Botkin.

1.5.2. Latest medical information

To conduct a rational diagnostic search and adequate treatment, the doctor must have a sufficiently extensive knowledge drawn from literary sources and practical experience, which should also be constantly updated. It is known that in the United States, on average, a doctor regularly receives up to 5 titles of medical journals annually, which often contain completely new information regarding new research methods (for example, significantly improving the visualization of various organs) or treatment. In particular, the journals provide new information about the possibility of using drugs in patients that significantly increase life expectancy and improve its quality. * For example, it has become an axiom that almost all patients who have suffered a myocardial infarction or suffer from angina pectoris should constantly take acetylsalicylic acid in a small dose as a means of reducing platelet aggregation and preventing intravascular thrombus formation.

* Another example is the generally accepted need for all patients suffering from heart failure to constantly take a selected dose of an ACE inhibitor. The need for taking this drug is dictated by the results of many studies (on tens of thousands of patients), which have proven an increase in life expectancy in heart failure against the background of taking a drug from this group.

• All physicians and patients should be aware of the importance for patients with hypertension of taking appropriate antihypertensive drugs or combinations of drugs for life. Therefore, at present, it should be considered erroneous to recommend a doctor to treat arterial hypertension with courses only during the period of increasing blood pressure, since without maintenance therapy, blood pressure usually rises rapidly, which is often imperceptible for the patient, and persistent arterial hypertension dramatically increases the risk of cardiovascular disasters (myocardial infarction, brain stroke, sudden cardiac death). Results of major projects completed in the last decade

controlled studies indicate the need for active antihyperlipidemic therapy using HMG-CoA reductase inhibitors (statins) in the vast majority of patients with impaired lipoprotein metabolism, especially in the presence of other risk factors (smoking, obesity, type 2 diabetes mellitus, arterial hypertension). Prescribing statins for preventive purposes is often justified as a measure of primary prevention, that is, when clinical signs of cardiovascular diseases are still absent.

Unfortunately, there may be mistakes associated not only with the lack of awareness and education of the doctor (which requires magazines, books, attending meetings of scientific medical societies), but also with the usual inattention, carelessness, irresponsibility, which can even lead to a lawsuit. In this regard, it is especially important that all records in the medical history are as correct as possible.

The role of the doctor in educating the patient - "cooperation" of the doctor and the patient (compliance)

Of particular importance is the role of the doctor in providing the patient with up - to-date information on his disease, i.e. what is commonly referred to in Western literature as "education"

(English-education, enlightenment, training). The so-called educational programs are widely distributed, especially abroad (Europe, USA, Canada, Australia, etc.), the goals of which can be defined as follows.

* Increase the patient's awareness of the disease.

* Achieving and maintaining the patient's motivation for treatment and observation by the doctor (in other words, the patient's persistent desire to be treated), since most of the diseases studied by the course of internal diseases require the patient to make efforts to take long-term daily medications, control his condition and timely access to the doctor (planned or if the condition changes).

A very illustrative example is diabetes mellitus, in which the patient must:

1) learn to strictly follow a diet (the task of the doctor is to provide the necessary information for this);

2) learn how to regulate physical activity and lead a proper lifestyle (here the doctor must also tell the patient how to do this);

3) take daily oral hypoglycemic agents or use insulin in the doses prescribed by the doctor (the doctor's task is to select drugs and their doses);

4) often monitor the blood glucose level-if you have a home glucose meter yourself and often daily or, in the absence of such, visit the clinic at least monthly or if there are changes in health;

5) visit your doctor regularly;

6) know about the manifestations and methods of correction of emerging episodes of hyper-and hypoglycemia.

Thus, it is obvious that to obtain and maintain such a volume of additional knowledge necessary for a patient with diabetes mellitus, it is quite justified to organize a mini-educational process (patient's Schools).

In addition to diabetes, such knowledge is necessary for almost all chronic diseases of the course of internal diseases: bronchial asthma, CHD, hypertension, heart failure, rheumatism, gastric ulcer and duodenal ulcer, and many others, for which appropriate schools are organized for patients with diabetes, bronchial asthma, hypertension, etc.

Nevertheless, even if there are educational programs and special literature for patients, the role of the doctor in educating patients is paramount and very high. Unfortunately, at present, doctors often neglect this side of medical activity, which can negate the positive changes achieved, for

example, in the hospital, in the patient's condition, especially since after discharge from the hospital, patients often stop the selected treatment (primarily medication) for various reasons, which makes the course of the disease dangerous for the patient. The reasons leading to such disregard for medical recommendations are different: financial and economic problems of the patient (drugs must be purchased regularly, and not always their cost seems reasonable to patients), unwillingness to be treated outside the hospital, as well as many others, among which it is especially important to highlight the inattentive attitude of the doctor to the process of issuing recommendations to the patient. All this leads to a violation of the" cooperation " (compliance) of the patient and the doctor.

Thus, it is the doctor's attention to the patient in the course of treatment, respect for him first of all as a person with his doubts and questions that can contribute to the development and maintenance of the patient's motivation for treatment. And in this regard, it is especially important to emphasize that the doctor is obliged, regardless of the level of education of the patient, to find words that are understandable to him and can cause him a persistent desire to be treated.

2. METHODS OF EXAMINATION OF THE PATIENT

A mature clinician who constantly communicates with the patient and medical literature, who does not let patients out of his head for days, who is able to follow the course of the disease, see its smallest manifestations and correctly assess them, is able to anticipate a meeting with a new disease.

Learn to see, learn to hear, learn to feel, learn to smell and know that only through practice can you become a specialist.

Sir W. Osler

Despite the emergence of a large number of new research methods, primarily methods of instrumental diagnosis, the classic examination of the patient, which necessarily includes both the use of physical methods and questioning, has not lost its relevance and remains the basis for making a diagnosis.

At once it is necessary to warn the future doctor against neglect of traditional methods of diagnostics because only possession of all complex of methods of examination of the patient, good knowledge of a clinical picture and the main regularities of development of a disease can be that foundation on the basis of which the narrow specialist though now more often, especially at beginning doctors, there is a desire to go easier way and quickly to master a narrow specialty (for example, echocardiography).

2.1.Questioning the patient

Special studies have shown that in therapeutic departments, the diagnosis in 80% of cases is established already at the stage of questioning, from which the examination of the patient usually begins. During the conversation, the doctor should have an assumption about a possible disease or clinical syndrome, which makes further questioning and examination more targeted. The following is only general information about the inquiry.

The result of questioning the patient is anamnesis, so quite often the term "collection of anamnesis" is used as a synonym for the term "questioning". Thus, anamnesis (Greek: anamnesis - memory) is a set of information

obtained during a medical examination by questioning the subject himself and/or those who know him.

The study of anamnesis, as well as questioning in general, is not just a list of questions and answers to them. The style of conversation between the doctor and the patient depends on the psychological compatibility, which largely determines the ultimate goal - the relief of the patient's condition.

Anamnesis data (complaints, anamnesis of the present disease, sometimes some life history data, as well as the most important symptoms, the main methods of treatment) should be summarized in the form of a graph .

Questioning as one of the most important diagnostic methods was elevated to the rank of a fundamental diagnostic technique by Grigory Antonovich Zakhar'in - one of the outstanding Russian clinicians, whose priority in this area is recognized worldwide. In the preface to the French translation of G. A. Zakharyin's lectures, the prominent French clinician Henri Yuchard writes: "The fame of this method and its wide use were due not only to its simplicity and logic, to the patient's respect, but also to the great practicality and property of this method to detect initial changes...»

The etiology of the disease, the results of a thorough study of the environment surrounding the patient, can largely be clarified by detailing the questioning of both the patient and his relatives. Professional factors, lifestyle features, habits (for example, addiction to tea or coffee), the degree of physical activity and now, as in the time of G. A. Zakharyin, are included in the mandatory list of circumstances clarified by the doctor, important for understanding the essence of the disease in a particular patient.

2.1.1. The main components of the question.

Acquaintance with the patient begins with the clarification of his personal data: last name, first name and patronymic, age, profession, place of work. It is also desirable to clarify ethnicity, since some diseases are more likely to occur in people of certain nationalities.

The question is composed successively of the following parts.

* Complaints.

* anamnesis of the disease (anamnesis morbi) - the history of the present disease.

• Anamnesis of the patient's life (anamnesis vitae).

Often the questioning has to go back (and repeatedly) in the process of further observation and communication with the patient, especially in connection with the results of the surveys, and because the inquiry must involve not only the feelings of the patient at present, but past. Not every patient can accurately describe the details of their feelings, remember what happened before, restore the sequence of events from memory, their relationship, so you should evaluate the patient's personality and his ability to adequately answer the questions posed from the very beginning.

Objectives of studying the patient's medical history

* Getting the information needed for diagnosis.

* Assessment of the probable severity of the disease.

* Establishing other possible sources of information (relatives, other doctors, etc.).

• Establishing trusting relationships with the patient.

* Assessment of the patient's personality and his attitude to the disease (internal picture of the disease).

2.1.2. Complaints

The conversation with the patient begins with questions about complaints. Below are the most typical variants of the doctor's questions to the patient.

• What is bothering you?

• What brought you to the doctor or the hospital?

• What are your health problems?

It is advisable to give the patient the opportunity to speak about this in a convenient form for him.

Details of complaints

Often, due to a lack of attention to their health or due to other circumstances, the patient does not name all unpleasant, including painful

sensations. Therefore, the doctor should clarify the complaints with additional questions, paying special attention to the period preceding the patient's visit to the doctor, the reasons and purpose of the treatment. The following are examples of detail of the complaints of discomfort or vague discomfort.

• In what area do unpleasant sensations occur?

• What are the unpleasant sensations associated with?

• Are there any predisposing factors?

* What is the dynamics of unpleasant sensations: do they increase or decrease?

* What factors affect the course, increase or decrease pain or discomfort?

Simultaneously with the identification of complaints, the doctor should try to assess the characteristics of the patient's personality, his state of mind, the likelihood of exaggeration or understatement of complaints. It is also necessary to clarify the patient's reaction to the reported painful manifestations-elements of the internal picture of the disease.

The concept of basic and additional complaints

The significance of a particular complaint is often difficult to assess immediately. The main (main) complaints are usually those that have the greatest significance for the patient (i.e., the most subjectively significant). Often unpleasant sensations, even expressed very sharply and emotionally colored, do not have a direct relationship to the underlying disease. However, in typical cases, the main complaints with their detailed clarification are of crucial diagnostic importance.

After telling the patient about their complaints, it is necessary to start an active inquiry about those complaints that the patient could not name (accidentally or intentionally). For example, high blood pressure may not bother a patient who has adapted to arterial hypertension. Nevertheless, the patient in most cases has an idea of the most typical elevated blood pressure values for him. Do not forget to ask questions about the presence of common manifestations of the disease: weakness, fever, chills, headaches, irritability, appetite disorders, thirst, weight loss, etc.

At the time of examination, patients may not make any complaints, feeling healthy. They are brought to the doctor, for example, by a change in skin color detected by others, such as jaundice, changes in the X-ray of the lungs detected during a dispensary or "random" examination, the appearance of protein or glucose in the urine.

The doctor should analyze, understand the complaints and make specific assumptions about the nature of the disease. Further study of the medical history and objective examination provide important additional information to confirm these assumptions or make new conclusions.

Pain as the most frequent complaint

Pain occupies a special place among complaints. If you have a complaint of pain, you should pay attention to the following details.

* Localization of pain.

* Possible paroxysmal nature of pain and duration of the attack.

* Time of occurrence and possible cause.

• The intensity of the pain.

* Factors that increase or relieve pain.

* Irradiation - the spread of pain. Especially important is the connection of pain with the functional load on a particular organ. So, with pain behind the sternum of ischemic origin (angina pectoris) or in the heart (cardialgia), it is important to establish the provoking effect of physical activity and their rapid reduction at rest and after taking nitroglycerin. With pain in the epigastric region (suspected stomach ulcer), it is necessary to clarify their relationship with food intake, for example, the appearance after 30 minutes or 1.5-2 hours after eating (during the maximum intensity of the digestive process) or on an empty stomach and a decrease in their intensity after eating.

2.1.3. Anamnesis of the present disease

The history of the development of this disease (anamnesis morbi) is closely intertwined with the study of the patient's complaints. Clarification of the anamnesis of this disease contributes to the clarification of the following points.

* Time of onset of the disease. "Since when do you consider yourself sick?" - this is often the first question asked. The doctor, with the help of the patient, should strive to trace the development of the disease from the appearance of the first signs to the present time.

* Periods of exacerbations, their frequency.

* Possible causes that, in the opinion of the patient, caused the disease or its exacerbation (infection, errors in the diet, insolation, cooling).

* Results of a previous examination, including extracts from medical records.

* The results of previous treatment (including medical records), drugs that the patient has taken before and is taking now (names, effective doses, side effects, tolerability, allergic manifestations, the effect of the therapy).

* The presence of disability and its prescription.

Often, especially with an unclear diagnosis, you have to go back to the history of the present disease, which in some cases allows you to get new information that can be decisive.

2.1.4. The history of life

Life history (anamnesis vitae) includes general information: place of birth, education, place and conditions of life in the past and present, material security, marital status; in addition, it is necessary to obtain information about interests, hobbies, habits (primarily harmful), recreation, degree of physical activity.

2.1.4.1. The disease

It is necessary to ask not only about the past diseases, but also about their course. At the same time, it is possible to identify chronic pathological processes that are important for the patient at the present time, so information about them should be provided.

move to another section of the anamnesis - the history of this disease (anamnesis morbi). It is necessary to ask separately about the transferred operations, complications in the pre-and postoperative periods. It is necessary to find out the presence of periods of stay of the patient in countries with unusual climate and living conditions (for example, the tropics), which is important due to the possibility of parasitic infestations.

The medical history should record the answers (both positive and negative) to the following five questions regarding past illnesses and conditions.

1. Is there any allergy (especially to drugs)?

2. Have you ever been diagnosed with tuberculosis?

3. Have you ever been diagnosed with hepatitis? (If the patient responds negatively to this question, you need to ask about postponed jaundice.) If the answer to the question of past hepatitis ("jaundice") to find out the possible source of infection. If it is not possible to detect it, especially in young patients, it is necessary to exclude parenteral administration of narcotic drugs.

4. Have you had any blood transfusions, including in connection with bleeding, operations and their complications? (This is important from the point of view of possible infection with hepatitis B and C viruses-the cause of damage not only to the liver, but also to many other organs.)

5. The question of venereal diseases should be asked with special sensitivity, otherwise the patient may give a negative answer, even if in the past he turned to venereologists.

2.1.4.2. Hereditary history

Hereditary factors can predispose to the development of the disease. This predisposition is realized under the influence of external influences acting as provoking factors. Information about diseases and causes of death of parents and close relatives can be valuable for diagnosis and especially prognosis. For example, the disease or death of one of the parents at a relatively young age from CHD or acute cerebrovascular accident (ONMC), as well as the presence of the following most common diseases in relatives, is of significant importance.

* Arterial hypertension.

• Diabetes mellitus.

* Atherosclerotic vascular damage with the development of ischemia (CHD, ischemic lesions of the lower extremities, etc.; the patient should also be asked about the increase in the blood content of lipids in relatives).

* Alcoholism, tuberculosis.

* Mental disorders (including depressive ones).

* Malignant tumors (cancer of the intestines, ovaries, lungs). The disease can only occur in relatives of the same sex. Thus, only men suffer from hemophilia, but the disease is transmitted from grandfather to grandson only through a clinically healthy daughter*.

2.1.4.3.Professional history

When assessing the professional history, first of all, it is necessary to pay attention to possible occupational hazards, as well as to the presence of clinical manifestations similar to those found in the patient, as well as in other employees of this production. Among the professional factors, consider:

* inhalation of dust (including those containing silicon dioxide, asbestos, etc.);

* exposure to lead, mercury, solvent vapors, carbon monoxide, beryllium;

* vibration;

* radiation load;

* other occupational hazards that patients are usually well aware of.

At the same time, it is necessary to specify the availability of protective measures, preventive measures and periodic medical examinations, their completeness and results.

* The most famous family case of hemophilia in history (the disease is inherited as X-linked, recessive) - hemophilia among the descendants of Queen Victoria of England. Her granddaughter (the carrier of the defective gene), having married Nicholas II (Tsarina Alexandra Feodorovna), gave birth to five children. Four daughters were healthy, while the only son, Tsarevich Alexey, suffered from hemophilia from an early age. Bad habits and addictions

Of particular importance is the assessment of lifestyle, as well as the so-called bad habits, which include alcohol consumption, smoking and the increasingly urgent use of narcotic substances.

Smoking (age of initiation of smoking, number of cigarettes smoked per day) patients are usually characterized quite clearly. However, the amount

of alcohol consumed is often downplayed, and drug use is hushed up altogether. In this regard, you should additionally ask the relatives and relatives of the patient.

To detect alcohol abuse, it is necessary to pay attention to the presence of" markers "(including when assessing the appearance of the patient; see chapter 4, section" Signs of alcohol abuse", chapter 8, section" Liver damage caused by alcohol intake"), as well as the results of a special psychological test (CAGE questionnaire), which includes four questions.

1. Have you ever had the feeling that you should reduce the use of alcoholic beverages?

2. Have you ever felt annoyed if someone around you (friends, relatives) told you about the need to reduce the use of alcoholic beverages?

3. Have you ever felt guilty about drinking alcohol?

4. Have you ever been tempted to drink alcohol the morning after an episode of drinking? The sensitivity and specificity of the test are slightly less than

70%; a positive answer to three or four questions allows you to suspect alcohol dependence with a high degree of probability.

To identify drug addiction, collecting anamnesis alone is not enough.

Especially important is the inspection of the most frequent injection sites of narcotic drugs. Also, do not forget about the addiction to coffee or tea - in some cases, patients consume excessive amounts of coffee or tea in a small amount of water.

Information about the functions of the reproductive system

Women are asked about the features of the menstrual cycle (the time of the beginning of menstruation, regularity, abundance, soreness, duration), the course of pregnancies (number, outcomes) and childbirth, the time of cessation of menstruation - menopause* - and its accompanying manifestations ("hot flashes", manifestations of neurosis). These data are important to explain some of the symptoms, particularly the pain in the heart (cardialgia). You should ask about methods of contraception, in

particular about taking oral contraceptives, since the possibility of serious complications with their use is known.

Possible sexual dysfunctions in men and the associated pronounced psychological discomfort can lead to the emergence or exacerbation of a variety of disorders.

Information about living conditions

To understand the nature of the disease, it is important to clarify the living conditions of the patient. It is necessary to clarify the following points.

* Living conditions (low temperature and high humidity in the room provoke diseases of the respiratory system: tuberculosis, exacerbation of bronchial asthma, etc.).

* Features of nutrition-limiting the intake of products containing sufficient amounts of proteins, fats, carbohydrates; the use of various "diets", "food additives". In elderly single patients, the desire to save money and difficulties in visiting shops or markets on their own often lead to poor nutrition.

* It is important to take into account financial and economic conditions not only to identify nutritional deficiencies, but also to evaluate drug treatment, in particular the use of drugs that have a high cost, which dictates the need to select drugs that the patient will be able to purchase constantly.

* The level of physical activity is an important factor that affects the course of the disease; it should be taken into account in further treatment •

* The previously common terms "climax" and "climacteric period" are now used less and less often due to their negative emotional perception. A more correct term is "perimenopausal period" (the period of a woman's life characterized by a natural age-related decline in the functions of the reproductive system and including the premenopausal period, menopause and 2 years of the postmenopausal period).

assessment of the patient's condition (forced reduction of physical activity due to the appearance of shortness of breath or chest pain), as well as the development of appropriate recommendations for lifestyle changes.

It is important to find out the marital status of the patient, the relationship in the family. It should be clarified who runs the farm, provides assistance to the patient in everyday life if necessary.

2.1.4.4. Psychological state of the patient

When assessing the psychological condition of the patient should pay attention on behavior (retardation or, on the contrary, excitation, verbosity), the patient's response to various types of psychological stress, including present illness - whether it causes unnecessary fear and anxiety unfavorable outcome or, conversely, the underestimation of the seriousness of the situation that may lead to violations of messy the medication or even its cessation.

It is desirable to strive for the most frank conversation with the patient, creating at the same time a psychological atmosphere of trust, as well as the patient's confidence in the need and importance of diagnostic and therapeutic measures.

A special problem is the relationship of the patient with the medical student who is entrusted with supervision. In any case, even a short meeting should begin with acquaintance, finding out the name and patronymic, basic information about the patient, his complaints, as well as (at least briefly) - and anamnesis of the disease. Then it is necessary to conduct a physical examination, sometimes selectively of one or another organ. The patient should see in the student one of the doctors who seek to help him, despite the certain inconveniences that arise.

3. THE CONCEPT OF PHYSICAL RESEARCH METHODS

Despite the very large, sometimes decisive significance of the results of questioning the patient - the initial stage of the study, which gives information that often allows you to approach the diagnosis or make a preliminary conclusion (and when moving to an objective examination, pay special attention to the state of the organs whose damage is most likely), the doctor must have objective data obtained using physical research methods.

Physical methods include such research methods in which the doctor uses only his senses.

Objective examination often provides information that has important diagnostic, prognostic and therapeutic value. However, as already mentioned, some symptoms can only be detected when they are assumed to be present. In addition, it is not uncommon for only dynamic observation and examination of the patient to solve diagnostic and other problems, since a number of signs may appear at a later stage of the disease. It is necessary to take into account the possibility of some symptoms associated with the drug therapy.

3.1. To the physical methods of the research include the following:

* inspection;
* feeling (palpation);
* tapping (percussion);
* listening (auscultation).

There may be situations when the patient is unconscious and the anamnesis data is practically absent. At the same time, in some cases, traditional physical research may be ineffective, and the main information is obtained when using certain additional research methods (for example, determining the level of glucose in the blood).

3.2. Anatomical landmarks

When studying by physical methods, it is advisable to use some artificially selected points and lines, as well as natural anatomical landmarks, to indicate the position of organs or the localization of detected changes. Natural anatomical landmarks

• The clavicle.

* Rib arches and edges.

* Sternum (handle, body, xiphoid process). At the junction of the handle of the sternum with its body, a small, anterior-facing angle (the angle of the sternum) is formed. This anatomical

the reference point is very important in practice - at the level of the angle of the sternum, the cartilage of the second rib joins it. Thus, the second inter-rib (an area important, for example, for listening to the valves of the pulmonary trunk and aorta) is located immediately below the rib, which attaches to the sternum at the level of its angle.

* Spinous processes of the vertebrae, the account of which is easy to start with the protruding process of the VII cervical vertebra.

* Shoulder blades.

• The crests of the iliac bones. The anterior superior iliac spine is particularly clearly palpated.

* Pubic joint.

* The jugular fossa above the handle of the sternum.

* Supra-and subclavian fossa.

• The axillary fossa.

* Intercostal spaces.

3.3. Areas of the anterior abdominal wall

The anterior wall of the abdomen is divided by two horizontal lines - intercostal and interosteal - into three floors: the epigastrium (epigastrium), the mesogastrium (mesogastrium) and the Hypogastrium (Hypogastrium).

* The intercostal line connects the lower points of the costal arch and corresponds to the level of the upper edge of the III lumbar vertebra.

* The interspinous line connects the upper anterior iliac spine and corresponds to level II of the sacral vertebra. Each of the named three floors (areas), in turn,

It is divided by two lines drawn along the lateral edges of the rectus abdominis muscles into three areas, and thus nine areas are distinguished on the anterior wall of the abdomen (Fig. 15).

1. The right hypochondrium (right hypochondrium).
2. The epigastric region proper (epigastric region).

3. Left hypochondrium (left hypochondrium).
4. The right side area.
5. The umbilical region.
6. Left side area.
7. Right inguinal (iliac) area.
8. Pubic area.
9. Left inguinal (iliac) area. Separately allocate the lumbar region.

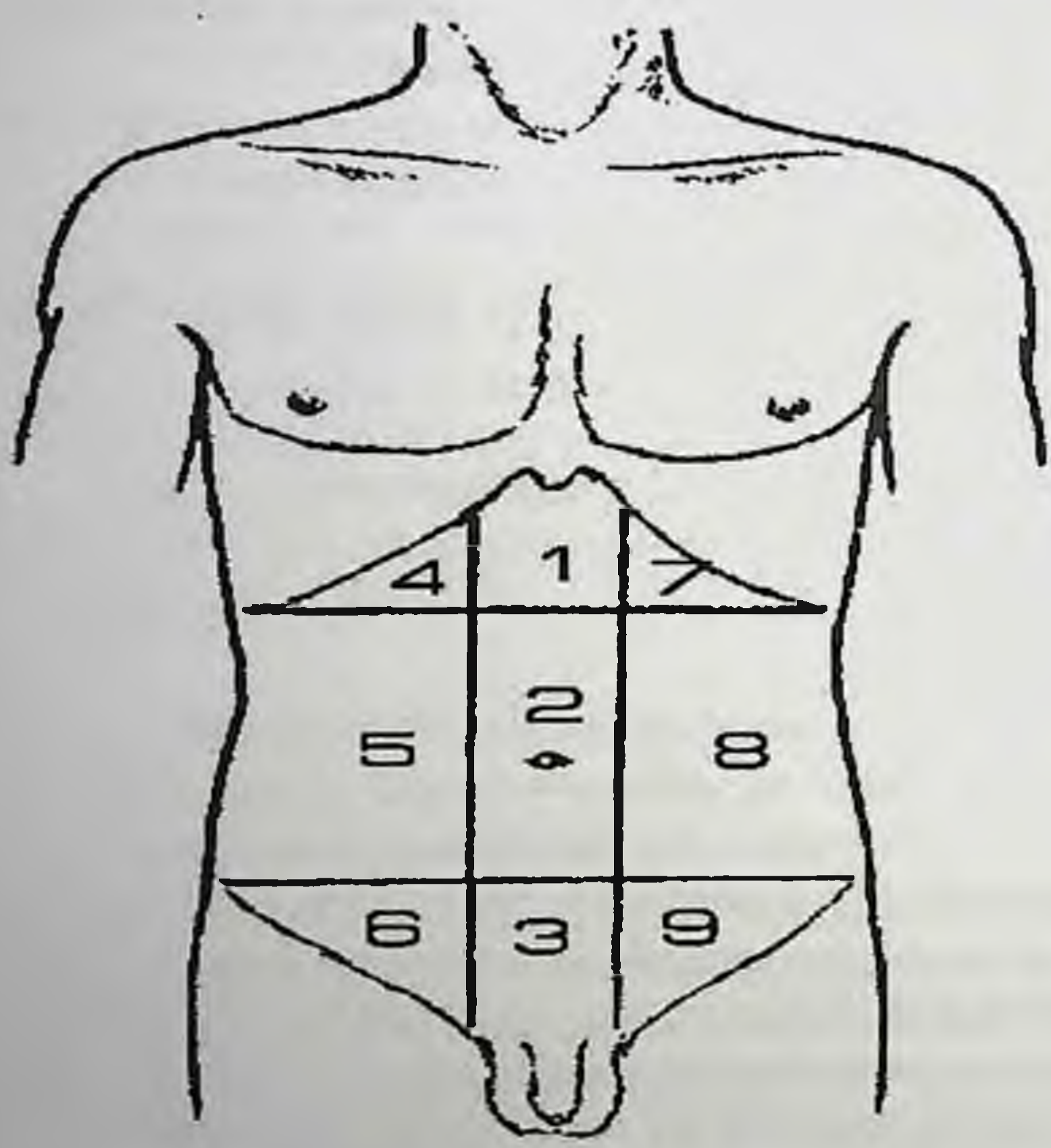


Fig.15 Areas of the anterior wall of the abdomen. 1 - actually, epigastric region; 2 - umbilical region; 3 - pubis; 4 - the right subcostal region; 5 - right lateral region; 6 - the right iliac region; 7 - the left subcostal region; 8 - left lateral region; 9 - left iliac region.

3.4. Imaginary line of the chest

When specifying the projection of the organs of the chest cavity on the chest wall, conditional vertical lines are used (Fig. 2-2).

1. The anterior median line (linea mediana anterior).

2. The sternal line (linea sternalis) is located along the lateral edge of the sternum.

3. The near-sternal line (linea parasternalis) runs in the middle of the distance between the sternal and mid-clavicular lines.

4. The midclavicular line (linea medioclavicularis) passes through the middle of the clavicle. It does not always correspond to the nipple line (linea mamillaris).

5. The anterior axillary line (linea axillaris anterior) runs along the anterior edge of the axilla.

6. The middle axillary line (linea axillaris media) passes through the middle of the armpit.

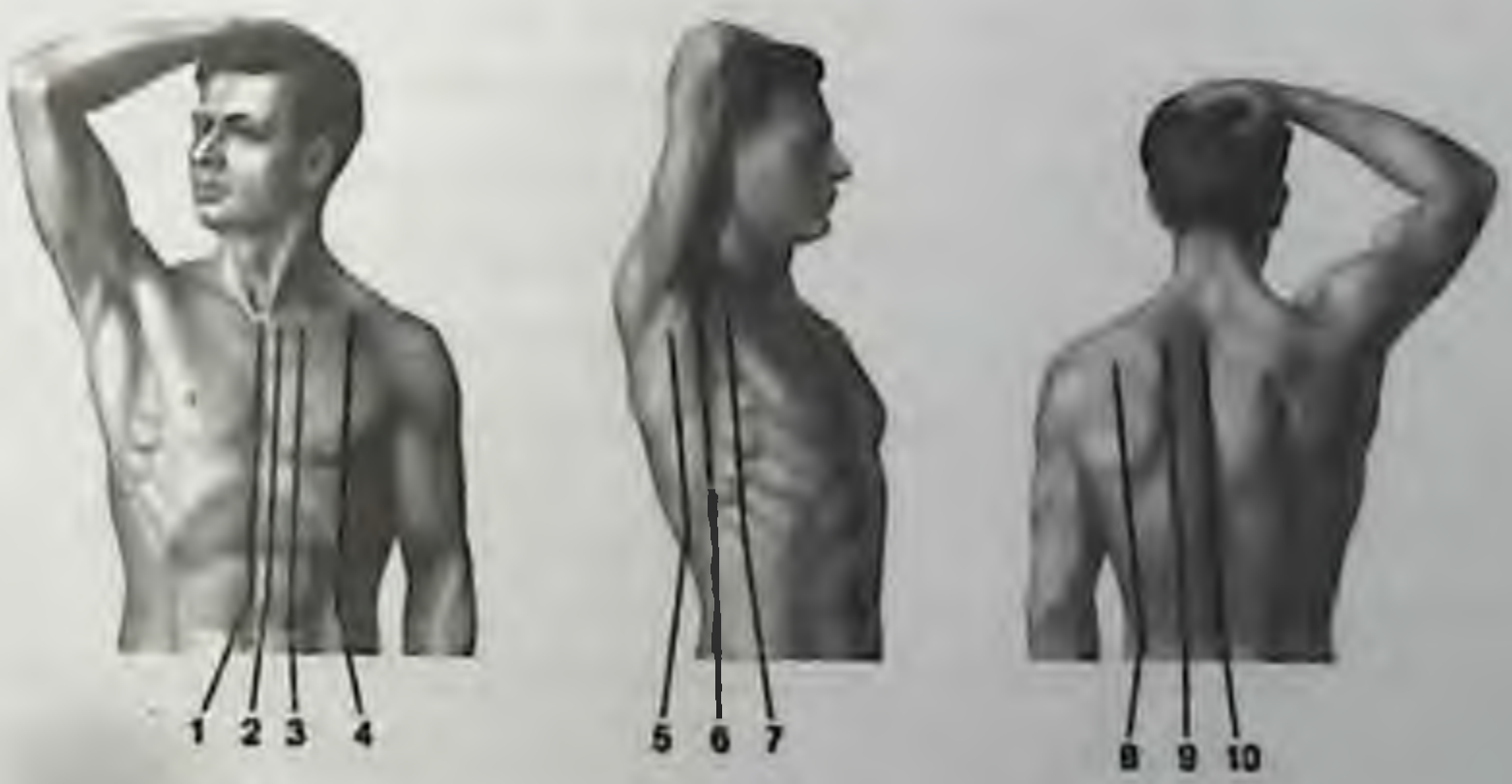


Fig.16 Conditional lines on the chest wall. 1-anterior median line; 2-sternal

(sternal) line; 3-near-thoracic (parasternal) line; 4-midclavicular line; 5-posterior axillary line; 6-middle axillary line; 7-anterior axillary line; 8-scapular line; 9-paravertebral line; 10-posterior median line.
(From: Sergienko V. I., Petrosyan E. A., Frauchi I. V. Topographic anatomy and operative surgery. Moscow: GEOTAR-MED, 2001.)

7. The posterior axillary line (linea axillaris posterior) runs along the posterior edge of the axilla.

8. The scapular line (linea scapularis) passes through the lower corner of the scapula with the upper limb lowered.

9. The paravertebral line (linea paravertebral) runs in the middle of the distance between the scapular line and the spinous processes of the thoracic vertebrae.

10. The posterior median line (linea mediana posterior) corresponds to the location of the spinous processes of the thoracic vertebrae.

3.5. General inspection

The General examination combined with the local (especially the skin). The general examination is described in detail in Chapter 3. Palpation, percussion and auscultation are performed after the examination (and simultaneously with it).

3.6. Palpation

is a method of diagnostic examination by feeling a certain part of the body.

Palpation of various organs and systems has its own characteristics, described in the relevant sections. Palpating, the doctor should use the information already obtained during the questioning and examination of the patient, as well as their knowledge of topographic anatomy.

As A. L. Myasnikov wrote, it is always necessary "... to call on the help of logical judgment, palpating, thinking and, thinking, palpating".

For effective palpation, it is necessary that the patient occupies a comfortable position, depending on the given goal. The doctor's position should also be comfortable. It is optimal if the doctor sits to the right of the patient's bed, facing him. The hands of the investigator should be warm, the nails should be shorn. Palpation involves the entire palmar surface of the hand, although mostly palpating movements are performed with the fingers.

When feeling the abdominal cavity, it is important to use the patient's breathing movements.

3.7. Tapping (percussion)

Percussion is a method of studying internal organs, based on tapping on the surface of the body of the subject with an assessment of the nature of the sounds that occur.

Fig.17. Leopold Auenbrugger and his Treatise

Method percussion (percussion) It was developed by the Viennese physician Leopold Auenbrugger, whose work "A new way to detect diseases hidden inside the chest by tapping the human chest" (1761) was translated into French by the famous life physician of Napoleon I, Jean Corvisard, thanks to whom the method of percussion was quickly introduced into everyday medical practice.

During percussion of the human body, different sounds arise, the nature of which depends on the elasticity, air content and elastic tissue in the underlying organ.

There are direct and indirect percussion. Previously, indirect percussion was performed using a special plessimeter (a plate applied to the skin of the subject, on which tapping was performed) and a hammer.

Currently, the most widely used percussion finger on the finger, as a plessimeter used the middle finger of the left hand. The finger is tightly, but without pressure, applied to the percutaneous place. Tapping is

performed with the middle finger of the right hand, which is slightly bent and does not touch the other fingers; the blow is applied to the middle phalanx of the plessimeter finger (Fig. 18). The movement when striking with a hammer finger is performed mainly in the wrist joint of the right hand (i.e., the entire hand), and not in the metacarpophalangeal and not in the elbow.

Figure 18. Percussion technique. During percussion, the plessimeter finger does not come into contact with adjacent fingers; it is pressed tightly against the percutised surface. The hammer finger, bent at the interphalangeal joints, strikes the middle phalanx of the plessimeter finger. When striking, the movement for the" swing " is carried out not in the elbow joint (the entire forearm) and not in the metacarpophalangeal, but only in the radiocarpal (i.e., the entire hand). (From: Vasilenko V. Kh., Grebenev A. L., Golochevskaya V. S. Propaedeutics of internal diseases. Moscow: Meditsina, 1989; with changes.)

The force of the blow depends on the goals and the method of percussion. Louder percussion is called deep, quiet - superficial. When striking, the doctor listens to the sounds that arise, compares them and evaluates them, so that it is possible to draw a conclusion about the state of the organs to be treated and their boundaries. Percussion can be comparative and topographical.

* Comparative percussion: compare the sounds obtained over anatomically symmetrical areas of the body surface (for example, percussion of the right and left lungs).

* Topographic percussion: with sequential percussion (for example, from top to bottom or from the medial to the lateral parts), the boundaries of various anatomical formations are determined by changing the nature of the sound.

3.7.1. The options of percussion sound.

* A loud, or clear, percussive sound is normally produced when the chest is tapped over the lungs (the name of the sound is clear pulmonary). It is formed both due to the air content of the lungs, and due to a large number of elastic elements.

* Quiet, or dull, sound is normally obtained by percussion of airless and soft (inelastic) organs (heart, liver, muscles).

* There is also an intermediate percussion sound in strength - blunted, or muted (shortened). In pathology, a clear sound is transformed into a dull and dull sound due to a decrease or disappearance of air in the percutaneous organ.

* The tympanic sound resembles the sound of a drum being struck (Greek: tympanon-drum) and is characterized by a higher pitch. It is obtained by percussion of smooth-walled cavities containing air and over hollow organs containing air (stomach, intestines).

* Box percussion sound is characterized as loud and low; it is similar to the sound that occurs when beating on an empty box. Almost complete imitation of the box sound is obtained by percussion of an ordinary pillow. Box percussion sound is characteristic of emphysema of the lungs. Normally, a clear pulmonary sound is detected above the surface of the

human body with percussion of the lungs, a dull quiet sound with percussion of the liver, heart and thick layer of muscles, and a tympanic sound over the abdominal cavity (Fig. 19).

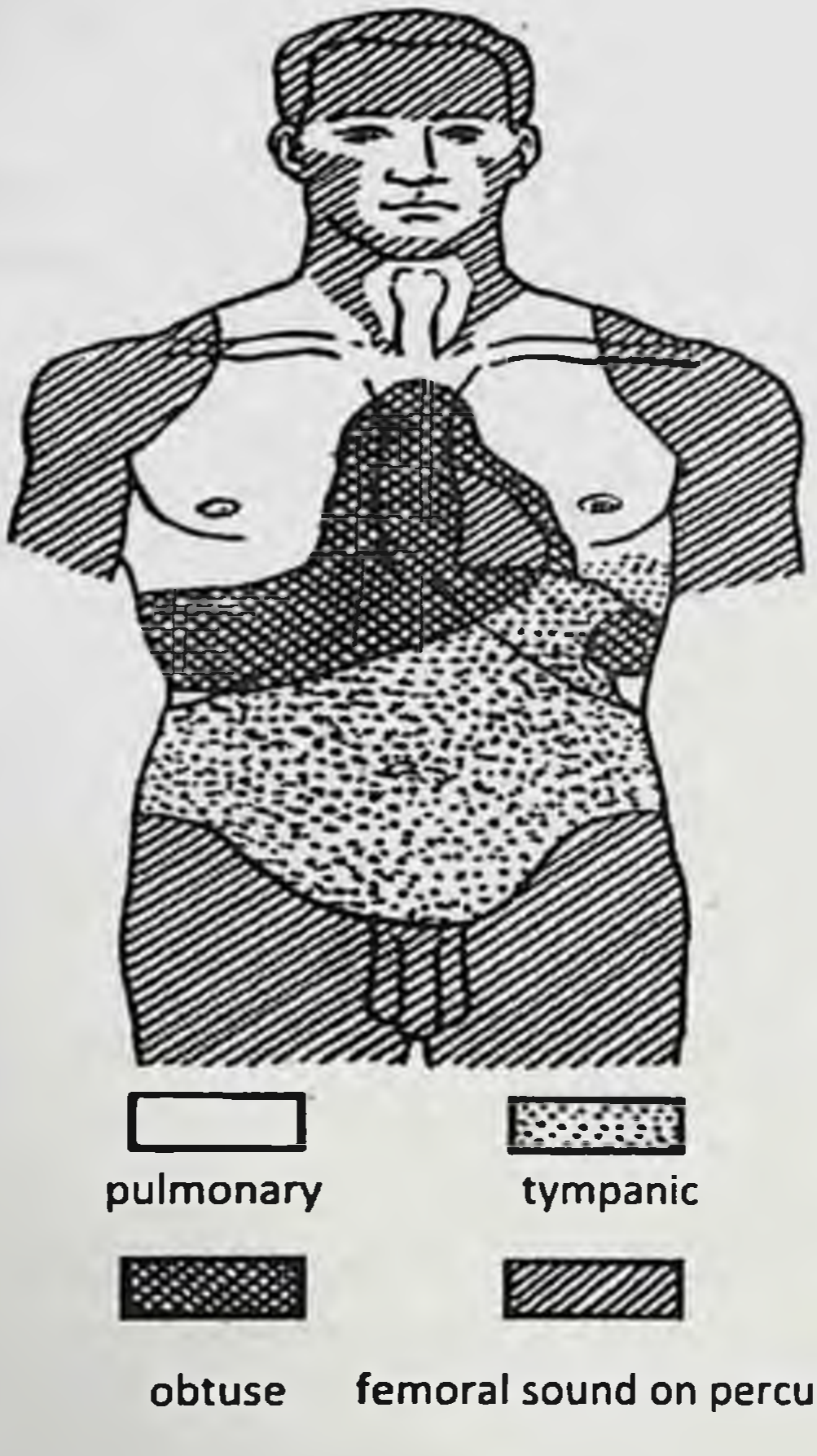


Figure 19. Percussion sound obtained by percussion of the front surface of the human body. Pulmonary sound is detected over the lungs, larynx and air-bearing paranasal sinuses, tympanic sound-almost over the entire abdomen, with the exception of the liver, where a dull percussion sound is obtained, also detected over the area of cardiac dullness and spleen. Femoral percussion sound is detected over the muscles and non-air-bearing areas of the face. (From: Myasnikov A. L. Propaedeutics of internal diseases. Moscow: Medgiz, 1956.)

3.8. Listening (auscultation)

Auscultation is a method of studying internal organs based on listening to sound phenomena related to their activity.

The basis of modern ideas about the meaning of auscultation was developed by the outstanding French physician Rene Theophile Hyacinthe Laennec (1781-1826). In 1816, he proposed

to use for this purpose a special device - a stethoscope, the idea of creating which came to Laennek after one day, experiencing difficulties in conducting direct auscultation in a woman, he took a notebook and twisted it into a tube, one end of which he leaned against the patient's heart area, and put his ear to the other end (Fig. 20). At the same time, the quality of the sounds listened to has significantly improved.

Fig. 20. Rene Laennec listens to the patient.

• At first, the stethoscope for auscultation was a wooden tube with extensions of various shapes at both ends. Currently, more convenient stethoscopes have appeared, in which elastic tubes are used as sound-conducting elements, ending with special tips for inserting into the ears

(auscultation is performed with both ears). * Phonendoscope - a stethoscope, the end of which, applied to the patient's body, is tightened by a membrane (usually made of plastic). This creates a small camera that amplifies the sound.

• Currently, stethophonendoscopes that combine a stethoscope and a phonendoscope in one node are widely used; a special switch can be used to perform auscultation with both a stethoscope and a phonendoscope. The following requirements apply to the stethoscope.

- High-quality performance of the sound-receiving part: no "burrs", smooth walls, a rather dense but elastic membrane on the phonendoscope.

- The presence of a convenient switching mechanism between the stethoscope and the phonendoscope.

- The length of the sound-conducting tube is 30-38 sm.

- Rather thick walls of the sound-conducting tube.

- Convenient tips for inserting into the ears, preferably elastic, tightly closing the external auditory canal of the doctor. When listening, it is important that the room is quiet. The stethoscope should be applied tightly enough (so that the entire edge of it fits to the skin). At the same time, it is necessary to take into account the possibility of noise caused by the contact of the phonendoscope with the hair on the surface of the body.

Auscultation is used in the study of the lungs, heart, blood vessels and intestines, in which sound vibrations naturally occur associated with their functioning. Changes in the auscultative picture, in particular the appearance of additional sounds, can be crucial (key) in the diagnosis of the disease. At the same time, it is important to know the variants of the norm. In addition, significant information can be obtained with dynamic auscultation and the appearance of new sound phenomena.

It should be borne in mind that auscultation is used after questioning and examination of the patient, as well as palpation and percussion, which provide significant information for diagnosis and certain assumptions about the nature of the disease. Therefore, it is important that auscultation is carried out purposefully taking into account these assumptions. The concept of the general condition of the patient

Based on the results of a comprehensive study, it is possible to judge the general condition of the patient, which is characterized as satisfactory, moderate or severe. At the same time, sometimes the patient's state of health remains satisfactory or even good, despite the fact that his general condition can be regarded as a state of moderate severity due to the presence of pronounced changes detected, for example, on an ECG (signs of an acute stage of myocardial infarction) or during a blood test (hyperkalemia).

4. THE CONCEPT OF ADDITIONAL RESEARCH METHODS

These methods of investigation complement the questioning and physical methods of examination of the patient.

4.1. Laboratory methods

General blood and urine tests are standard laboratory tests. It is important to quantify red blood cells, white blood cells, their qualitative and quantitative composition, measure the rate of erythrocyte sedimentation (ESR), hemoglobin content and some other indicators. Morphological examination of blood cells (primarily white blood cells) is particularly crucial in the recognition of leukemias.

Numerous studies of blood plasma and serum are carried out: biochemical, immunological, serological, etc. These data, in combination with other, primarily clinical manifestations, reflect the course of pathological processes, a decrease or increase in their activity.

The study of feces, cerebrospinal fluid, and pleural fluid remains important in the diagnosis. At the same time, it is particularly necessary to specify the significance of the bacteriological study of all

of the listed biological materials, which often allows you to identify the etiological factor of the disease-the corresponding microorganism. Less important at present is the study of gastric juice and the contents of the duodenum.

4.2. Instrumental methods

Diagnostic studies are very diverse. Many of them are invasive, and therefore there is a problem with the safety of the examination. In any case, the risk of ongoing research should not exceed the significance of the data that can be obtained.

X-ray examination of various organs is used in the diagnosis of diseases of the gastrointestinal tract (including the gallbladder), kidneys, brain, skeletal bones, and heart. In many cases, contrast is used to increase the information content of the study

(barium suspension injected into the gastrointestinal tract, and contrast containing iodine injected into the vascular bed). Significantly more

informative method of x - ray examinations, computed tomography (CT), including high resolution CT (HRCT): x-ray image of a specific layer of an object by scanning a thin beam of x-radiation with subsequent imaging of this layer using a computer that allows without the use of contrast agents to differentiate tissues, slightly different on the degree of absorption of x-rays. CT helps to get a clear image of sections of the body.

The study of the electrical activity of some organs (heart - ECG, brain - electroencephalography, muscles - electromyography) allows you to get information about their functional activity.

Endoscopic examination has become particularly important in recent years, since along with high information content, the method is non-invasive. Flexible endoscopes make it possible to obtain good image quality and, thanks to a computer, allow you to carefully examine the inner surface of the gastrointestinal tract, bronchi, urinary tract and other organs. The method is often supplemented by tissue biopsy with their subsequent morphological study.

Ultrasound (echolocation) has gained wide popularity in recent decades. Ultrasonic pulses, reflected from the boundaries of areas with different densities, allow you to get information about the size and structure of organs. Especially important is the ultrasound of the heart, and it is possible to study its contractile function. Ultrasound of the abdominal organs, including the liver, gallbladder, and pancreas, is also significant; ultrasound of the kidneys is widely used. With the use of computers, the resolution of ultrasound and the quality of the images obtained have significantly improved. Very important advantages of ultrasound are safety, non-invasiveness, which distinguishes this method from angiography, liver, kidney, and myocardial biopsy. Recently, the method of Doppler ultrasound has become widely used, which allows in addition to the above to determine the speed, direction and nature of blood flow (laminar or turbulent).

Radioisotope research is widely used in the study of the CCC, kidneys, liver, bones, and thyroid gland. In this study, a substance that accumulates in the corresponding organ and contains a radioactive isotope is injected intravenously or orally into the body, the radiation of which is

subsequently recorded, which makes it possible to identify morphological and functional disorders.

Magnetic resonance imaging (MRI) is a method based on the phenomenon of nuclear magnetic resonance, which allows you to get an image of "slices" of the human body with even greater detail than with CT. However, the main drawback of the method is the high cost of equipment.

Tissue biopsy is a research method that makes it possible to assess morphological changes in pathological processes (the presence and degree of malignancy, features of inflammation). The material for morphological examination can be obtained by endoscopy, aspiration biopsy (the material is obtained by needle aspiration), incision biopsy (by excision of a piece of tissue); with sternal puncture or trepanobiopsy, the features of the bone marrow are investigated, allowing for differential diagnosis of blood diseases.

5. GENERAL INSPECTION

Examination of the patient should be carried out in a room with a comfortable temperature, in natural light or daylight. The doctor is placed in front of the patient, or somewhat to the right of him. General examination is best performed in a vertical position of the patient, but depending on the patient's condition, it is possible both sitting and in a horizontal position of the subject.

5.1. Order and sequence of general examination of the patient

5.1.1. The patient's condition may be:

* satisfactory (the disease does not limit the patient's vital activity, he is able to serve himself),

* moderate severity (signs of the disease moderately limit the functional capabilities of the patient, he may need the help of outsiders when performing certain actions),

* heavy (functionality is severely limited, constantly needs outside help),

* extremely severe (the patient needs emergency care, resuscitation).

5.1.2. Consciousness

Consciousness is clear, changed (depression, excitement). There are the following forms of depression of consciousness (stupor sopor, coma), as well as various forms of arousal (delirium, hallucinations). There is also a state of euphoria as a variant of altered consciousness.

Stupor – the patient is in a state of deafness, listlessly, belatedly answers questions, slowly reacts to changes in the situation.

Sopor (sleep) –a more pronounced violation of consciousness, the patient does not react to the environment, reacts only to strong stimuli, including pain, reflexes are preserved.

Coma-the patient is completely indifferent, pain sensitivity and reflexes are absent. Forms of arousal of consciousness (delusions and hallucinations) are most often present in psychoneurological diseases, but often doctors of other specialties have to deal with them in various severe somatic pathology (infectious diseases, myocardial infarction, strokes, severe intoxication). Delirium is an objectively false, absolutely uncorrectable judgment. Hallucinations are auditory, visual, tactile.

Euphoria is a form of morbidly elevated mood, characterized by complacency, serene bliss, a state of quiet joy. This condition is observed in the first degree of intoxication, when taking drugs, in a febrile patient, with a myocardial infarction, after a traumatic shock.

5.2. Regulation

The patient's position is active, forced, passive.

* The active position is fixed if the patient's physical activity is not noticeably limited, although he may experience some discomfort. It is characteristic of patients with a mild course of the disease or in the initial stages of severe diseases. In hospitals, such patients are called "walkers".

* The patient takes a forced position to relieve his well-being and condition (reduction of shortness of breath, pain, etc.).

*The passive position is noted in a patient with impaired consciousness, in exhausted patients in case of extreme weakness. At the same time, "the head and limbs of the patient hang down under the influence of gravity, the patient is motionless, resembles the appearance of a dead body."

* Active-the patient can move by himself, although he may experience some discomfort.

5.3. Type of constitution

There are different types of constitution: asthenic, normosthenic, hypersthenic (Fig. 1). To determine the type of constitution, it is necessary to measure the epigastric angle: the palmar surfaces of the thumbs are tightly pressed against the costal arches, and their ends rest against the xiphoid process. The length of the legs is measured on the height meter in the standing and sitting positions. It is convenient to determine the type of constitution by the same algorithm that is used in medicine for the general description of the patient: from top to bottom, from front to back, from outside to inside. Given the widespread use of various methods of body modification (fitness, bodybuilding, various diets, etc.), the emphasis in the analysis of the constitution should be placed on the ratio of body parts, the length of the limbs.

Asthenic type: skull elongated (dolichocephalus); neck relatively long; well-defined supra-and subclavian fossa; length of the legs exceeds the length of the trunk; ribs are located pronounced obliquely, intercostal

spaces are wide; the ratio of antero-posterior and frontal dimensions of the chest is less than 0.65; epigastric angle is less than 90°. The body is stretched upwards. Height is often above average. The degree of muscle development depends on the physical activity of the subject. Due to the weak, as a rule, development of subcutaneous fat, the musculature is well contoured.

Hypersthenic type: skull a more spherical shape (brachycephal); neck rather short and thick; supra - and infraclavicular fossa are poorly expressed or even not visible; body length greater than the length of the legs; intercostal spaces narrow and the direction of the ribs are more horizontal; the ratio of front-rear and the front sizes chest more than 0.7; epigastric angle is more than 90°. The body seems to be wider. The growth can be any. The degree of muscle development depends on the physical activity of the subject. As a rule, even athletes of this physique have well-defined subcutaneous fat. Normosthenic type: body type proportional length of the limbs and trunk harmonious, the ratio of front-rear and the front sizes chest from 0.65 to 0.7. Moderately expressed above and subclavial fossa is well developed musculature of the trunk and extremities. The position of the ribs is moderately oblique, the epigastric angle is 90.

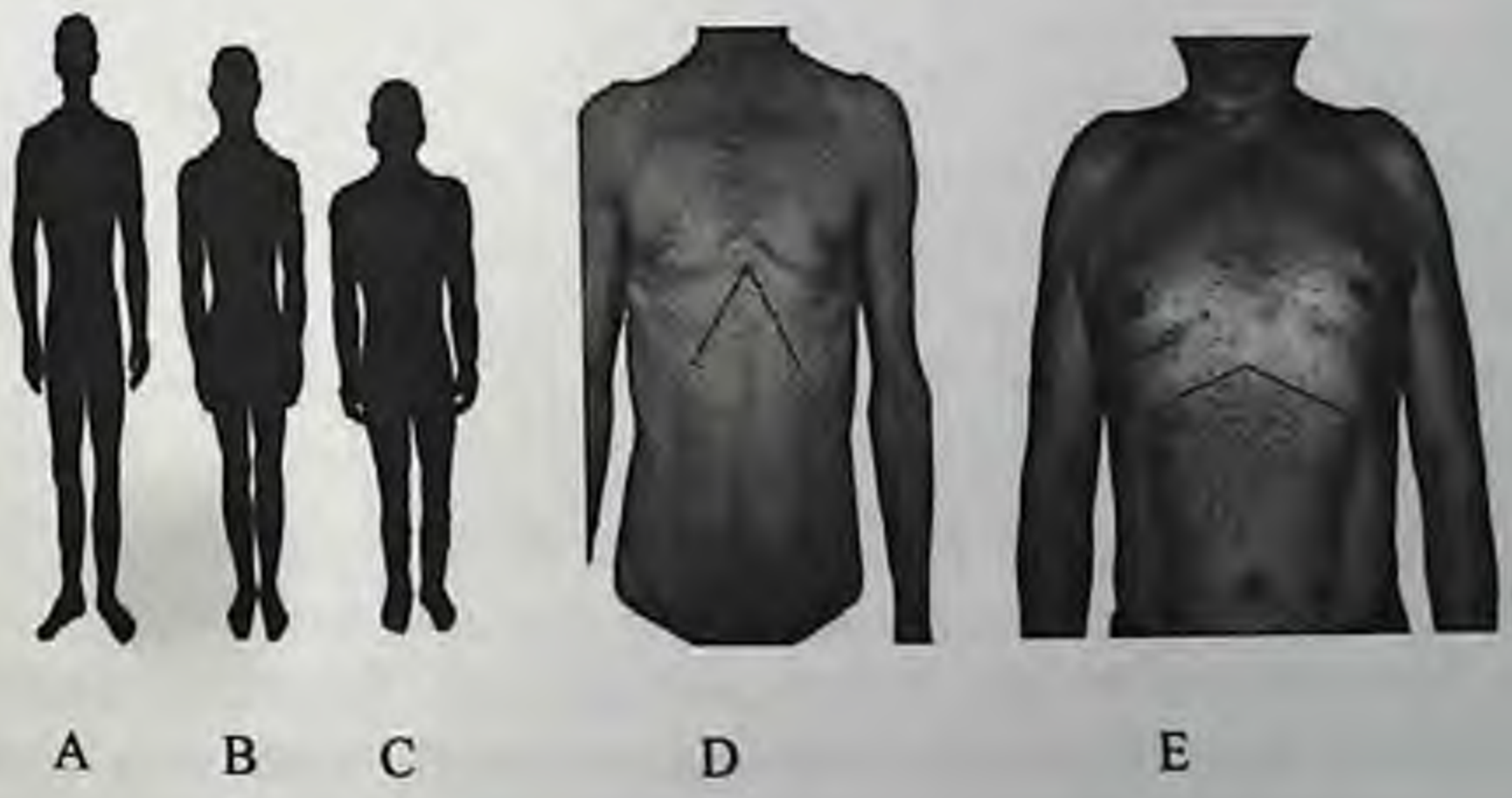


Fig. 21. Constitutional types according to M. V. Chernorutsky: A) asthenic, B) normosthenic, C) hypersthenic, D) epigastric angle of asthenic, E) epigastric angle of hypersthenic

5.4. Facial expression

Often, the features of the disease leave an imprint on the patient's face, giving it a characteristic appearance (Hippocrates ' face - the face of a dying patient; Corvisard's face - the face of a patient with severe cardiovascular pathology, facies nephritika - with kidney diseases, facies mitralis - with rheumatic heart defects, etc.). The features of the patient's face with various types of pathology are described in detail in the textbook.

5.5. Skin

During the inspection evaluates the color, clarity (the presence or absence of a rash, local changes in the pigmentation of the skin), scarring, and visible tumors, the humidity of the skin, hair and nails. The color of normal skin is determined by many factors – race and nationality, gender of the patient, skin thickness. If the color is unchanged, write: "normal" or "not changed". If present, pathological color changes are described: pallor, redness, cyanosis, jaundice. At the same time, the change in the color of the skin can be general and local (which is also noted). The degree of severity of color changes is also indicated.

The presence of various skin rashes (vesicle, papule, vesicle, blisters, carbuncles, etc.), their number and location are also evaluated. It is also necessary to describe the presence, shape, size and condition of scars on the skin after operations, injuries, burns, wounds. The moisture content of the covers is determined by touch. The doctor runs the back of the hand over the patient's palms, the anterior, lateral and posterior surfaces of the chest, assessing the moisture content of the skin. With severe general sweating, drops of sweat on the patient's body and wet underwear are often visible. High humidity can also be local (specify the location and area). Skin turgor is determined by taking a skin fold with two fingers on the back of the hand (normal-if the skin fold is quickly straightened, reduced-if the fold persists for some time (Fig. 2) (dehydration, elderly and senile age).

The appendages of the skin include nails and hair. The main method for determining their condition is visual. In a healthy person, the nails are pale pink, have a shine, there is no transverse striation on them, they are not brittle. When assessing the condition of the hair cover, it is determined whether it corresponds to gender (male, female or child type of hair loss)

and age, the presence of focal loss. Pay attention to hair changes – the degree of hair loss, fragility, dryness, thinning, premature loss of eyelashes, eyebrows, ingrown hairs, etc.

5.6. Visible mucous membranes

These include the mucous membranes of the mouth, pharynx, conjunctiva and sclera. The main method of research is expertise. During the examination, you should pay attention to their color, humidity, the presence of pathological elements on them, as well as evaluate the vascular pattern. Normally, the mucous membranes have a pale pink color, sufficient humidity, and there are no pathological elements on them. The vascular pattern is not sharply expressed. When the oral examination assess the condition of the teeth (their number, the presence of dentures, carious teeth); gums (color, plaque, pitting – aphthae, bleeding), tonsils (form, color, patina). When examining the tongue, its size, color, the presence of plaque and the severity of the papillary layer are noted. In a healthy person, the tongue has a pink color, moist. There is no sign on it.

5.7. Subcutaneous fat

First of all, it is evaluated visually: moderately developed, excessively, insufficiently.

Then, to examine the condition of subcutaneous fat used the definition of skinfold thickness, which in norm is: on the anterior-lateral surface of the abdomen at the level of the navel 2 sm, on the inner surface of the shoulder 0.5 sm on his chest at the midclavicular line – 1 sm, thigh 1 sm. The doctor takes the skin together with subcutaneous tissue into a fold and measures the thickness of this fold with a ruler. The result is divided by 2 and gets the thickness of the skin and subcutaneous fat in this place.

The calculation of body mass index. BMI is a value that allows you to assess the degree of correspondence between a person's mass and his height and thereby indirectly assess whether the mass is insufficient, normal or excessive. The body mass index is calculated by the formula:

$I = m/h2$ (kg / m2.),

where: m - body weight in kilograms; h-height in meters The result is estimated according to the BMI table.

Edema is the accumulation of fluid in the subcutaneous fat and tissues due to the passage of the liquid part of the blood through the capillary wall. The accumulated fluid can be of inflammatory, allergic origin (exudate), or

it can occur due to blood stagnation in diseases of the heart, kidneys (transudate), metabolic disorders. According to the prevalence, there are general, local and hidden edema. General edema is characterized by spreading throughout the body (often reaching the degree of anasarca) or occurs on symmetrical areas (face, lower limbs). According to the degree of severity, the following types of edema are distinguished:

1. Pasty – minor edema that is not detected on examination, while pressing reveals a barely noticeable fossa.
2. Pronounced edema, determined by the eye, is characterized by swelling, tension and smoothness of the skin, as well as smoothness of the external contour of this part of the body. When pressing, a sufficiently deep fossa is revealed (Fig. 22).

Fig. 22. Swelling on the lower leg - visible pits after pressing a finger, traces of pressure from the elastic band of socks

The so-called hidden edema is observed in the early stages of true edema, when up to 4-5 liters of fluid can accumulate in the interstitial space outwardly imperceptibly. Clinically, this is manifested by an increase in weight, a decrease in diuresis. Latent edema is detected by systematic weighing, measuring daily diuresis, as well as conducting special tests to detect "edematous readiness" of the tissue (McClure-Aldrich test). Methods for detecting edema:

1. Examination.
2. Palpation.
3. Dynamic weighing (daily, preferably on an empty stomach after a morning stool), in the same clothes, on the same scales). We monitor the dynamics of weight.

4. Water balance study (the amount of liquid consumed per day is subtracted from the amount allocated). Usually, the amount of liquid released is ~ 80% of the amount drunk.
5. McClure-Aldrich blister test. Intradermally (!), 0.2 ml of saline solution is injected into the skin of the inner surface of the forearm. Normally, the resulting blister should resolve in about 40 minutes. The higher the swelling of the tissues, the faster it will resolve. With severe anasarca, the blister may not form at all. With dehydration, the time of resorption of the blister increases
In the case of local edema on the extremities, it is possible to measure the circumference of the edematous limb and compare it with the symmetrical one.

5.8. The lymphatic system

Assessment of the lymph nodes is carried out by examination or palpation. At the same time, pay attention to: dimensions (in sm or in comparison with objects of known sizes – pea, etc.), shape, consistency, mobility, soreness and solidity with surrounding tissues. Available for palpation: occipital, parotid, cervical, submandibular, chin, subclavian, supraclavicular, axillary, ulnar, popliteal and inguinal lymph nodes. With the tips of 2 to 5 fingers, they make sliding circular movements in the area of localization of a group of lymph nodes and, if possible, press them to dense formations (bones, muscles), evaluating their properties.
When palpating the submandibular lymph nodes, they are pressed against the inner surface of the lower jaw.
The cervical nodes are palpated along the anterior and posterior edges of the sternoclavicular-nipple muscle.
The supraclavicular and subclavian lymph nodes are palpated above and below the clavicle, respectively.
The ulnar lymph nodes are located in the area of the inner groove of the biceps, closer to the elbow. The patient's arm is bent at a right angle, the muscles are relaxed.
Inguinal lymph nodes palpate the movement of the hand across the pupart ligament.
When palpating the axillary lymph nodes, the patient is asked to raise his hands to the sides. The doctor places the palms with slightly bent fingers vertically in the armpits. Then he asks the patient to lower his hands. At

this time, with one sliding movement from top to bottom, the doctor tries to probe the lymph nodes.

In a healthy person, submandibular lymph nodes are palpated the size of lentils, axillary – a pea, inguinal with beans, when palpated they are painless, easily displaced, not connected with the surrounding tissue and among themselves, the skin above them is not changed. Other groups of lymph nodes: occipital, chin, parotid, posterior and anterior cervical, subclavian and supraclavicular, ulnar, popliteal are usually not defined.

5.9. Muscles

Determine the degree of development of the muscular system, soreness, the presence of hypertrophy, atrophy. Tone and muscle strength are evaluated (symmetrically!). The presence of tonic or clonic seizures is recorded.

According to the degree of development, there are:

* Weak expression of muscle development, in which the contour of the muscles (bulges) is almost absent, the muscles are thinned, sluggish, atonic. This development of the muscular system is observed in pituitary cachexia, alimentary dystrophy, more often in children (due to malnutrition), as well as in advanced forms of pulmonary tuberculosis, malignant neoplasms, chronic circulatory failure.
* The average severity of muscle development, in which the contour of the muscles (bulges) is expressed quite clearly, the limbs are moderately full.
* Significant severity of muscle development, in which the contour of the muscles is sharply expressed. This development of musculature is observed in athletes and persons engaged in heavy physical labor.

Muscle tone characterizes the degree of their density, which is determined by palpation. With a good muscle tone, the roller is clearly contoured with muscle tension, with a reduced one, the muscle is contoured weakly.

A decrease in muscle tone is observed in patients with severe weight loss (cachexia), in persons who are in a state of immobility for a long time, as well as in myasthenia gravis, dermatomyositis, after injuries, and diseases of the nervous system.

An increase in muscle tone (hypertonus) is observed with lesions of the neuromuscular apparatus and is usually accompanied by a disorder of muscle function.

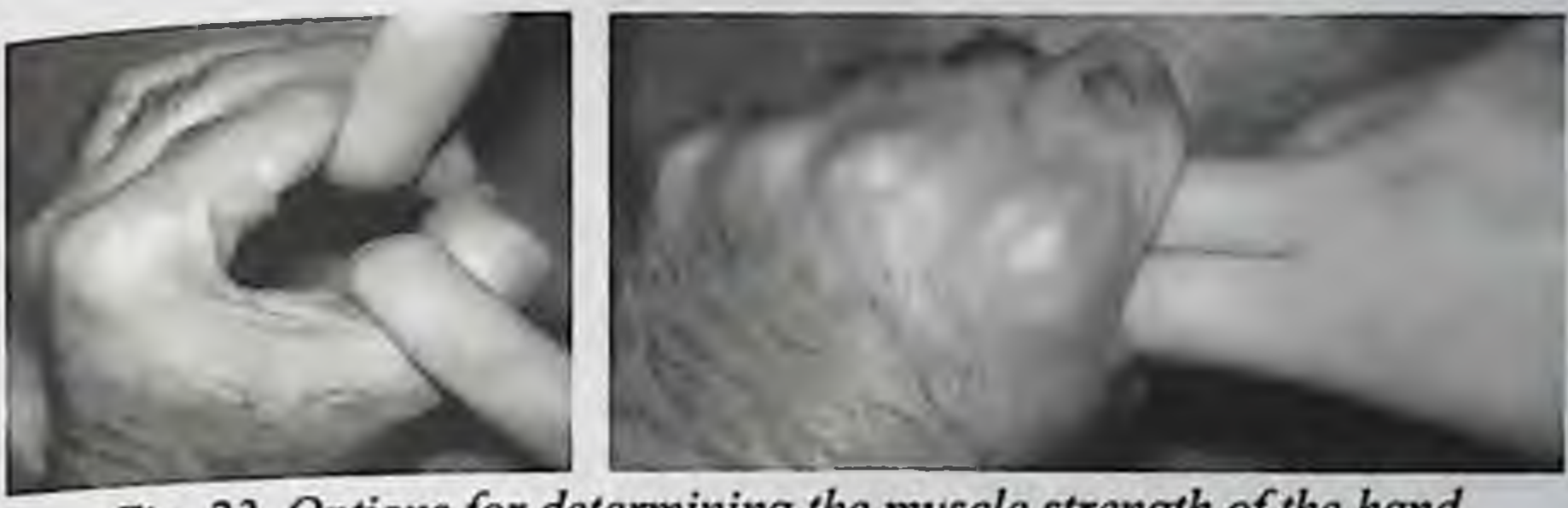


Fig. 23. Options for determining the muscle strength of the hand

Muscle strength is best determined by dynamometry. It is an indicator of the physical development of the patient. With the help of a dynamometer, the strength of symmetrical muscles or muscle groups is examined. Approximately the strength of the hands can be determined by asking the patient to squeeze the doctor's hands simultaneously with both hands and by the difference in the strength of their compression to determine the asymmetry of muscle strength (Fig. 23). When studying the flexor muscles of the shoulder, the patient is asked to bend the arm at the elbow joint and hold it so. The doctor tries to straighten it. Accordingly, when examining the strength of the shoulder extensors, the patient is asked to straighten the arm bent at the elbow joint, overcoming the doctor's resistance. In a similar way, you can study the strength of the leg muscles. A decrease in muscle strength is observed in patients suffering from myasthenia gravis, with severe muscle atrophy. An asymmetric decrease in muscle strength is observed in patients who have suffered an acute violation of cerebral circulation, trauma, etc.

Detection of soreness and densification of individual muscles or muscle groups is performed by palpation. These changes are observed in myositis (inflammatory changes of the muscular system), diseases of the nervous system. Unilateral atrophy or hypertrophy of the limb muscles can be detected by measuring the thickness of the diseased and healthy limbs with a centimeter tape at the same level. Atrophy or hypertrophy of certain muscle groups can be a consequence of operations, injuries, bone fractures, and also be observed in some diseases (rheumatoid arthritis, polio). The presence of convulsions (involuntary contractions of individual muscle groups or individual muscles) occurs in central nervous system lesions

(epilepsy), liver failure, electrolyte disorders, as well as in some infections (tetanus, cholera).

Other disorders of muscle function-paresis (weakening of active muscle movements), paralysis (when there is a complete inability to make movements) - are observed mainly in cases of damage to the nervous system: violation of cerebral circulation, trauma or compression of the spinal cord as a result of tumor germination, etc.

5.10. Bones

The shape of the bones of the skull, spine and extremities (curvature, deformation), pain during palpation and beating of the sternum, ribs, tubular bones, vertebrae, pelvic bones are evaluated. The examination is performed by examination, palpation and percussion.

5.11. Joints

The configuration, volume of symmetrical joints, pain during palpation, body temperature, color of the skin over the joints are evaluated. The volume of active (performed by the patient himself) and passive (performed with outside help) movements in the joint, pain, crunch during movement, a symptom of "floating ice" is determined. In a healthy person joints not enlarged in volume, they apparently are not deformed, hot to the touch, the colour corresponds to the colour of the skin, palpation painless. Movements in the joints are carried out in full without restriction, active.

Changes in the configuration of joints can be caused by various reasons. With the inflammatory process in the joint, its defiguration is observed – an increase in volume, smoothness of the contours, their swelling. These changes are associated with inflammatory edema of the synovial membrane and periarticular tissues, the presence of effusion in the joint cavity. Joint deformity is a more persistent change in the shape of the joint, due to bone changes in the articular ends of the bones, bone growths. When examining the joints, you can identify:

* Changing the shape and size of the joints with simultaneous deformation. Such changes occur due to edema of the periarticular tissue, the development of coarse connective (fibrous) tissue, as well as due to subluxations of the joints. This is observed in a variety of inflammatory, metabolic and dystrophic diseases of the joints: osteoarthritis, Ankylosing spondylitis, rheumatism, gout, rheumatoid arthritis, etc.

* Changes in the color of the covers over the joint, pain and fever (the joints become hot to the touch) are observed in acute articular rheumatism, arthritis of any etiology.
* Changes in joint mobility, restriction of mobility up to the development of complete immobility of the joint (ankylosis) is observed in rheumatoid arthritis, deforming arthrosis, Ankylosing spondylitis, etc.

Skin changes over the affected joint are manifested in the form of hyperemia and an increase in skin temperature (determined by the back of the palm).

Mobility is determined by the volume of active and passive movements in the joint. When determining the active mobility of the joint, it is necessary to ask the patient to independently perform flexion or extension movements in various joints. When determining passive mobility, the doctor himself makes movements in the examined joint in accordance with its physiological norms (flexion, extension, rotation, pronation, supination). At the same time, the restriction of the volume of movements is noted.

Palpation, during movement in the joint, crepitation (crunch) can be determined. Weak, barely discernible crepitation, as a rule, indicates inflammation of the synovial membrane, bag or tendon vagina. Rough crepitation indicates a lesion of cartilage or bone.

6. EXAMINATION OF THE RESPIRATORY SYSTEM

Examination of the respiratory system begins with an assessment of the condition of the upper respiratory tract.

6.1. NOSE

Breathing through the nose is free or difficult is determined by bringing a cotton wool or a piece of paper first to one, then the other nostril of the patient. They are asked to breathe through one nostril, while the patient closes the other nostril with his finger. By the amplitude of the deviation of the cotton wool or paper during inhalation and exhalation, the freedom of air passage through the nostrils is judged. Then examine the nasal mucosa, gently moving the tip of the patient's nose up. Evaluate the discharge from the nose, their nature, color, quantity. Carefully, with the tip of one finger, percussion is performed in the projection of the paranasal sinuses in order to determine soreness.

6.2. THE LARYNX

The patient's voice is subject to evaluation: clear, hoarse, aphonia. They also ask about the presence of pain when talking or swallowing. 2.3. Examination of the chest.

The examination is performed standing or sitting with the torso naked to the waist.

6.3.1. determining the shape of the chest

Depending on the constitutional type in healthy people, there are constitutional types of the chest (normal forms) (Fig. 1 G, D) and pathological forms.

6.3.1.1. Normal forms of the chest

* Normosthenic (conical) chest. Its anteroposterior diameter is less than the side, their ratio of around 0.7. Above and subclavial fossa is weak, the ribs on the side surfaces is directed moderately oblique, intercostal spaces slightly expressed, the shoulders are at a right angle to the neck. The muscles of the shoulder girdle are well developed. The epigastric angle is 90o, the shoulder blades are pressed and contoured indistinctly.

* Asthenic chest is flat, narrow, and elongated. The ratio of anteroposterior size and transverse size is approximately 0.65. The supra-and subclavian pits are clearly visible, the clavicles are well distinguished, the intercostal spaces are wide, the ribs on the lateral surfaces have a more vertical direction. The epigastric angle is less than 90o. The shoulders are lowered, the muscles of the shoulder girdle are relatively poorly developed. Shoulder blades lag behind the back.

* The hypersthenic thorax is broad, the ratio of anteroposterior and transverse dimensions is approximately 0.8. The supra-and subclavian fossa is weakly expressed or not visible, the shoulders are straight, wide. Intercostal spaces are narrow, weakly expressed. The edges are positioned more horizontally. The epigastric angle is obtuse, the shoulder blades are tightly attached to the chest, the musculature is massive, well developed.

6.3.1.2. Pathological forms of the chest

* Emphysematous chest (synonyms: barrel-shaped, cylindrical or conical (expanded in the lower parts)). The ratio of anteroposterior and transverse dimensions tends to 1. The epigastric angle is more than 90°. Almost horizontal position of the ribs and enlarged intercostal spaces. In the supraclavicular areas, swelling is often detected. The chest seemed to freeze on the inhale.

* Paralytic chest. This form of chest is characterized by asymmetry and muscle atrophy. The thorax is flattened from front to back. The ratio of the anteroposterior and transverse dimensions is approximately 0.5. The supra-and subclavian fossa sinks. Broad intercostal spaces are expressed. The shoulder blades are pterygoid behind the body. The epigastric angle is less than 60°.

* Rickety chest occurs in people who have had rickets. Anteroposterior size is increased, the sternum protrudes forward in the form of a"keel". The anterolateral surfaces are compressed, the ribs connect to the sternum at an acute angle, forming thickenings at the junction. There is a retraction of the lower part of the chest corresponding to the place of attachment of the diaphragm. From above, such a chest looks like a triangle, one of the corners of which is the sternum.

* The funnel-shaped chest (synonym - "shoemaker's chest") has a depression in the lower part of the sternum. This is a congenital malformation of the skeleton.

* The navicular thorax has an oblong depression in the lower and middle part of the sternum. This is a congenital malformation.

* Kyphoscoliotic thorax is formed when the spine is abnormally curved posteriorly (kyphosis), forward (lordosis) and/or laterally (scoliosis).

6.3.2. Evaluation of the symmetry of the chest halves is carried out by visual inspection.

* An increase in the volume of one half may occur when a significant amount of fluid (exudate, transudate, blood) or air (pneumothorax) accumulates in the pleural cavity)

* An increase in the volume of only the lower part of the chest can be with a significant increase in the liver or (and) spleen, with ascites, flatulence

* Limited protrusion of the chest occurs with periostitis, perichondritis, rib tumor, chest wall abscess.

• Reduction of the volume of one half of the thorax may be pulmonary fibrosis (scarring of large areas of the lung resulting from inflammation); in the presence of pleural adhesions or complete fusion of the pleural slit after resorption long was it of fluid; when atelectasis (spadenie the) of the lung due to the obstruction of the lumen of the bronchus by tumor or foreign body; the surgical removal of the lung or its share.

6.3.3. Type of breathing movements

The patient is offered to breathe deeply and follow the tour of the chest.

* Thoracic (rib) type of breathing-more common in women. Respiratory movements are carried out by reducing the intercostal muscles. In men, the appearance of this type of breathing can be caused by inflammation of the diaphragm or peritoneum (peritonitis), increased intra-abdominal pressure (ascites).

* Abdominal (diaphragmatic) type of breathing-more common in men. Respiratory movements are carried out mainly by the abdominal muscles and the diaphragm. In women, this type is observed in dry pleurisy, intercostal neuralgia, and rib fracture.

* Mixed type of breathing-intercostal muscles and diaphragm are involved.

6.3.4. Determination of the symmetry of the participation of both halves of the chest in breathing

It is determined by examining the chest from the front and back with deep breathing of the patient. In this case, the landmarks in front are the position of the costal arches and their respiratory excursion. You can put the doctor's fingers on the intercostal spaces of both halves of the patient's chest and monitor the symmetry of their displacements during breathing. When viewed from behind, place the thumbs of both hands on the lower corners of the patient's shoulder blades and evaluate the symmetry of their position and the same displacement during the patient's breathing. Normally, the movements of both halves of the chest are symmetrical. The lag of one half of the chest during breathing indicates the presence of a pathological process in this half, which can be in pneumonia, lung neoplasms, dry pleurisy, rib fracture, intercostal neuralgia, inflammation of the intercostal muscles, paralysis or paresis of the corresponding half of the body.

6.4. COUNTING THE NUMBER OF RESPIRATORY MOVEMENTS (BDD) IS DETERMINED BY THE MOVEMENT OF THE THORACIC OR ABDOMINAL WALL.

When counting respiratory movements, the doctor simulates counting the pulse rate (for example, on the arm), thereby distracting the patient's attention, and puts his free hand on his chest or stomach. Normal respiratory rate is 12-20 breaths per minute. With physical exertion, after a plentiful meal, breathing becomes faster, during sleep-it is reduced.

* Pathological rapid breathing is observed in dry pleurisy, pneumonia, atelectasis, emphysema, high body temperature.

* Pathological reduction of respiration occurs in the case of depression of the function of the respiratory center (brain diseases, intoxication, kidney, liver failure, coma).

6.4.1. Determination of the depth of breathing

They judge it by the activity of the respiratory muscles involved in breathing and distinguish shallow and deep breathing.

6.4.2. Determination of the rhythm of breathing

* Rhythmic – the same frequency of breathing movements

* Non-rhythmic (respiratory arimia) - the rhythm of respiratory movements is interrupted by pauses (periods of apnea). Occurs in severe intoxication, brain damage, coma.

Fig. 24. Determination of the respiratory excursion of the chest

6.5. DEFINITION OF RESPIRATORY EXCURSION OF A THORAX

The centimeter tape covers the patient's chest (Fig. 24), passing from behind at the level of the lower corners of the shoulder blades, from the front at the level of 4 ribs (at the place of its attachment to the sternum).

Note 3 sizes of the chest circumference: with calm breathing, at the height of maximum inspiration and at maximum exhalation. The difference between the maximum inhalation and exhalation corresponds to the excursion of the chest.

6.6. PALPATION OF THE CHEST

Palpation is performed in a warm room with the palms and palmar surfaces of the fingers of both hands on symmetrical areas. The patient's standing or sitting position.

To accurately indicate the localization of the detected changes, the chest is conditionally divided by horizontal and vertical topographic lines.

Horizontal lines are located along the course of the ribs and intercostals. The ribs are counted from the front, starting from the I rib (in most people it is located under the clavicle) or from the II rib. From behind, they are

guided by the spinous processes of the vertebrae (the spinous process of the VII cervical vertebra is easily felt).

Vertical lines (Fig. 25):

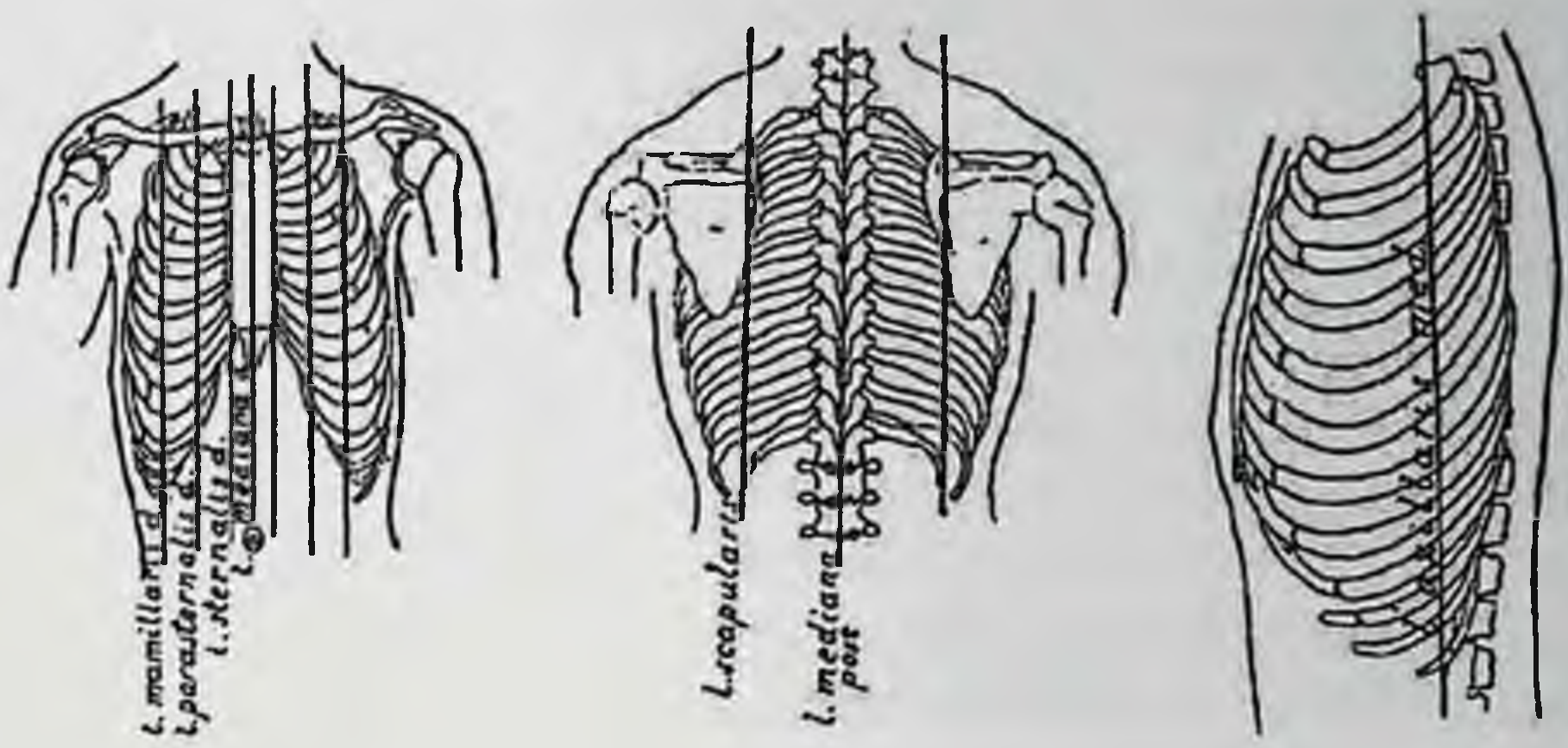


Fig. 25. Topographic lines on the chest

The anterior median line runs in the middle of the sternum through the middle of the jugular notch and the xiphoid process.

The sternal right and left go respectively along the right and left edges of the sternum.

Mid-clavicular right and left-start from the middle of the clavicle and go perpendicular down.

Coloradense right and left – are placed exactly in the middle between the mid-clavicular and sternal lines.

Anterior axillary right and left-directed vertically down the anterior edges of the armpits.

Middle axillary right and left-go vertically down from the middle of the armpits.

Posterior axillary right and left-directed vertically down the posterior edges of the axillary cavities.

Scapular right and left-pass vertically down through the lower corner of the scapula.

Posterior median-passes along the spinous processes of the vertebrae.

The paravertebral right and left lines are in the middle of the distance between the posterior median and scapular lines.

6.7. DETECTION OF CHEST SORENESS

Palpation of the chest in order to detect soreness is performed with the fingertips on symmetrical areas, pressing on the chest in a certain sequence. From the front, start with the supraclavicular and subclavian areas, then the area of the large pectoral muscles, the lower lateral parts of the chest, along the axillary lines from top to bottom. From behind, palpation begins with the supraspinatus areas, moving to the interscapular area, subscapular zones, posterolateral parts of the chest. Determination of the soreness of the spinous processes of the spine and interspinous spaces is carried out with the thumb of the right hand.

The pain felt during palpation along the intercostal space is most often caused by inflammation of the intercostal muscles or nerves. In the case of a rib fracture, the pain is felt in a limited area, the underlying tissues are swollen, and a crunch is heard when the fragments are displaced.

6.8. DETERMINATION OF THE RESISTANCE OF THE CHEST

Resistance (rigidity, elasticity) is determined by squeezing it with your hands in front and behind, from the sides in the lower parts.

The palm of one hand is placed on the sternum (not on the xiphoid process!), and the other palm is placed at the same level in the interscapular space. The elbows are spread apart. Pressing is performed with the base of the palms, with springy movements 2-3 times. At the same time, a healthy person can hear the sound of air coming out of the lungs. Then the palms are placed on symmetrical areas of the lateral parts of the chest parallel to the course of the ribs and produce 2-3 squeezes in the lateral direction. The chest in a healthy person gives a feeling of elasticity, pliability.

* Unilateral rigidity is detected in the presence of effusive (exudative) pleurisy or pleural tumor intercostal spaces become rigid, compacted.

* Increased resistance of the entire chest is observed in the elderly (due to ossification of rib cartilage), with the development of emphysema of the lungs and pneumosclerosis, as well as when both pleural cavities are filled with fluid (transudate or exudate). In such cases, when the chest is

compressed both in the anteroposterior and lateral directions, increased resistance is felt.

6.9. THE DEFINITION OF VOICE SHAKING

Vocal tremor is the force of conducting low-frequency sound vibrations to the surface of the chest. Obi palms are applied to the chest and ask the patient to loudly pronounce words containing the letter " r "(for example, "thirty-three"). Vocal tremor is compared on symmetrical areas in front in the supraclavicular, subclavian regions, then along the mid-clavicular lines to the third rib on the left. Further, bypassing the heart area, both palpating palms are located on the right along the mid-clavicular line. Then again, symmetrically on the left and right, palpation is carried out along the axillary lines. From behind, palpation begins symmetrically with the supraspinatus, then the interscapular and ends with the subcapular areas.
In healthy people, vocal tremor is more pronounced in the upper parts of the chest, less in the lower parts.

* Increased voice tremor is observed when:
- compaction of lung tissue
- compression atelectasis (compressed lung)
- the pulmonary fibrosis
- in the presence of a cavity communicating with the bronchus.

* The weakening of voice tremor occurs when:
- emphysema of the lungs
- in the presence of fluid or gas in the pleural cavity
- with thickening of the chest wall or pleural leaves.

6.10. CHEST PERCUSSION

There are 4 types of percussion techniques: 1) direct (finger on the body) percussion: a) according to F. G. Yanovsky, b) according to V. P. Obraztsov (Fig. 26 A, B); 2) indirect (finger on finger pressed to the body) percussion: a) according to G. I. Sokolsky, b) according to A. Goldscheider with the setting of the finger according to Y. I am bald (Fig. 26 C, D).

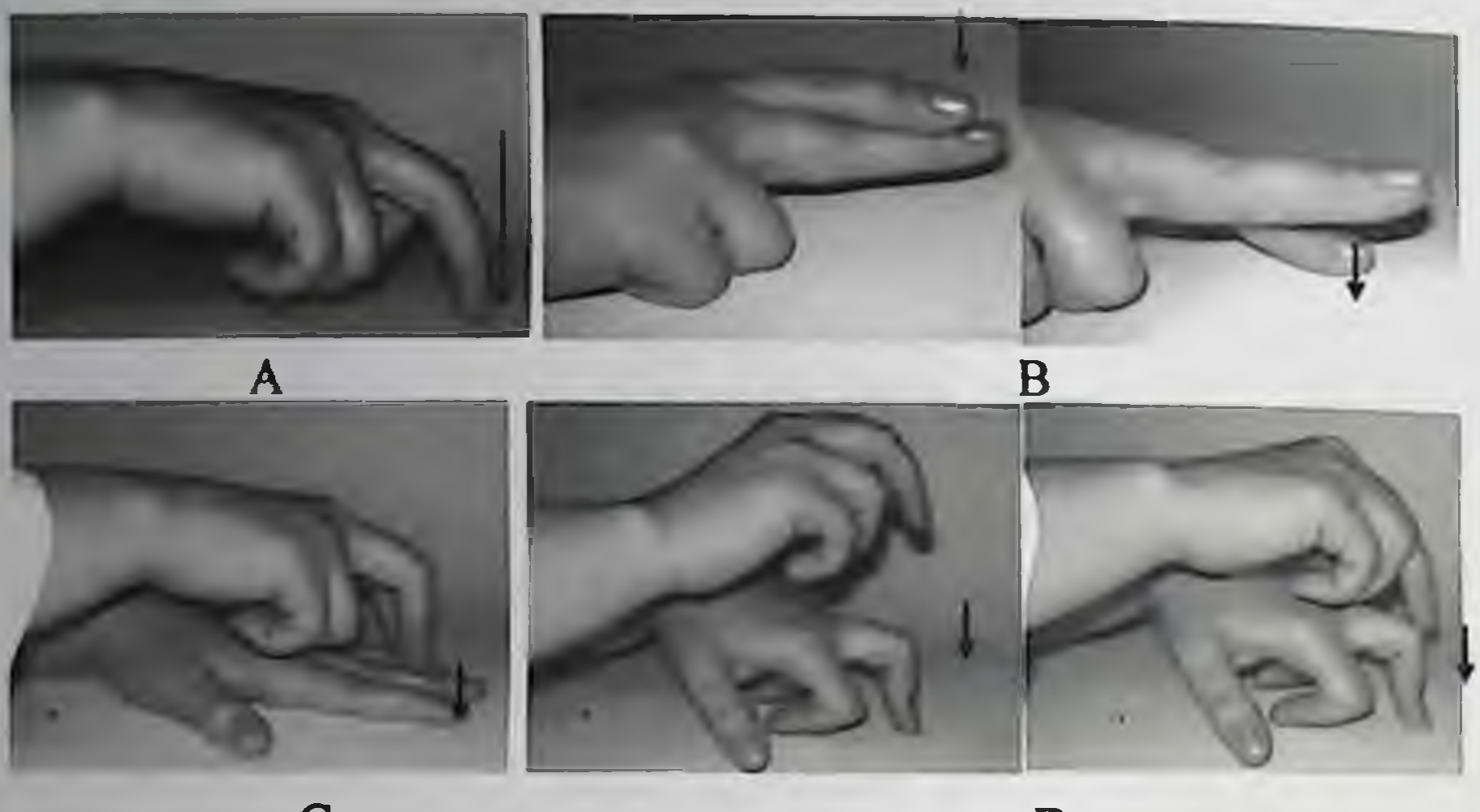


Fig. 26. The main modern percussion techniques:

A - according to G. F. Yanovsky, B - according to V. P. Obraztsov, C - according to G. I. Sokolsky, D - according to A. Goldscheider

6.10.1. Comparative percussion

It is used to detect pathological changes in any part of the lung. It is performed strictly in symmetrical areas of the chest (Fig. 27).

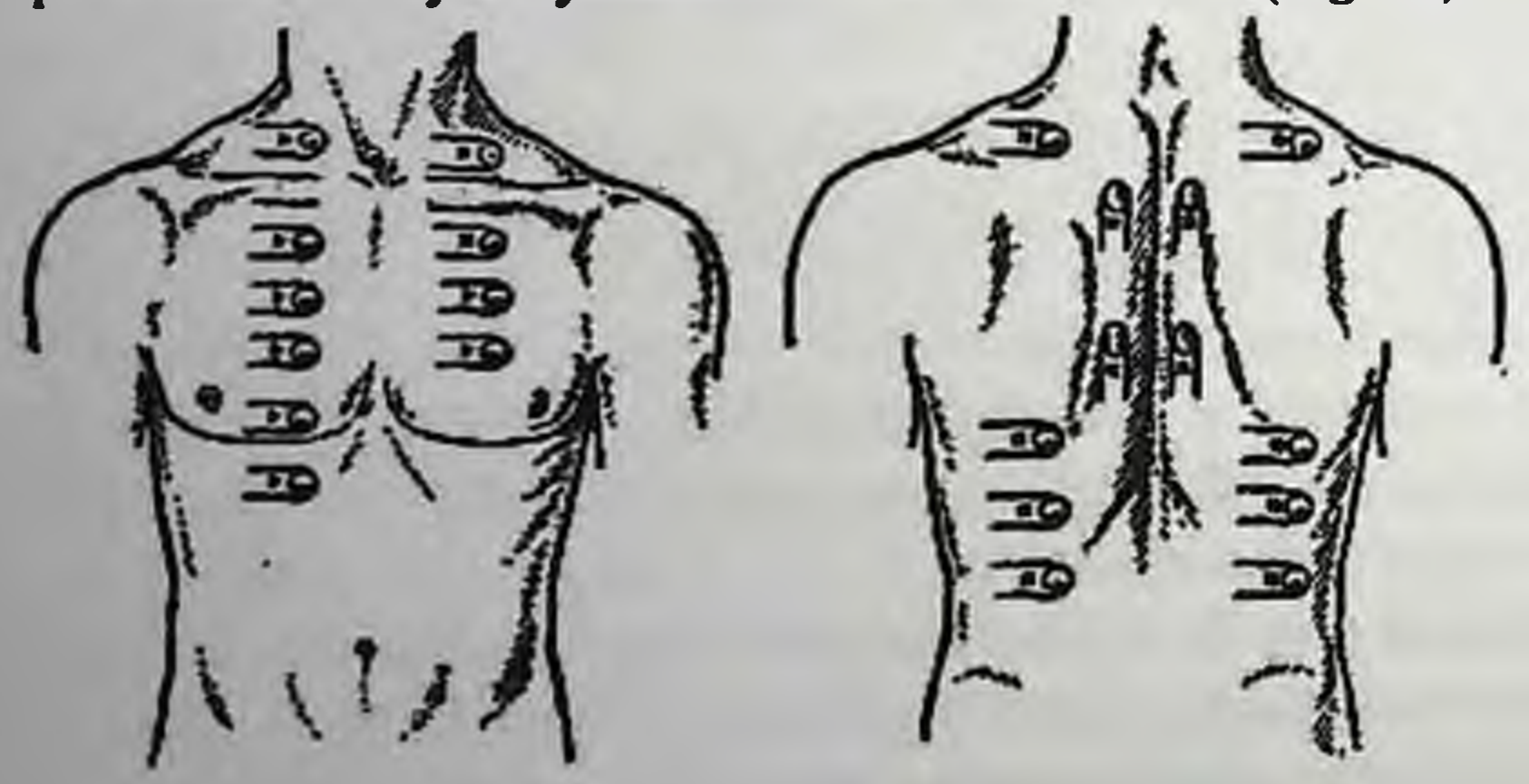


Fig. 27. Position of the plessimeter finger during lung percussion

Comparative percussion is always performed in a certain sequence:

* First percute the supraclavicular zones, alternately on the left and right. The plessimeter finger is located above the clavicle, parallel to it.

* On the clavicle (direct percussion on the

It).

Below the clavicle, the finger-plessimeter is installed in the intercostal spaces parallel to the ribs in strictly symmetrical areas of the right and left halves of the chest

in the I, II and III intercostals

* On the near-thoracic and mid-clavicular lines, comparative percussion on both sides is performed to the level of the III rib. Next, percussion is performed only on the right (the heart is located on the left), comparing the sounds obtained by percussion below the located areas.

* When performing percussion along the axillary lines, the patient is asked to raise his hands up and put his palms behind his head. Percussion begins from the depth of the axillary fossa, placing the finger-plessimeter vertically. After that, the finger-plessimeter is again placed in the course of the intercostal space and percussion is performed along all three axillary lines.

• Back at the beginning percuteret suprascapular region. The finger-plessimeter is installed just above the spine of the scapula, parallel to it. Percute left and right alternately. With percussion of the interscapular areas, the patient is asked to cross his arms on his chest in order to take the shoulder blades away from the spine as much as possible. The finger-plessimeter is installed vertically along the edge of the shoulder blades. When percussion of the scapular areas, the finger plessimeter is placed horizontally below the angle of the scapula, alternately to the left and right. At this time, the patient's hands are lowered.

6.10.2. Topographic percussion

• It is used to determine the upper and lower borders of the lungs, the mobility of the lower pulmonary edge (Tables 1 and 2).

Lower border of the lungs in a healthy person

Table 1

Place of percussion	Right lung	Left lung
Near-thoracic line Upper edge of the	V rib	-
Midclavicular line	VI rib	-
Anterior axillary line	VII rib	VII rib
Mid-axillary line	VIII rib	VIII rib
Posterior axillary line	IX rib	IX rib
Scapular line	X rib	X rib
Paravertebral line Spinous process	of the XI thoracic vertebra	of the XI thoracic vertebra

The lower borders of the lungs are established by percuting from top to bottom (starting from the second intercostal space) along topographic lines until a clear pulmonary sound is replaced by an absolutely dull one. Topographical percussion is not performed on the left along the near-thoracic and mid-clavicular lines (heart and Traube space).

The upper limit of the lungs is determined by the height of the standing of their tops.

In front, to find it, the finger-plessimeter is set parallel to the clavicle in the supraclavicular fossa and percuted from the middle of the clavicle up the stair muscles until the clear pulmonary sound changes to a blunt one. (in a healthy person, 3-4 sm above the clavicle). Posterior-finger-plessimeter is placed in the supraspinous fossa parallel to the spine of the scapula and percuted from its middle towards the spinous process of the VII cervical to the appearance of a blunt sound.

6.10.3. The definition of the margins of Krenig

Field Kreniga are the zones over the tops of the left and right lung, where percuteret clear pulmonary sound. To determine them, the finger-plessimeter is placed on the middle of the trapezius muscle perpendicular to its anterior edge. Percussion is performed first medially to the neck, then

laterally to the shoulder. The distance between the two extreme points where the clear pulmonary sound has changed to blunt and will be the width of the Krenig fields. In a healthy person, it is from 4 to 7 sm.

6.10.4. Determination of the mobility of the lower pulmonary margin

First, with the help of percussion, topographical lines find the lower border of the lung with normal breathing and mark it. Then the patient is offered to take a maximum breath and hold it at the height of his breath. After that, start percussion down from the initially found border of the lungs until the appearance of an absolute dull sound and make a mark. Next, the patient is asked to make the maximum exhalation and hold his breath. Percussion again determine the position of the edge of the lung and mark it. In this case, percussion can be conducted either from the border found during normal breathing (from bottom to top), or in the same way as the lower border of the lung was determined during normal breathing, that is, from top to bottom. The distance between the position of the lower edge of the lung at maximum inhalation and maximum exhalation (excursion of the lower edge of the lung) is estimated.

Tour of the lower edges of the lungs

Tabl. 2

Topographic line	the Right lung			the Left lung		
	Inspiratory	Expiratory	Total inspiratory expiratory Total	Inspiratory	Expiratory	Total inspiratory expiratory
Middle clavicle line (l. medioclavicularis)	2-3	2-3	4-6	Not defined !		
Middle axillary line (l. axillaries media)	3-4	3-4	6-8	3-4	3-4	6-8
Scapular line (l. scapularis)	2-3	2-3	4-6	2-3	2-3	4-6

6.11. AUSCULTATION OF THE LUNGS

The lungs are best listened to in the patient's sitting or standing position. It is necessary to conduct comparative auscultation at the same points as comparative percussion (compare alternately symmetrical areas on both halves of the chest).

It is necessary to observe a certain sequence of auscultation: start from the tops, listening to the front surface of the chest, then the side, then the back. When listening to the anterior surface of the lungs on the left, auscultation is performed to the 3rd intercostal space. When listening to the lungs along the axillary lines, the patient should bring his hands behind his head, along the scapular and paravertebral lines - slightly tilt his head forward and cross his arms on his chest.

6.11.1. Bronchophonia

Bronchophony is performed to assess the passage of the voice from the larynx along the air column and the walls of the trachea and bronchi, through the layer of alveoli to the surface of the chest.

The subject whispers words containing the letter " h " (for example: a cup of tea). To detect bronchophonia, you should listen to the entire surface of the chest, while comparing the sound in symmetrical areas, as in auscultation.

Bronchophonia changes for the same reasons as vocal tremor: weakening occurs with an increase in the airiness of the lung tissue (emphysema), with obturation of the adductor bronchus (obturation atelectasis).

Strengthening - with compaction of the lung tissue (pneumonia, compression atelectasis); over the cavity connected to the bronchus; open in the bronchus pneumothorax. It is absent above the fluid (with exudative pleurisy).

7. STUDY OF THE CIRCULATORY SYSTEM

7.1. EXAMINATION OF THE HEART AREA

Cardiac hump – protrusion of the chest as a result of congenital or acquired heart defects in childhood (Fig. 28). Its appearance indicates that the patient in childhood (before the formation of a dense skeleton) had increased the size of the heart, primarily the right ventricle. Cardiac hump should be distinguished from congenital deformities of the skeleton and after rickets.

Figure 28. Heart hump

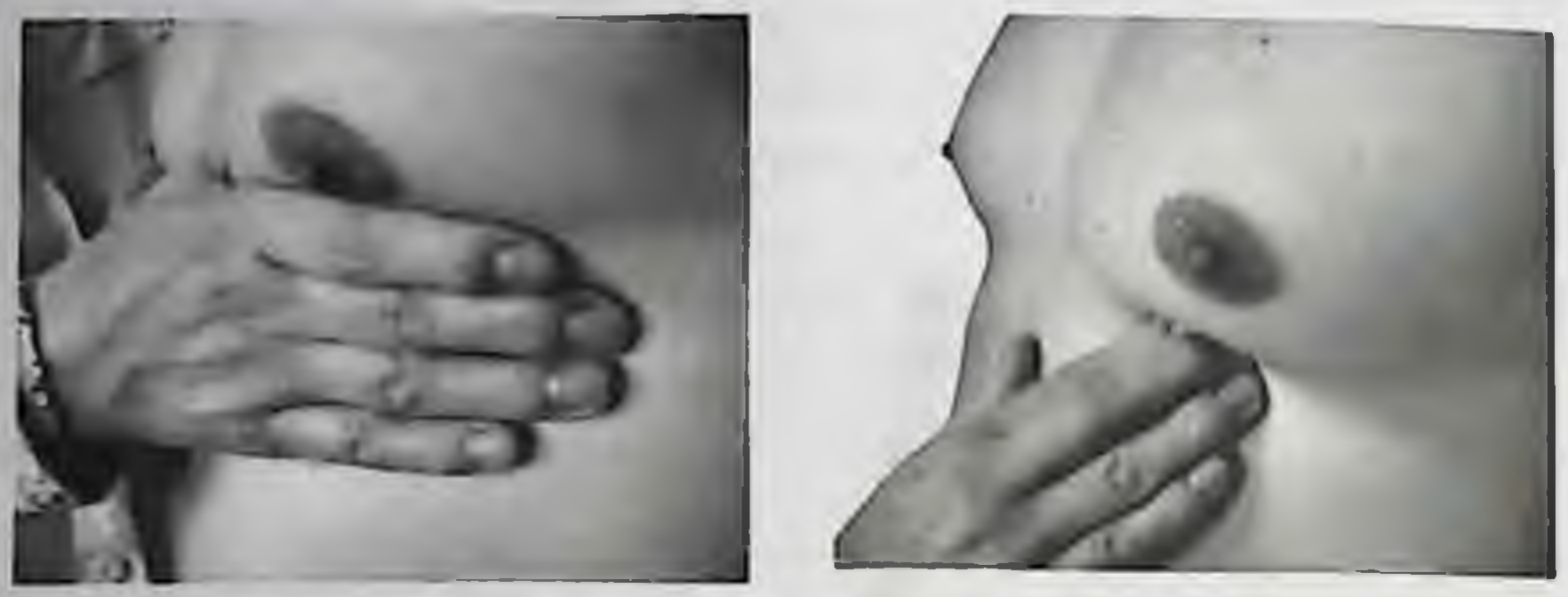
The apical shock is formed by the impact of the apex of the heart against the anterior chest wall. In a healthy person, it is visible somewhat inwards from the left midclavicular line in the V intercostal space.

7.2. PALPATION OF THE HEART AREA

When palpating the heart area, first of all, the characteristics of the apical push are evaluated: a) localization; b) height; c) area.

To identify the apical impulse put the palm of the hand on the chest of the examined the base of the brush to the sternum and your fingers to the underarm area between 4 and 7 ribs, and first segment should be located approximately at the level of mid-axillary line (Fig. 29 A). Then, with the pulp of the terminal phalanges of three bent fingers, placed perpendicular

to the surface of the chest, the place of the apical push is specified, moving them along the intercostals to the side to the place where the fingers, when pressed with moderate force, begin to feel the lifting movements of the apex of the heart. After that, the brush is deployed vertically and the localization of the apical push is established (Fig. 29 B).



A B

Fig. 29. Stages of determining the apical push

Characteristics of the apical impulse in a healthy person:

a) localization in the V intercostal space 1-1,5 sm medially from the left mid-clavicular line; b) area – at the rate of 2 sm2; C) height and amplitude of the vibrations of the chest wall, normally 0.5 sm; g) the resistance is determined by the force with which it pulls the chest wall.

Fig. 30. Determination of the apical push.

The cardiac impulse is determined in the III-IV intercostal spaces to the left of the sternum and in the epigastric region (Fig. 30). It is palpated with the entire palm in the area of absolute dullness of the heart (IV-V intercostal space to the left of the sternum). In a healthy person, it is absent.

Following the cardiac impulse in patients, the transfer pulsation in the epigastric region is determined (Fig. 31). Determination of epigastric pulsation is desirable to carry out both in the vertical and horizontal position of the patient. The doctor places the palpating hand in the epigastrium with the ends of the fingers close to the xiphoid process along the anterior median line and determines whether it is a pulsation or pulsation of the abdominal aorta.

Fig. 31. Determination of epigastric pulsation

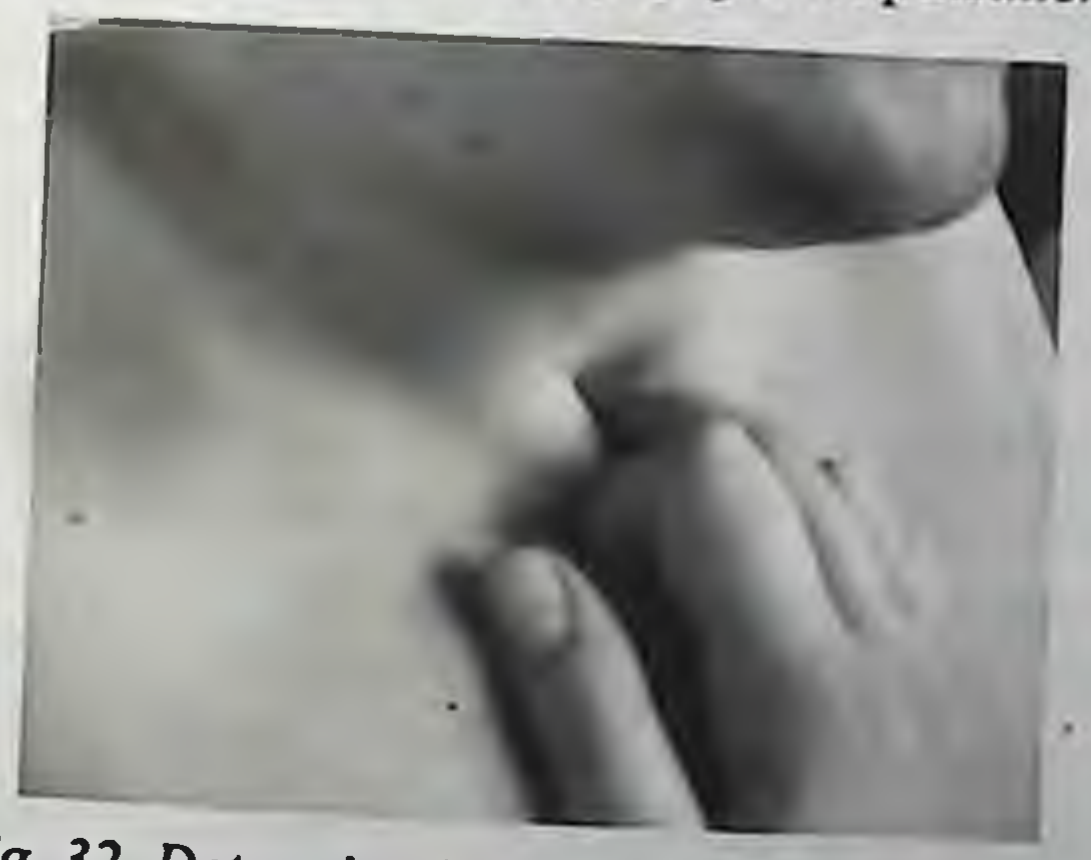


Fig. 32. Determination of aortic arch pulsation

Epigastric pulsation occurs with pulsation of the abdominal aortic aneurysm, an increase in the size of the right ventricle, and transfer pulsation of the liver. It is better to determine it at the height of a deep breath, when the heart, located on the diaphragm, falls slightly down.

In patients with high pulse pressure, hypertension, some heart defects, hypertrophy of the left ventricle of the heart, the transfer pulsation of the aortic arch in the jugular notch can be determined (Fig. 13).

A symptom of "cat purring". Palpation of the heart area can sometimes reveal a concussion of the chest wall, resembling the sensations that occur when stroking a purring cat. This phenomenon is called by Corvisard - "frémissement cataire" (cat purring). Frémissement cataire appears only when the movement of blood through the heart is obstructed in the physiological direction and does not appear when the blood moves retrograde. Distinguish between systolic and diastolic cat's purr. To determine the diastolic "cat purr", the palm is applied to the area of the apex of the heart (with mitral stenosis), systolic-in the II intercostal space to the right and left of the sternum (with stenosis of the aotral opening and pulmonary artery, respectively).

7.3. PERCUSSION OF THE HEART

Percussion determines the right, upper and left borders of the heart. The lower border of the heart is not defined!

In heart percussion, mediated finger-to-finger percussion is usually used. Most often, Sokolsky percussion is used. When determining the borders of the absolute dullness of the heart is often used threshold is the quietest percussion on Goldsheider to place your finger on Plesu. Some clinicians, particularly in pediatric practice, I use a percussion sample in or on it.

7.3.1. Determining the limits of relative dullness of the heart

Percussion is performed in an upright position of the patient (standing or sitting on a chair) with the arms lowered along the body. In severe patients, percussion should be limited only in a horizontal position. Percussion is performed with calm breathing of the patient. In the horizontal position of the patient, the doctor is on the right, in the vertical position-opposite him.

1. Determination of the right border of relative dullness of the heart (Fig. 14). First, find percussion the upper border of absolute stupidity of the liver (or the lower boundary of right lung). Finger-plessimeter put in the II intercostal space to the right of the sternum, parallel to the ribs, mid-clavicular line and changing the position of the thumb-plessimeter in a downward direction, causing the percussion blows of moderate strength before the appearance of dullness (the lower edge of the lung or upper edge of the liver), which in healthy people at the level of the V intercostal space. Then the paletsplessimeter is moved to one intercostal space above the hepatic dullness, that is, in the IV intercostal space. The position of alsaplayer changing the vertical - parallel to the expected border of the heart. Percute from the right mid-clavicular line in the direction from the lungs to the heart, until a clear percussion sound changes to a blunted one. The mark on the skin is made on the finger from the side of a clear pulmonary sound (in Fig. 33 indicated by an arrow).

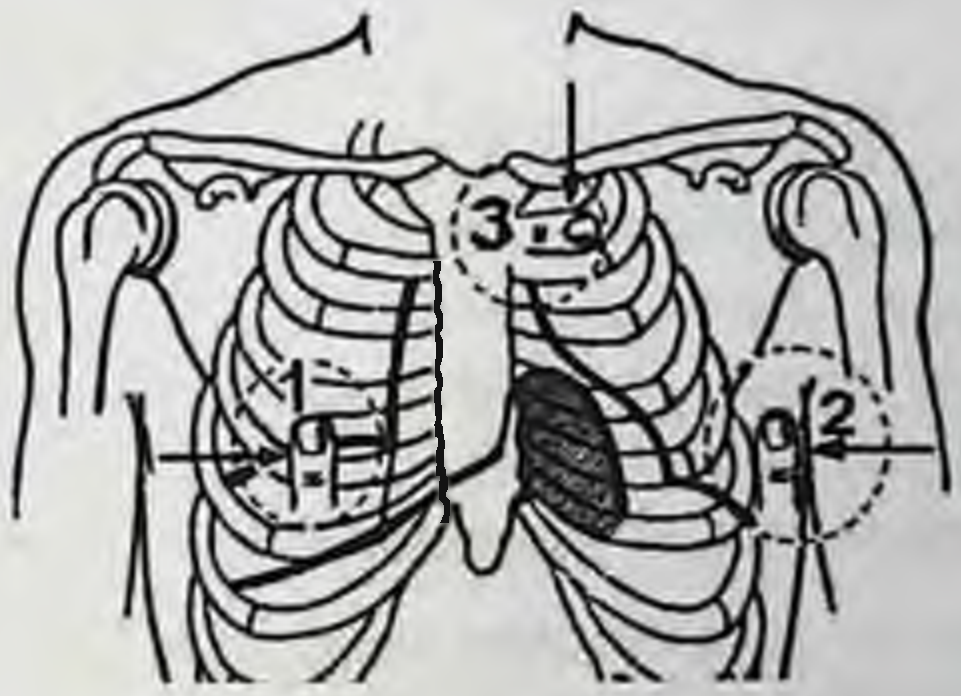


Fig. 33. Determining the limits of relative dullness of the heart

The appearance of a blunted sound corresponds to the most distant point of the right contour of the heart. In a healthy person, the right border of relative dullness of the heart is located in the IV intercostal space 1-1. 5 sm outward from the right edge of the sternum and is formed by the right atrium.

7.3.2. Determination of the left border of relative dullness of the heart.

The most distant point of the left contour of the heart is represented by the apical push, which coincides with the left border of the relative dullness of

the heart. Therefore, before starting to determine the left border of relative dullness of the heart, the apical push should be palpated as a guide. In cases where the apical shock is not visible and not palpable, the determination of the left border of relative dullness of the heart by percussion is carried out along the V and VI intercostals, in the direction from the left anterior axillary line to the heart. The plessimeter finger is placed vertically, that is, parallel to the supposed left border of the relative dullness of the heart, and percuted until bluntness appears. In a healthy person, the left border of relative dullness of the heart is located in the V intercostal space 1-2 sm inside of the left mid-clavicular line and is formed by the left ventricle of the heart.

7.3.3. DETERMINATION OF THE UPPER LIMIT OF RELATIVE DULLNESS OF THE HEART

is carried out along the left parasternal line (2 sm outward from the left edge of the sternum with a horizontal position of the plessimeter finger, moving from the I intercostal space down until the appearance of a dull percussion sound).

In a healthy person, the upper limit of relative dullness of the heart is at the level of the lower edge of the III rib or in the III intercostal space, in asthenics-at the upper edge of the IV rib, which is largely determined by the height of the standing dome of the diaphragm. In the formation of the upper limit of relative dullness of the heart, the initial part of the pulmonary artery and the ear of the left atrium are involved.

In a healthy person, the distance from the right border of relative dullness to the anterior median line is 3-4 sm, and from the left 8-9 sm. The sum of these distances (11-13 sm) is the diameter size of the relative dullness of the heart (Fig. 34).

The longitudinal axis of the heart is the distance from the right cardiovascular angle (intersection of the borders of cardiac dullness with the lower edge 3 of the rib) to the border of the apex of the heart (the left border of the relative dullness of the heart) (Fig. 34). In a healthy person, the length of the heart is 13-15 sm.

To determine the configuration of the heart, percussion is performed sequentially in each intercostal space: right from II to IV, left from II to V. The points obtained by percussion are connected to each other.

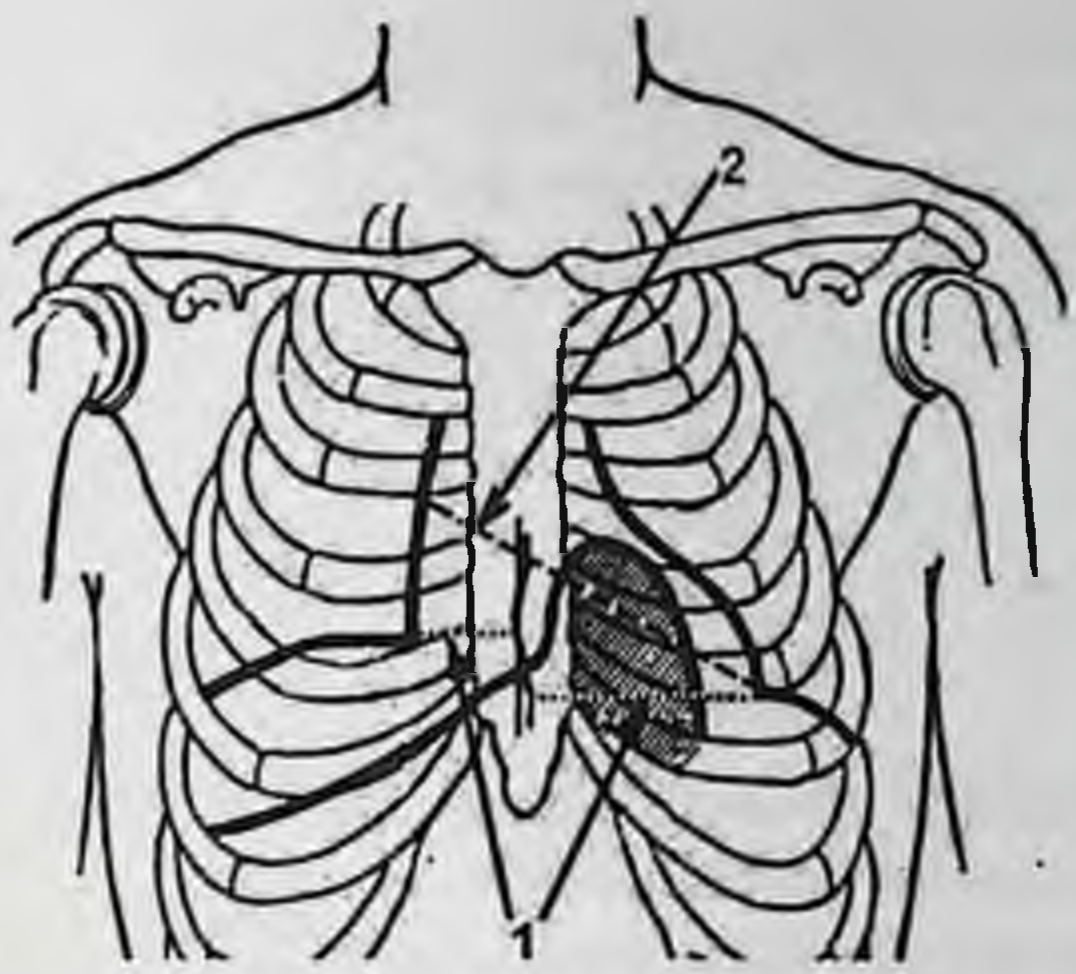


Fig. 34. Determination of the diameter (1) and length (2) of the relative dullness of the heart

7.3.4. Types of heart configuration:

A) correct and its varieties: teardrop-shaped (vertical, in asthenics), "recumbent" (horizontal, in hypersthenics);

B) "mitral" (in patients with mitral valve defects). It is characterized by an increase in the left atrium of the heart. With the mitral configuration of the heart, the waist of the heart is smoothed or even bulged due to a sharp increase in the left atrium;

C) "aortic" (in patients with aortic valve defects). It is characterized by a significant isolated increase in the left ventricle. At the same time, the waist of the heart becomes emphasized, the angle forming it approaches the straight one. The configuration of cardiac dullness is compared with the shape of a boot or and the posture of a sitting duck;

D) "trapezoidal" (triangular, in patients with exudative pericarditis);

E) "bull heart" (spherical, expansion of all chambers of the heart).

The waist of the heart is the angle between the vascular bundle on the left and the left contour of the heart formed by its left ventricle (Fig. In healthy people, this angle is 140-150o.

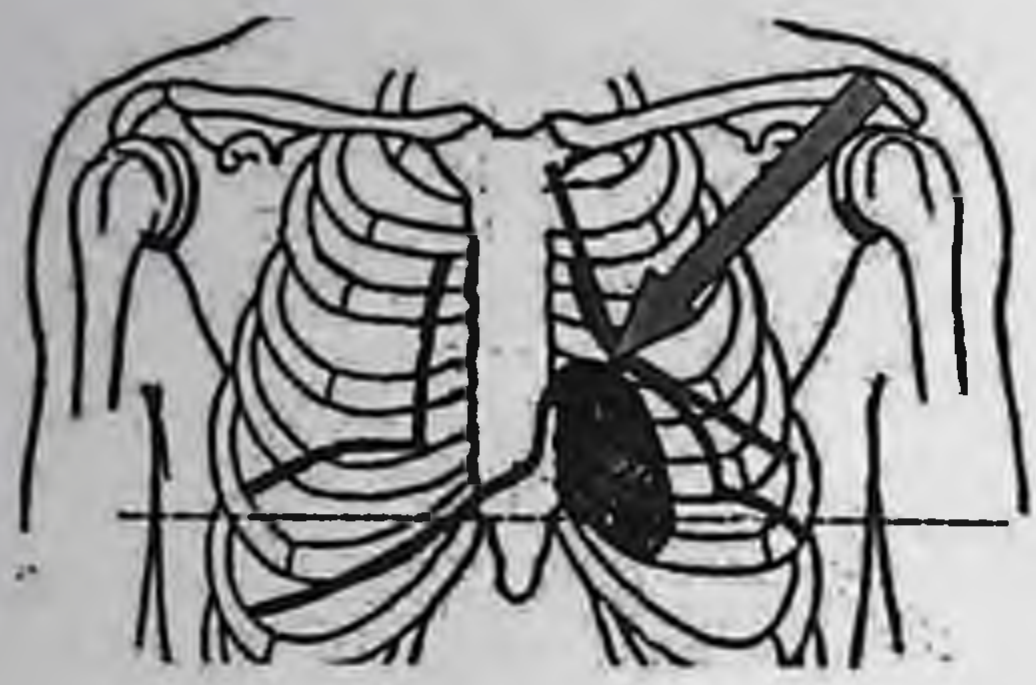


Fig. 35. Heart waist

7.3.5. Determining the limits of absolute dullness of the heart

To determine it, usually use the quietest percussion according to Sokolsky or percussion according to the method

Goldscheider with the setting of fingers on the Bald spot (Fig. 36).

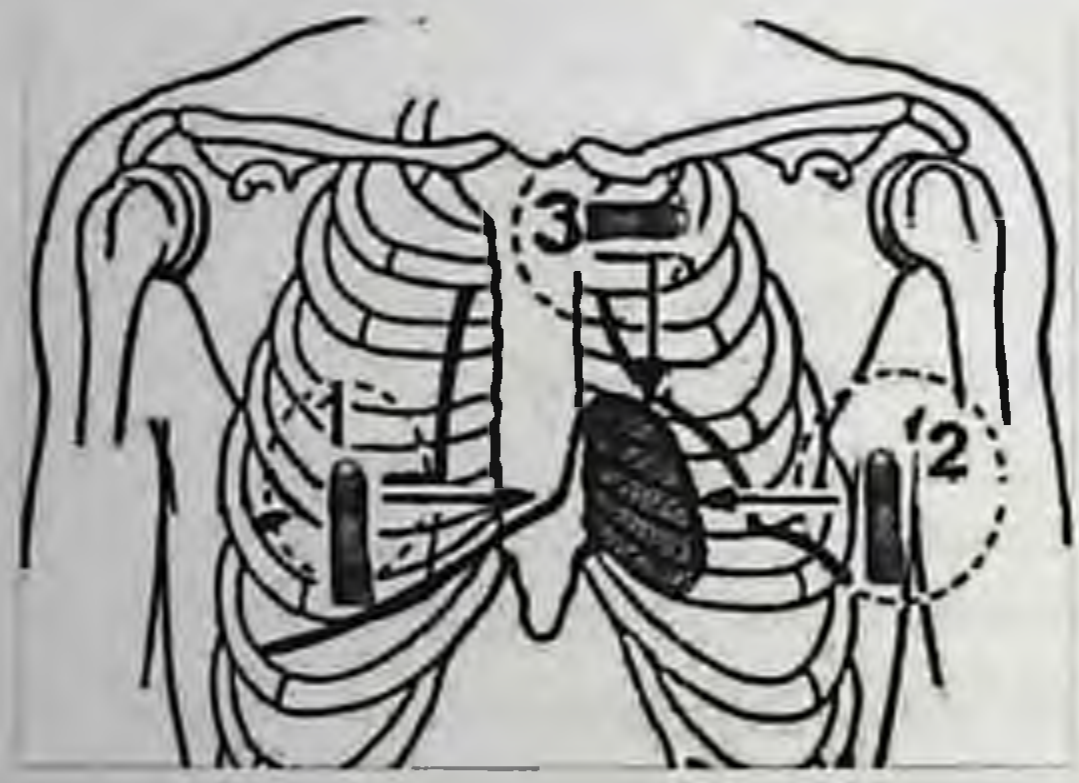


Fig. 36. Determination of the limits of absolute dullness of the heart

When determining the right border, the finger-plessimeter is placed on the right border of the relative dullness of the heart parallel to the right edge of the sternum and moved inside. In a healthy person, the border runs along the left edge of the sternum.

When determining the left border of the absolute dullness of the heart, the plessimeter finger is placed parallel to the left border of the relative dullness of the heart and moves inside. In a healthy person, the border is located in the V intercostal space 1.5-2 sm inside the left border of relative dullness.

To determine the upper limit of absolute dullness of the heart, the plessimeter finger is placed on the upper limit of relative dullness of the heart and percuted down. In a healthy person, it is located on the upper edge of the IV rib along the left circumflex line.

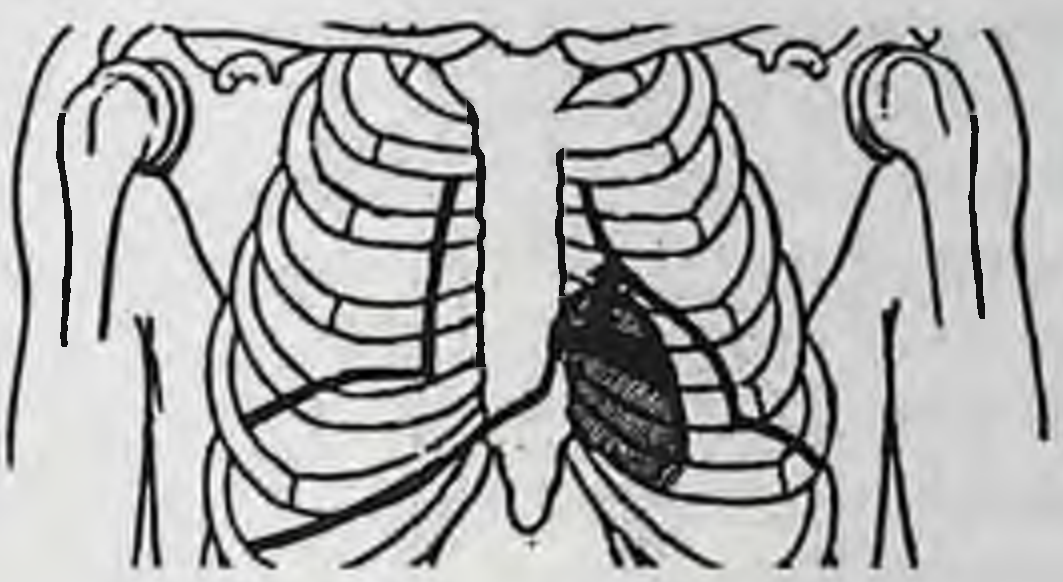


Figure 37. Another way to determine the limits of absolute dullness of the heart

Absolute dullness can also be determined faster by percuting from the center of absolute dullness of the heart (IV intercostal space along the left parasternal line) to the boundaries of relative dullness of the heart (Fig. 37). In this case, use percussion to Goldsheider.

7.3.6. The definition of the boundaries of the vascular bundle

Percussion determination of the boundaries of the vascular bundle is carried out at the level of the sternum handle in the 2nd intercostal space to the right and left of its edges (Fig. 38).

Fig. 38. Determination of the boundaries of the vascular bundle

The finger-plessimeter is placed in the 2nd intercostal space along the mid-clavicular line parallel to the expected dullness

(vertically). When percussion is used, quiet percussion is used. The plessimeter finger is gradually moved 0.5-1 sm towards the right edge of the sternum handle until a blunted sound appears. Then, in the same way, percussion is performed on the left and the left edge of the vascular bundle is found. The distance between the boundaries of the found blunting is measured with a centimeter tape. Normally, the width of the vascular bundle is 4-5 sm. Usually, the dulling of the percussion sound from the vascular bundle is obtained only on the sternum itself. With the expansion of the aorta and/or pulmonary artery, the dulling of the percussion sound goes beyond the contour of the sternum.

7.4. AUSCULTATION OF THE HEART

When performing auscultation of the heart, the following rules are observed::

1. The position of the doctor is better to the right of the patient or in front of him, which makes it possible to freely listen to all the necessary points of auscultation.

2. The patient's position: a) vertical; b) horizontal, lying on his back; c) on the left, sometimes on the right side.

3. Certain techniques of auscultation of the heart are used:

a) listening in different phases of breathing, as well as when holding the breath after the maximum inhalation or exhalation, b) listening after dosed physical activity, if the patient's condition allows.

The place of listening to the heart valves: the mitral valve listens to the apex of the heart tricuspid at the base of the xiphoid process, aortic – II intercostal space at the right edge of the sternum and III intercostal space at the left edge of the sternum (the point of Botkin-ERB), the pulmonary valve - II intercostal space at the left edge of the sternum (Fig. 39).

3.4.1. The "Eight" rule»: 1. Mitral valve; 2. Aortic valve; 3. Pulmonary artery valve; 4. Tricuspid valve; 5.Aortic valve at the botkinaerba point.

3.4.2. "Circle" rule: 1. Mitral valve; 2. Tricuspid valve; 3. Aortic valve; 4. Pulmonary artery valve; 5.Aortic valve at the Botkin-Erb point.

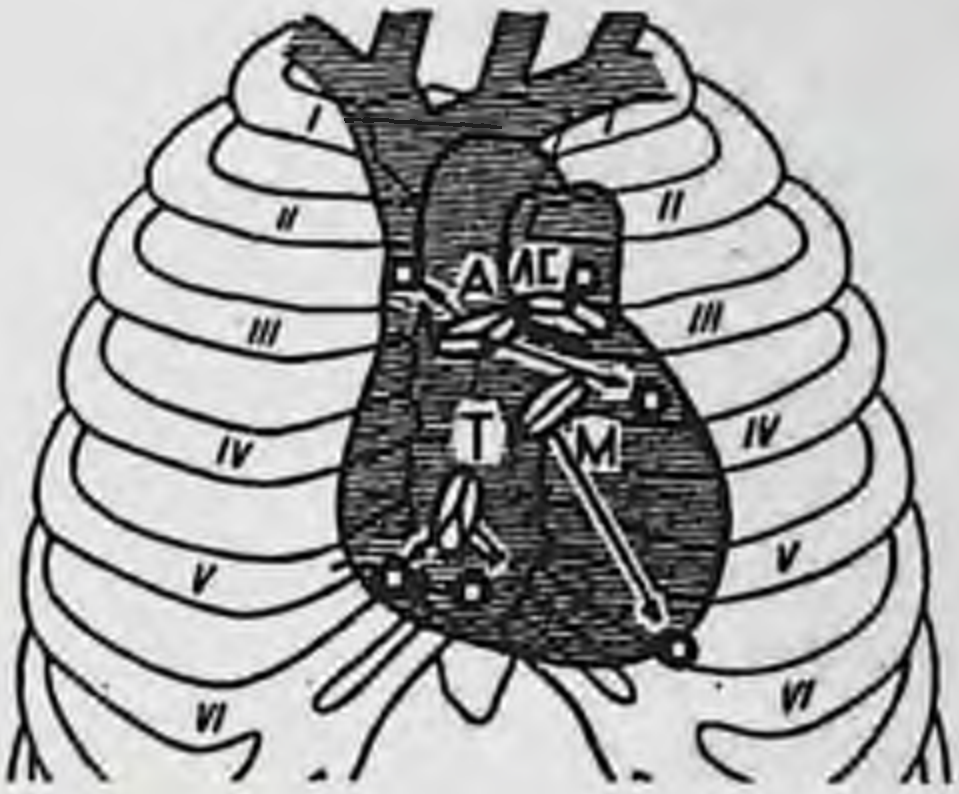


Fig. 39. Auscultation points of the heart

7.5. PULSE EXAMINATION

Palpation of the pulse can be performed on the radial, carotid, temporal, femoral, popliteal and dorsal arteries of the foot. When palpating the radial artery, the hands of the subject are covered in the area of the wrist joint and, having found the arteries, press them with 2-3 fingers (Fig. 40). First, a study is performed on both hands to determine the symmetry of the pulse. Unequal pulse can be when the lumen is narrowed or an anomaly in the location of one of the arteries, or when the subclavian artery is compressed by an aortic aneurysm, a tumor, or enlarged lymph nodes.

Fig. 40. Examination of the pulse on the radial artery

After comparing the pulse on both hands, you should proceed to the study of its properties on one hand (if the pulse is different — on the one with more).

7.5.1. The rhythm of the pulse

is determined by the work of the left ventricle of the heart. The rhythm can be correct (regular, rhythmic) and incorrect (irregular, arrhythmic). Irregular pulse rhythm is observed in extrasystole, atrial fibrillation, atrioventricular block of the 2nd degree. With respiratory arrhythmia, the pulse becomes faster on the inhale and slows down on the exhale. With adhesive and effusive pericarditis, the pulse waves almost completely disappear during inhalation - a paradoxical pulse.

7.5.2. The pulse rate

in a healthy person is equal to the heart rate (60-90 per minute). With tachycardia, the pulse is more than 90 per minute, with bradycardia less than 60 per minute. The heart rate is calculated within 1 minute (for arrhythmia) and 30 seconds with the correct rhythm. In the latter case, the result is doubled.

In atrial fibrillation, extrasystole, the amount of blood released into the aorta by the left ventricle may be so small that individual pulse waves do not reach the periphery. The difference between the number of heartbeats and pulse waves is called a pulse deficit. It is better if it is done simultaneously by two researchers. However, in practice, when one medical worker works with a patient, it is possible to count the number of heartbeats within a minute, and then the number of pulse waves.

7.5.3. The pulse voltage

depends on the value of systolic blood pressure and is determined by the force with which it is necessary to press on the artery in order to disappear its pulse fluctuations. A solid pulse is characteristic of hypertension and arterial wall sclerosis. A soft pulse indicates a reduced tone of the vascular wall due to arterial hypotension.

7.5.4. The filling of the pulse

depends on the amount of blood released into the aorta by the left ventricle of the heart. It can be good (full) and bad (empty) for arrhythmia and hypotension.

7.5.5. The value of the pulse

is determined by its tension and filling and depends on the degree of expansion of the artery during systole, as well as its decline during diastole.

With an increase in the shock volume of blood, a large fluctuation of pressure in the artery, with a decrease in the tone of the arterial wall, the magnitude of pulse waves increases. This pulse is called a great or high (in case of insufficiency of the aortic valve, thyrotoxicosis). With a decrease in the shock volume of blood, a small fluctuation of pressure in the artery, an increase in the tone of the vascular wall, the pulse value decreases, and it becomes small (low)-with stenosis of the aortic mouth, narrowing of the left atrioventricular opening. It is difficult to determine a small soft pulse (filamentous) is noted with significant blood loss, acute heart and vascular insufficiency. In cases of severe myocardial lesions, the alternation of large and small pulse waves is possible - an intermittent

(alternating) pulse.

7.5.6. The shape of the pulse

depends on the rate of change in pressure in the arterial system during systole and diastole. If the pulse wave rises and falls quickly - the pulse is fast, fast, jumping, high (with aortic valve insufficiency). A slow pulse, when the pulse wave slowly rises and falls, is typical of narrowing (stenosis) of the aortic mouth. If, after the pulse expansion of the radial artery, a second small expansion of it is felt, then they talk about a dicrotic pulse (a decrease in the tone of the arteries in fever, infectious diseases).

7.6. BLOOD PRESSURE MEASUREMENT

Blood pressure (BP) can be measured in a sitting, lying and standing position, but the middle of the cuff of the tonometer should be at the level of the heart. When measuring blood pressure in a sitting position, the patient's hand should be conveniently located on the table. If the table is not high enough, use a handstand. To measure blood pressure in a standing position, it is necessary to use special stops or the arm is supported in the elbow area. During the first visit of the patient, it is necessary to measure the pressure on both hands. If a stable asymmetry is detected, all subsequent measurements are performed on the hand with higher digits.

The cuff is placed on the shoulder so that the middle part of the pneumatic chamber is above the projection of the artery. Between the cuff and the surface of the shoulder should fit 2 fingers, and its lower edge is located 2.5 sm above the ulnar fossa. You can not put a cuff on a thick fabric of clothing or roll up the sleeves. The stethophonendoscope is fixed at the lower edge of the cuff above the projection of the brachial artery (determined by palpation) no pressure on the skin. When air is injected into the cuff, the manometer readings are recorded at the time of stopping the pulsation of the artery, as an estimated value of systolic blood pressure, after which the compression continues for another 30 mm. The rate of reduction of air pressure in the cuff should be 2-3 mm Hg per second. The appearance of the first tone corresponds to systolic blood pressure, the moment of disappearance of tones-diastolic blood pressure.

Repeated blood pressure measurements are carried out at intervals of at least 2 minutes. If the first two blood pressure indicators differ by no more than 5 mm Hg, the average value is taken as the blood pressure level. If the difference is more than 5 mm Hg, a third measurement is made and the average value is calculated.

8. STUDY OF THE DIGESTIVE SYSTEM

An objective study of the digestive system begins with an examination of the oral cavity: the presence and condition of the teeth; an increase in the size of the tongue, the teeth prints on it, the presence of plaque on the tongue, the condition of the papillary layer and the color of the tongue, its dryness. When examining the oral mucosa, it is important to note the presence of ulcers, aft, hemorrhages, as well as cracks in the corners of the mouth (angular stomatitis), the color of the mucosa: pallor in anemia, jaundice of the lower surface of the tongue and hard palate in jaundice, hyperemia of the mucosa and the presence of aft on it in stomatitis. Note the condition of the gums (loose, bleeding). Then proceed to the physical (physical) examination of the abdominal organs.

8.1. PROCEDURE FOR PHYSICAL (PHYSICAL) EXAMINATION OF THE ABDOMINAL ORGANS

1. Examination of the abdomen in vertical and horizontal positions;
2. Superficial (approximate) palpation of the abdomen;
3. Identification of areas of skin hyperesthesia Zakhar'in-Ged;
4. Percussion of the abdomen indicative;
5. Auscultation of the abdomen;
6. Deep, sliding, topographic, methodical palpation of the abdomen according to Obraztsov-Strazhesco;
7. Examination of the stomach;
8. The study of the pancreas
9. The study of the liver;
10. Examination of the gallbladder;
11. Examination of the spleen;
12. Finger examination of the rectum.

8.1.1. Examination of the abdomen

Examination of the abdomen is carried out in vertical and horizontal positions of the patient. At the same time, they evaluate:

A) The condition of the skin: jaundice, pallor, cyanosis. The presence of hemorrhages, vascular asterisks (determined on the upper half of the trunk), "hepatic palms and feet" (redness in the thenar and hypothenar areas), hair loss in the armpits, female-type hair loss in men, gynecomastia. B) The shape of the abdomen.

C) Participation of the abdomen in the act of breathing. The lack of mobility of the abdominal wall during breathing is the most important sign of general diffuse peritonitis, local local restriction is associated with the development of perivisceritis or with the occurrence of local peritonitis.

D) The presence of uniform and uneven protrusions or retractions.

Uniform protrusion (an increase in the volume of the abdomen) is observed in hypersthenics, obesity, flatulence and in the presence of free fluid in the abdominal cavity (ascites). With ascites, along with a uniform increase in the abdomen, there is often a protrusion of the navel when the patient is in a vertical position, and in a horizontal position the peri-umbilical region is flattened and the flanks of the abdomen ("frog" stomach) are protruding.

Uneven protrusion occurs: a) with a significant increase in organs (liver, spleen, bladder, etc.); b) with large tumors and cysts in the abdominal cavity.

A uniformly retracted stomach occurs when the patient is exhausted.

Fig. 41. Striae on the skin of the abdomen

E) The presence of scars and striae on the skin of the abdomen. Striae-stretch marks in the form of whitish or reddish stripes, more often on the side surfaces of the abdomen, are found in high-priced women, in obesity, ascites, in diseases of the endocrine organs, for example, in the disease and the Itsenko-Cushing syndrome. Scars on the skin of the abdomen must be noted in the medical documentation. It is necessary to indicate (if known) the cause of the scar (postoperative, after a gunshot or knife wound, etc.). The shape, size, color of the scar is evaluated.

F) Dilation and tortuosity of the subcutaneous veins ("medusa's head") occurs when blood circulation in the portal vein is difficult (with cirrhosis of the liver, compression by a tumor or enlarged lymph nodes of the portal vein).

G) During the examination, you can identify: the presence of hernial protrusions.

H) Increased intestinal peristalsis can also sometimes be detected during the examination of the patient.

8.2. SUPERFICIAL (APPROXIMATE) PALPATION OF THE ABDOMEN

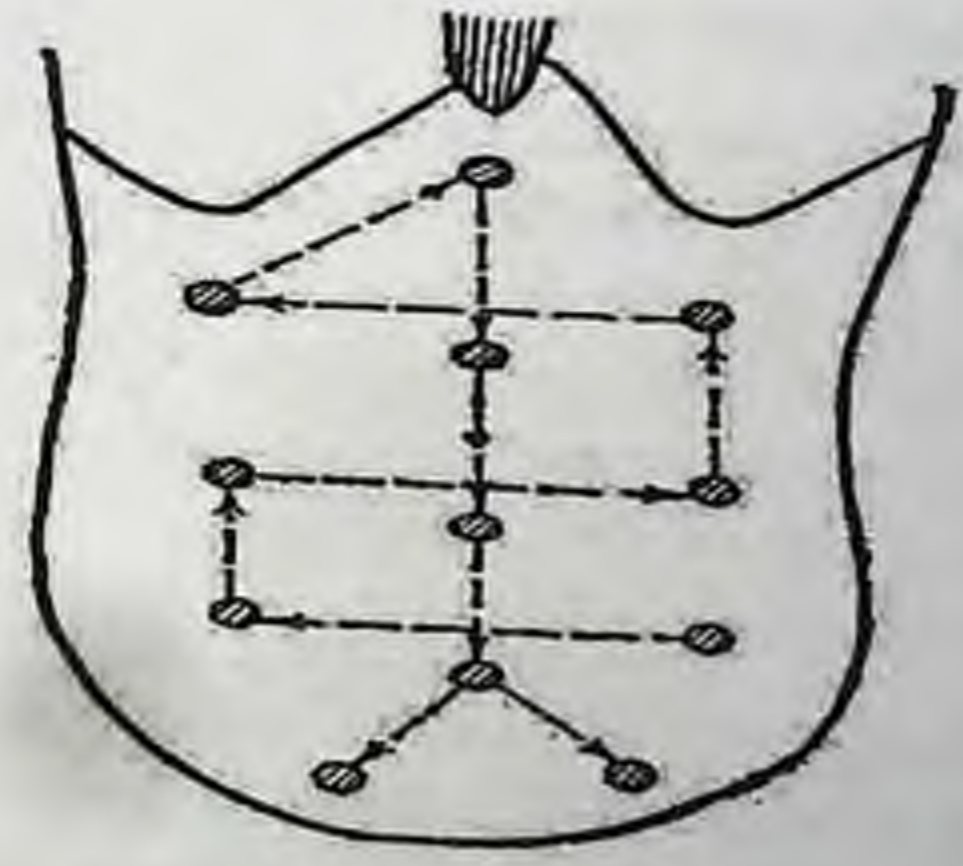


Fig. 42. The order of superficial palpation of the abdomen

When conducting an approximate superficial palpation of the abdomen according to F. O. Gausman, the patient lies on his back, his legs and arms are stretched out along the body. The patient's head lies on a low pillow so

as not to cause excessive tension of the abdominal muscles. His breathing should be calm, with the participation of the abdomen, which also allows you to better relax the anterior abdominal wall. The doctor sits on a chair next to the patient's bed on the right side of him (the doctor's pelvis is at the level of the patient's pelvis). The doctor asks the question: "where does it hurt?" and palpation begins with the most remote part of the abdomen from the pain. If there is no pain anywhere, palpation is started from the left iliac region (Fig. 42). The palm of the doctor's right hand is placed flat on the patient's stomach and palpation is performed with the tips of 2, 3 and 4 fingers, easily pressing on the stomach. Then the hand is transferred to the right iliac region, comparing the sensation. And so, rising up to the costal arch, palpate the symmetrical parts of the abdomen from right to left, comparing muscle tone and soreness.

Tasks of the doctor during the study:

1. identification of local and general soreness;

2. identification of local muscle tension of the abdominal wall (defanse);

3. identification of superficial palpable formations (hernial protrusions, significant enlargement of organs, superficially located tumors).

Tension of the muscles of the anterior abdominal wall indicates the possibility of developing peritonitis.

If you suspect peritonitis, you should additionally determine the Shchetkin-Blumberg symptom. It is performed as follows: the doctor slowly and carefully presses on the abdomen in the area of the defanse of the muscles of the anterior abdominal wall, and then abruptly removes the hand from the abdomen. If the maximum pain appears at the moment of taking the hand away from the abdomen, then the symptom is considered positive and indicates irritation of the peritoneum.

To identify hernias of the white line of the abdomen and umbilical hernias, the patient is asked to lift his head from the pillow and hold it so. At this time, the doctor's hand palpates the white line of the abdomen and the umbilical ring.

There is another, less common method of palpation. In the absence of pain, according to the patient, palpation is performed by lightly pressing on the

abdomen, starting from the left iliac region counterclockwise to the right iliac region, then from the xiphoid process to the suprapubic region (assessing the state of the white line of the abdomen and the umbilical ring). In the presence of abdominal pain, palpation begins from the opposite side.

8.3. IDENTIFICATION OF AREAS OF SKIN HYPERESTHESIA ZAKHARYINA-GEDA APPLY TWO METHODS FOR IDENTIFYING AREAS OF SKIN HYPERESTHESIA:

1. Using a needle: a needle is applied to very light injections in symmetrical areas of the abdominal wall and ask the patient to compare the sensations. Where the sensitivity is higher – there is a zone of hyperalgesia (the method is used in neurology).

2. The method of skin roller (rolling the skin roller on the front and back surfaces of the patient's body in symmetrical areas). They ask the patient to compare the sensations. Where the sensitivity is higher-there is a zone of hyperesthesia.

In many diseases of the digestive system, there are areas of skin hyperesthesia: cholecystitis (right hypochondrium and right scapula), pancreatitis (analogous places on the left), tiflitis (right iliac region), sigmoiditis (left iliac region) (Fig. 43).

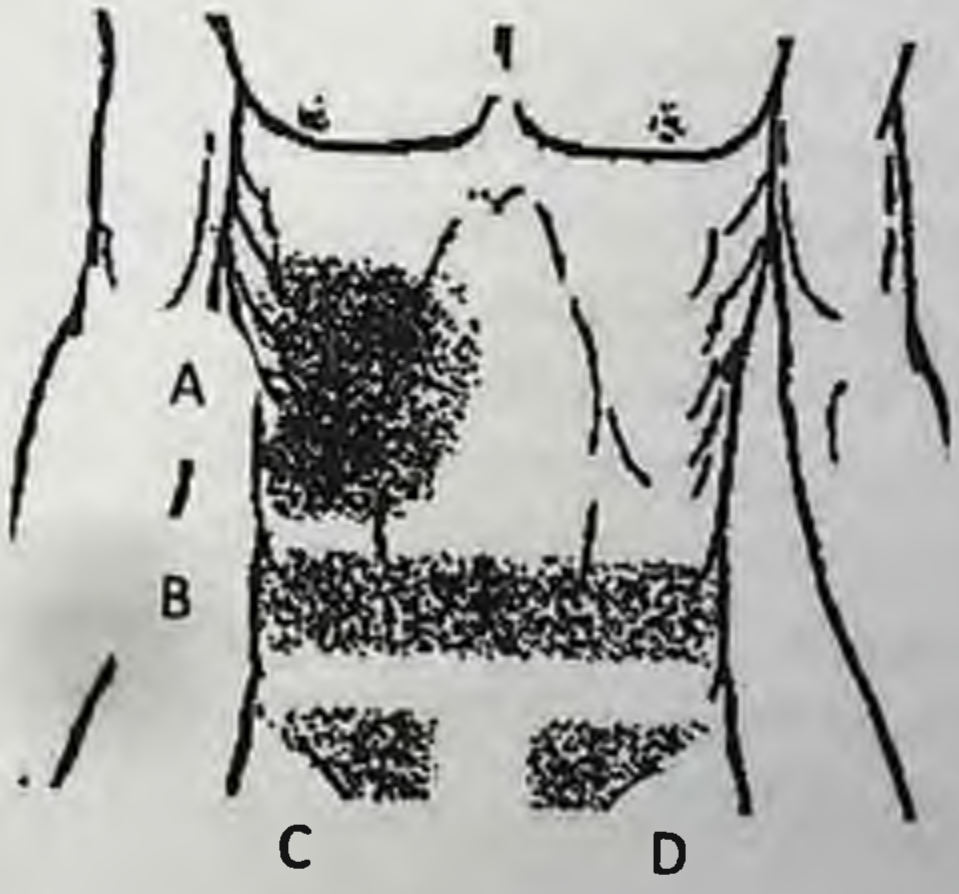


Fig. 43. Zones of skin hyperesthesia in diseases of the digestive system: A-cholecystitis, B-pancreatitis, C-tiflitis, D-sigmoiditis

8.4. PERCUSSION OF THE ABDOMEN INDICATIVE

The purpose of indicative percussion of the abdomen: to identify free or enclosedfluid in the abdominal cavity.

Percussion of the abdomen is first performed in an upright position of the patient. The finger plessimeter is placed horizontally (the level of ascitic fluid in a standing patient is located horizontally) slightly below the xiphoid process and moves it in the process of percussion from top to bottom along three lines: the median line of the abdomen and along the sredneklyuchichny lines on both sides. In the transition from intestinal tympanitis to a dull sound, a mark is made. In the event that all three marks are on the same horizontal line, we are talking about the presence of fluid in the abdomen and its level. This method allows you to detect even a small accumulation of fluid.

Then percussion is performed in a horizontal position of the patient. Percussion is performed from the midline (from the navel) to the side flanks. The transition from intestinal tympanitis to a dull sound is noted on the skin. Then, without lifting the doctor's finger from the revealed border of the transition of the tympanic to a dull sound, the patient is turned to the opposite side and continues percussion. In the presence of fluid in the abdominal cavity, it flows down, and the loops of the intestine float up and tympanitis appears in place of a dull sound.

The method of the fluctuations. It is used when there is a large amount of fluid in the abdominal cavity to confirm the results of percussion. The patient is lying on his back. The doctor applies his left palm tightly to the side surface of the patient's abdomen, and with his right hand causes light jerky blows-pushes from the opposite side. If there is fluid in the abdominal cavity, these blows are felt by the left hand in the form of a wave. To exclude the transmission of these blows on the abdominal wall, the assistant puts his palm firmly with the edge along the anterior median line on the patient's stomach, which eliminates the transmission of the wave to the palpating left hand.

8.5. AUSCULTATION OF THE ABDOMEN

In a healthy person, periodic intestinal peristalsis is heard. Auscultation is performed at 5 points: in the right and left hypochondria, in the right and left iliac regions, and in the parotid region. With peritonitis, there may be no intestinal peristalsis and complete silence. With flatulence and intestinal obstruction (above the level of the obstacle), an increase in peristalsis is detected.

In the presence of portal hypertension in the field of umbilical ring can be auscultated gentle Travelamerican noise caused by the movement of blood through the opened collaterals umbilical vein in the subcutaneous veins of the anterior abdominal wall.

8.6. DEEP, MOVING, TOPOGRAPHIC, METHODICAL PALPATION BY V. P. OBRAZTSOV AND N. D. STRAZHESKO

The purpose of deep sliding palpation of the abdominal organs is to determine their location, size, mobility (easily displaced or soldered to the surrounding tissues), soreness, density, surface condition (smooth or bumpy), presence or absence, for example, rumbling during palpation. These criteria allow the doctor to make a conclusion about the presence or absence of a pathological process in the organ under study.

This palpation includes four elements:

1. placing the doctor's hands perpendicular to the axis of the

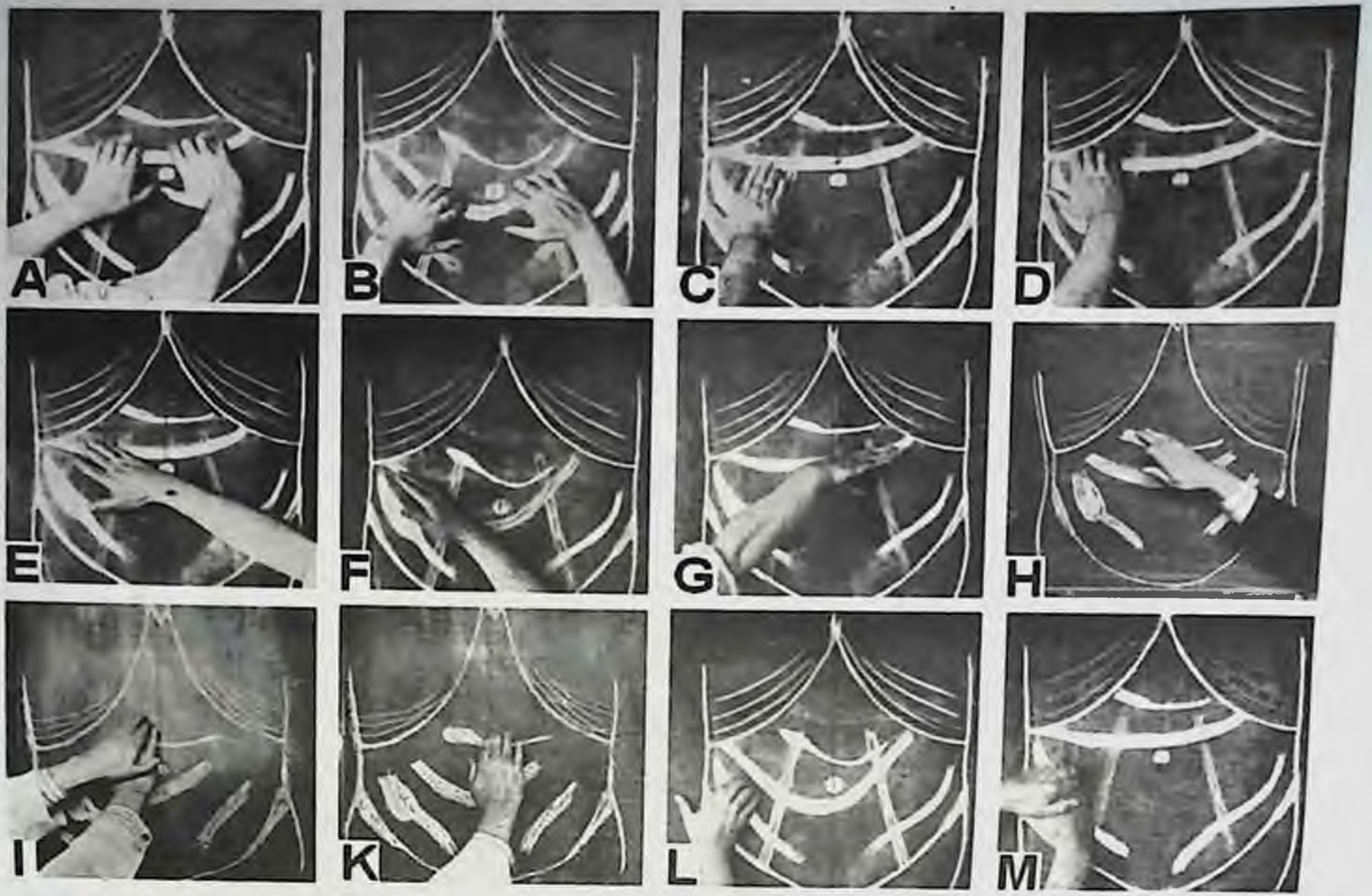
palpable organ or to its edge;

2. shifting of the skin and formation of a skin fold for subsequent free movement of the palpating hand;

3. careful gradual immersion of the hand in the abdomen during exhalations of the patient to the posterior abdominal wall or to the palpable organ;

4. sliding the fingertips in a direction perpendicular to the axis of the palpable organ.

The position of the palpating hand in accordance with the topography of the abdominal organs is shown in the diagrams of F. O. Gausman (Fig. 44).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M

Fig. 44. Diagrams of the position of the hands during intestinal palpation:

A-Bilateral palpation of the transverse colon with maximum flexion of the fingers. The position of the hand is transverse to the long axis of the intestine. Palpation is performed with four fingers. **B**-Bilateral palpation with a lowered colon. **C**-Palpation of the lateral part of the colon with the hand applied flatly transversely to the axis of the intestine. **D**-Palpation of the transverse colon with the bent fingers of one hand applied transversely to the axis of the intestine. **E**-Palpation of the transverse colon with three fingers. The position of the hand is oblique to the axis of the intestine. **F**-Palpation of the transverse colon with the ulnar edge of the hand. The position of the hand is parallel to the axis of the intestine. **G**-Palpation of the transverse colon with the radial edge of the hand. The position of the hand is parallel to the axis of the intestine. **H**-Palpation of the gatekeeper with three fingers. The position of the hand is oblique to the axis of the intestine. **I**-Palpation of the gatekeeper with a "double hand". **K**-Palpation of the great curvature with bent fingers. The arm position is longitudinal to the long axis of curvature. **L** - Palpation of the cecum with four bent fingers. The position of the hand is transverse to the long axis of the intestine. **M** - Palpation of the cecum with three fingers. The position of the hand is oblique to the axis of the intestine. Palpation of the "double hand." **N** - Palpation of the cecum with six fingers. . The position of the hand is oblique to the axis of the intestine. About – palpation of the pars coaecalis ilei and the Appendix "double hand." **P** - is the position of the hand to move the movable cecum upwards. **Q**-palpation of flexurae sigmoidea with four bent fingers. The position of the hand is longitudinal to the axis of the intestine

8.6.1. Intestinal palpation

The order of palpation:

1. Sigmoid colon-palpated in 90-95% of people in the left iliac region for 20-25 sm in the form of a smooth dense cylinder with a thickness of 1.5-2 sm. Palpation is performed with four slightly bent fingers of the right hand, folded together, or the elbow edge of the little finger. The fingers are placed on the border of the middle and outer third of the line connecting the navel and the anterior upper spine of the ilium, parallel to the length of the intestine. Ask the patient to take a breath and at this time shift the skin towards the navel, creating a skin fold. During exhalation, the patient's fingers are immersed in the abdominal cavity and, having reached the posterior abdominal wall, slide along it in the direction of the anterior upper spine of the ilium, rolling over the sigmoid colon. In this case, the thickness, consistency, surface character, soreness, peristalsis, mobility and rumbling of the intestine are determined. Usually it shifts within 3-5 sm, painless, does not rumble.

2. The descending part of the transverse colon. For palpation, bimanual palpation is used. The left hand is placed under the right half of the lower back with the palm surface and directed towards the palpating right hand, which in turn shifts the intestine from the center of the abdomen outwards. Half-bent at the joints and closed fingers of the right hand are set in the left flank along the edge of the rectus abdominis muscle, parallel to the intestine. During inhalation, the patient creates a skin fold (towards the navel), during exhalation (relaxation of the abdominal press), the fingers are immersed in the abdominal cavity to the posterior abdominal wall and, moving from the center to the left edge, roll through the intestine, palpating it.

3. The cecum. Its length is located in the right iliac region from the right from top to bottom and to the left on the border of the middle and outer third of the line connecting the navel and the right upper anterior spine of the ilium. Palpate the cecum with four folded together and half-bent fingers of the right hand. The palpation technique is similar to that of the sigmoid colon. The cecum is palpated in 80-85% of people in the right iliac region in the form of a moderately strained cylinder 2-3 sm thick. Normally, it is displaced within 2-3 sm, painless, rumbling.

4. The ascending part of the transverse colon is palpated by the same method as the descending part.

5. The transverse colon is palpated bimanually. Before palpation of this part of the intestine, it is necessary to determine the boundary of the large curvature of the stomach (see below). After that, the doctor's hands are located on both sides of the midline of the abdomen, parallel to the length of the desired intestine (the intestine sagges in the form of an arc), 2-3 sm below the large curvature of the stomach. During inhalation, a skin fold is formed upwards, towards the stomach. Then gradually immerse the hands in the abdomen during exhalation of the patient and reaching the back wall of the abdomen move down and slightly diverging to the sides, palpate the intestine. The transverse colon is felt as a painless cross-lying arc-shaped cylinder of moderate density,2-2. 5 sm thick. Palpation does not purr.

6. Terminal segment of the ileum. The place of palpation is the border between the outer right and middle thirds of the line connecting the anterior upper awns of the iliac bones. The terminal segment of the ileum at this point has a direction from the inside out and from the bottom up. The fingers of the right hand, slightly bent at the joints, are set in this place parallel to the length of the intestine. A skin fold is created in the direction of the navel. During exhalation, the fingers sink into the abdominal cavity, pressing the terminal segment of the ileum to the posterior abdominal wall, and slide off it. Normally, this segment of the ileum is palpated in 75-85% of people in the form of a smooth, dense, painless, moderately mobile cylinder with a diameter of 1-1.5 sm, rumbling when palpated.

7. Palpation of the appendix. It is rarely palpated (in 1% of people) slightly below the terminal segment of the ileum and parallel to it in the form of a thin, non-rumbling, painless cylinder with a diameter of 1 – 1.5 sm.

8.6.2. Palpation of the stomach

In the supine position of the patient, the folded half-bent fingers of the right hand are placed in the epigastrium, 5 sm below the xiphoid process, parallel to the large curvature of the stomach. The skin fold is created in the direction of the xiphoid process. During the exhalation of the patient, the fingers sink into the abdominal cavity, reaching the back wall, and make a sliding movement from top to bottom. During exhalation, the large curvature of the stomach goes up, and the doctor's fingers, moving down, slide off the duplicate stomach as if from a step. Determine the localization, consistency, surface, shape and soreness. Normally, the

surface of the stomach is smooth, painless. Palpation of the stomach can also be performed in the patient's standing position, which has the advantage of palpation of small curvature, but is technically more difficult.

8.6.2.1. Methods for determining the lower border of the stomach

1. Percussion: with the help of quiet percussion, moving from the navel up, determine the place of transition of high intestinal tympanitis to low stomach tympanitis;

2. Auscultations. The phonendoscope is installed in the projection of the gas bubble of the stomach. With the finger of the free hand, a series of light blows are applied to the anterior abdominal wall from the xiphoid process to the navel. The lower border of the stomach corresponds to the place where the sound of the blow disappears. You can also perform percussion from the bottom (from the navel) up and record the moment when the sound appears, when the percussive finger will be above the stomach.

3. Acculturize. The phonendoscope is installed in the projection of the gas bubble of the stomach, with the finger of the free hand, light stroke touches are applied on the front wall of the abdomen. The lower border of the stomach corresponds to the place where the sound of rustling disappears. As in the previous case, it is possible to stroke the finger from the bottom up, until the sound appears.

4. Succussion (by the sound of splashing): after drinking a glass of water, the patient takes a horizontal position, the doctor with four bent fingers applies light pushes on the front wall of the abdomen, moving to the navel. By the disappearance of the splashing noise, the lower border of the stomach is determined.

5. Deep palpation of the lower border of the stomach according to V. P. Obraztsov and N. D. Strazhesco. The right hand on the exhalation gradually penetrates deep into the abdominal cavity and, if possible, reaches the back wall, then with a sliding movement from top to bottom finds the lower border of the large curvature of the stomach. Large curvature is palpated in 50-60% of cases in the form of a roller lying on the spine and on the sides (10-12 sm) from it. It is usually located 2-3 sm above the navel.

It should be noted that the latter methods can be stressful for the patient, so they are rarely used in practice.

8.6.3. Palpation of the gatekeeper

At a distance of 3 – 4 sm above the navel on the right at right angles to the anterior median line, draw a line. The resulting right angle is divided in half – this is the approximate projection of the gatekeeper. Folded together and slightly bent fingers are set at an angle of 45° to the white line of the abdomen in the projection of the pylorus and on exhalation are immersed in the abdominal cavity to the back wall, and then, sliding to the right and down, palpation is performed. Usually, the pylorus is palpated in 20-25% of people in the form of a dense, painless peristaltic cylinder about 2 sm in diameter.

8.7. DETERMINATION OF PAIN POINTS IN DISEASES OF THE STOMACH

There are ventral and dorsal pain points in diseases of the digestive system. Figure 45 shows some pain points in diseases of the stomach (Figure 45).

1. Epigastric point. It is determined in the epigastric region along the median line in the middle of the distance between the xiphoid process and the navel.

2. Pyloroduodenal point. It is located on the border of the middle and lower third of the straight line connecting the navel and the middle of the right costal arch. It is determined by an ulcer of the pylorus and duodenum.

3. Herbst points. They are located along the spinous processes of the V, VI, and VII thoracic vertebrae. They are detected in high-grade gastric ulcers.

4. Point Openchowski. They are located along the spinous processes from the VIII thoracic to I-II lumbar vertebrae. Their soreness is characteristic of ulcers of the body, the pyloric part of the stomach and the bulb of the duodenum.

5. Boas points. Parallel with the points Openchowski, paravertebral. Soreness at these points on the left is characteristic of an ulcer of the body of the stomach, and on the right-the pylorus and the bulb of the duodenum.

6. Pevsner point. It is located at the intersection of the bisector of the angle formed by the spine and the XII rib with the rectus dorsi muscle on the right. It is detected with an ulcer in the area of the posterior wall of the duodenal bulb.

7. The Point Of Mayo-Robson. It is located on the border of the middle and lower third of the straight line connecting the navel and the middle of the left costal arch. It is determined when the pancreas is affected.

8. Sternberg point. The point is located on the border of the middle and upper third of the straight line connecting the navel with the middle of the left costal arch, or 3-4 sm below the left costal arch along the left parasternal line. It is painful when the lymph nodes of the mesentery root are affected.

9. Porges Point. In bowel diseases, there is pain at this point, located 2 sm to the left and below the navel.

10. The McBurney point is located on the border of the middle and lower third of the straight line drawn from the navel to the middle of the right iliac spine. Painful with appendicitis.

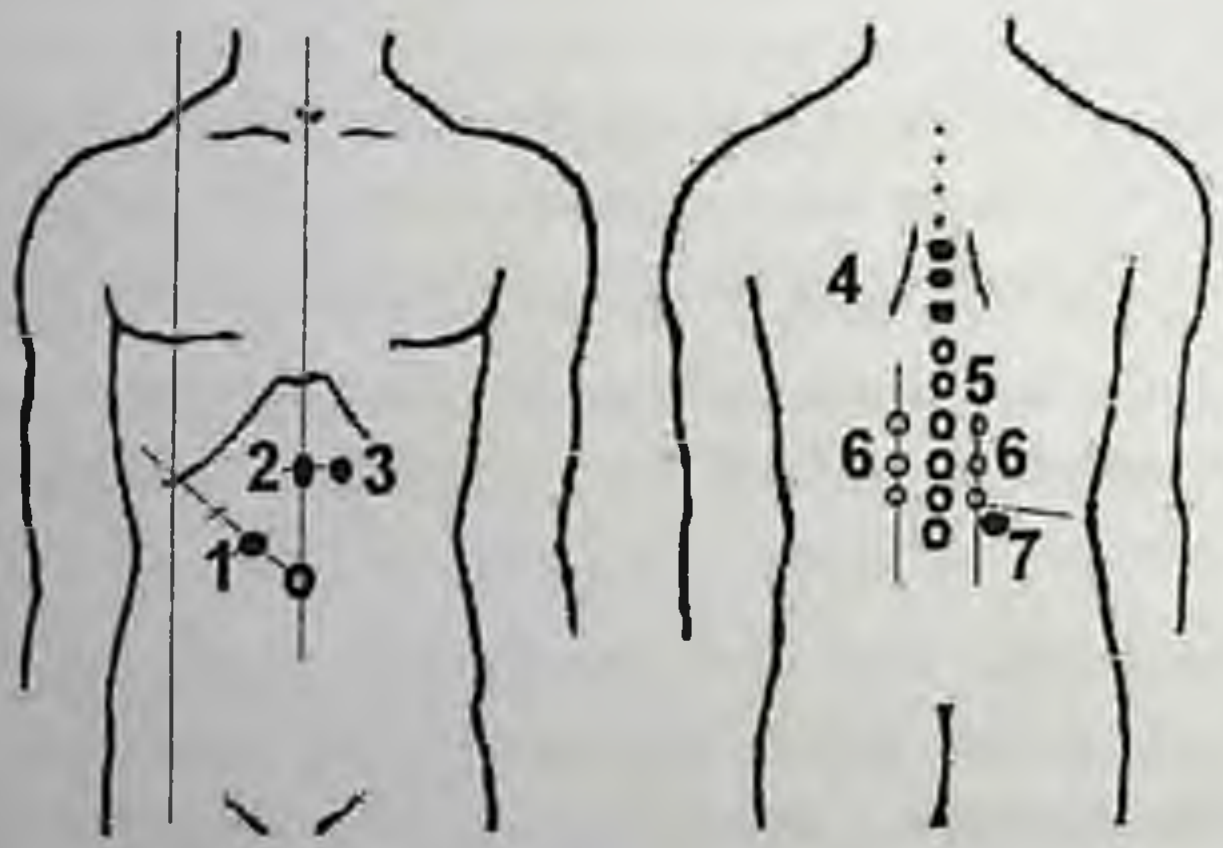

Fig. 45. Pain points in diseases of the stomach:1 pyloroduodenal, 2, 3-epigastric, 4-Gerbst, 5 – Openhovsky, 6-Boas, 7-Pevsner

8.8. The study ofthe pancreas

Palpation of the pancreas in a healthy person is usually impossible. Only in rare thin individuals with a flabby abdominal wall can the pancreas be

palpated. The probability of palpation of the pancreas increases with its tumors and chronic pancreatitis. N. A. Skulsky (1932) recommended for the study of the pancreas to use a push-like "palpatory percussion" with the tips of the slightly bent four fingers of the right hand. A compacted and enlarged pancreas can be identified through the stomach 2-3 sm above the large curvature of the stomach or 4-5 sm above the navel to the left of the anterior median line.

A number of special techniques have been proposed for palpation of the pancreas.

The Grott method has 3 modifications. In the first case, the patient lies on his back with his hands placed under the lower back, which he alternately clenches into a fist. The doctor performs palpation, trying to get the fingers of both hands as deep as possible into the area between the navel and the left hypochondrium. According to the second modification, the patient stands slightly leaning forward and to the left. The doctor stands behind him and with his right hand seeks to penetrate into the abdomen between the navel and the left hypochondrium. According to the third modification of this method, the patient lies on the right side with his knees slightly brought to the stomach. The doctor palpates the abdomen with his right hand between the navel and the left hypochondrium.

The method of Mayo-Robson and mallet-guy. The patient lies on his right side with a torso tilt of up to 45. The patient's right leg is stretched out, and the left is bent at the knee joint and lies on the right leg. The doctor palpates the pancreas with the fingers of the left hand, and with the right hand fixes the left costal arch of the patient as well as with palpation of the spleen by the Sali method.

In diseases of the pancreas, the soreness determined in the Shoffar and Hubergritz – Skulsky zones is of diagnostic importance (Fig. 46). To find the Shoffar zone, divide the upper right corner along the bisector, formed by two mutually perpendicular lines, one of which, horizontal, is drawn through the navel, and the second - the anterior median line. Symmetrical to her left is the area Gubergryts – Skulsky.

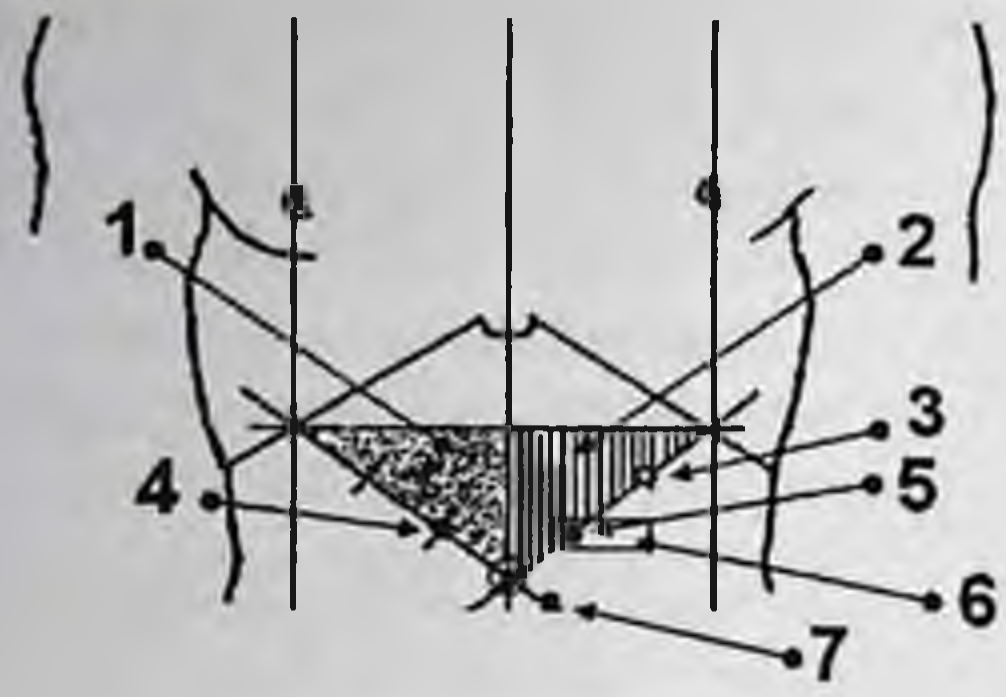

Fig.46. Pain points and pain zones in diseases of the pancreas and intestines: 1-Shoffar zone; 2–M. M. Gubergritz-N. A. Skulsky zone; 3-Sternberg point; 4-Desjardins point; 5-Mayo-Robson point; 6-pancreatic projection; 7-Porges point

When the tail of the pancreas is affected, pain is often determined by palpation at the Mayo – Robson point. A. Ya. Gubergrits and S. A. Tuzhilin proposed their own method for detecting pancreatic pain in its pathology. They suggested that the patient be examined in a standing position. The doctor presses his fingers in the area of the projection of the pancreas, after which the patient must bend down. In this case, the patient feels pain, or the existing pain increases. A similar increase in pain occurs in a patient who is in a supine position, when trying to rise during palpation of the pancreas.

8.9. THE STUDY OF THE LIVER

8.9.1. Percutaneous determination of liver size according to M. G. Kurlov

Percussion (Fig. 47) begins with the determination of the upper edge of the right lobe of the liver (carried out identically to the determination of the lower edge of the lung) along the right midclavicular line (the beginning of percussion is point A). Usually in healthy people, it is at the level of the 6th rib (point B). Through point B, draw a horizontal line until it intersects with the anterior median line (point C). Then, conducting percussion from the bottom up from the mesogastrium (and, if necessary, from the hypogastrium) along the right midclavicular line from intestinal tympanitis

to hepatic dullness, find the lower edge of hepatic dullness (point D). Similarly, percussion is performed along the anterior median line (point E) and along the edge of the left costal arch (point F). The normal size of the liver according to M. G. Kurlov is considered to be: along the right midclavicular line (points BD) 9±1-2 sm, along the anterior median line (points CE) 8±1-2 sm, along the left costal arch (points CF) 7±1-2 sm. After finding the level of the lower edge of the liver, you can start palpating it.

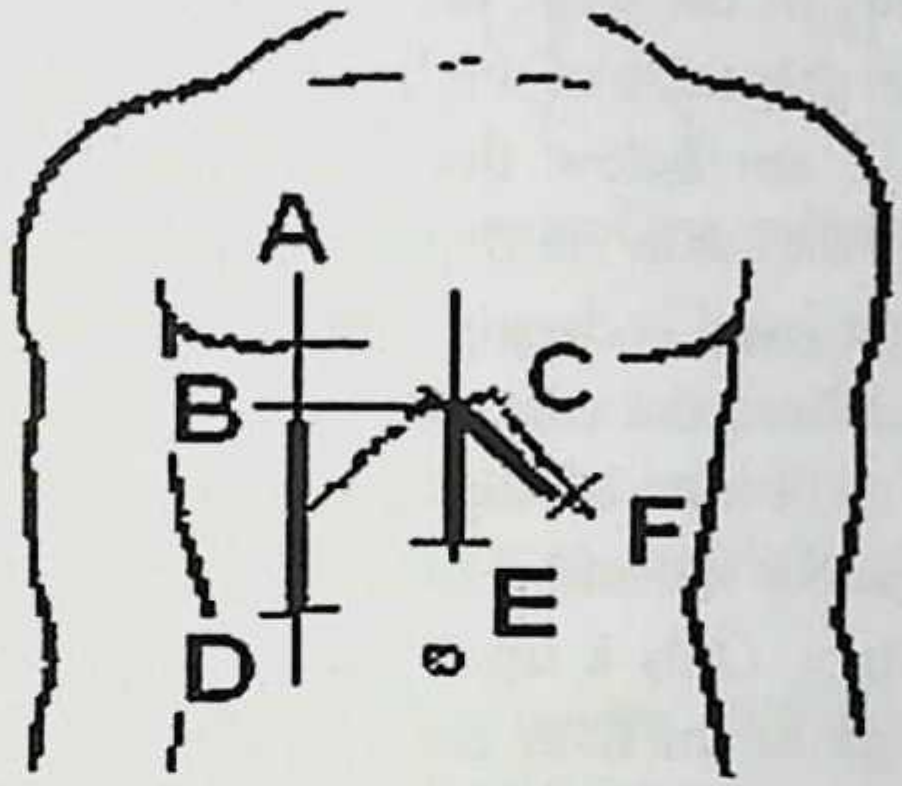

Fig. 47. Determination of the size of the liver according to M. G. Kurlov (explanations in the text)

8.9.2. Palpation of the liver

Fig. 48. Palpation of the liver performed by V. P. Obraztsov

Palpation of the liver is usually performed according to the method of

V. P. Obraztsov (Fig. 48). The liver can be palpated well in both healthy and sick people. During the examination of the liver, the doctor should control the patient's breathing (order to inhale or exhale), since the lower edge of the liver is shifted during breathing by 2-3 sm: on inspiration, the liver descends, leaves the hypochondrium,and on exhalation-rises to the hypochondrium. Palpation of the right lobe of liver left hand limit mobility of the lower ribs to the right, compressing the right costal arch, four fingers of the left hand side of the back, and the thumb of the left hand front and right hand hold the palpation of the liver. The right hand with slightly bent fingers is placed 2 sm below the lower border of the liver found by percussion. Then the skin fold is slightly pulled down and during exhalation, the right hand is deeply immersed under the lower edge of the liver. During inhalation, the edge of the liver slides over the back of the fingers. First, the right lobe is palpated, and then, passing along its edge , the left lobe. Palpatory detection of the lower edge of the liver does not indicate its pathology. Only a significant increase in its size, compaction, soreness of the edge of the liver can indicate the presence of the disease. When palpating the liver, pay attention to the degree of increase in one or another of its lobes, the consistency of the organ, the nature of the surface (smooth, bumpy), the features of the edge (rounded, pointed).

8.10. EXAMINATION OF THE GALLBLADDER

Usually, the gallbladder is not palpated, and becomes available for palpation with its significant increase and tension of the walls. Palpate the gallbladder in the area of its projection, at the intersection of the outer edge of the right rectus abdominis muscle and the costal arch (Mackenzie's point) in the patient's position lying on his back with his arms and legs outstretched. The enlarged gallbladder is palpated as an ovoid formation (Courvoisier's symptom). Much more often, it is not the bladder itself that is determined, but the pain points and symptoms characteristic of the inflammatory process in it.

8.10.1. Pain points in the pathology of the gallbladder

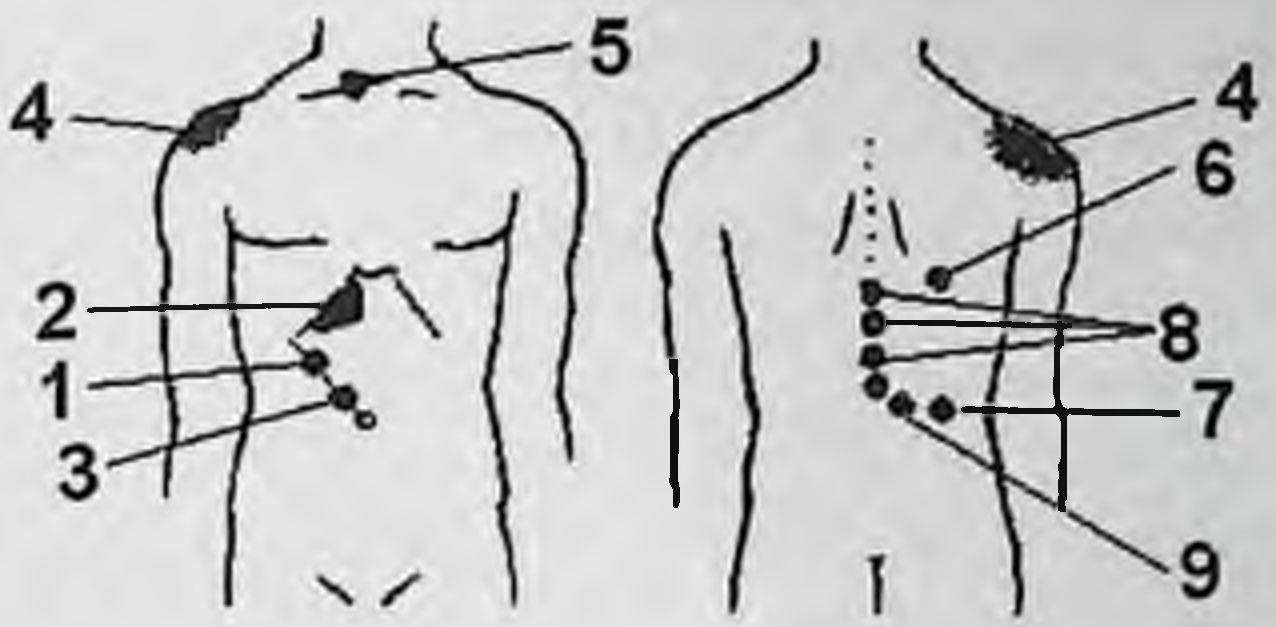

Fig. 49. Pain points in diseases of the gallbladder:

1-cystic point (T. Kera), 2-epigastric zone (including T. mackenzie), 3-choledocho-pancreatic zone, 4-brachial zone, 5-supraclavicular point (point n. frenici), 6-subscapular point, 7 - point at the end of the XII rib, 8-points at the VIII-XI thoracic vertebrae, 9 - point to the right of the XII thoracic vertebra

1. The Kera point is located on the border of the middle and upper third of the straight line connecting the navel and the middle of the right costal arch. Soreness is detected with inflammation of the gallbladder.
2. The mackenzie point is located at the intersection of the outer edge of the right rectus abdominis muscle and the right costal arch (corresponds to the branching in the skin of the branch of the IX thoracic nerve);
3. Zone of hyperalgesia-hyperesthesia of Zakharyin-Ged - a vast area of the right upper quadrant of the abdomen.

8.10.2. Pain symptoms in the pathology of the gallbladder

The symptoms of direct irritation of the gallbladder

* Kera symptom – the appearance of pain and interruption of breathing on inspiration during palpation at the Kera point.

* Lepene symptom-detection of soreness when beating in the projection of the gallbladder with the tip of a bent finger.

* Gausman's symptom. It is determined by beating the abdomen with a bent finger of the doctor in the area of the right hypochondrium at the

height of a deep breath of the patient, who held his breath with a swollen stomach, and then during the maximum exhalation, with the stomach retracted. Pain at the height of inspiration occurs with cholecystitis, and on exhalation - with pathology of the 12-duodenum.

* Murphy's symptom. The patient is sitting. The doctor is behind the patient and slowly inserts the fingers of the right hand into the right hypochondrium as he exhales. Then the patient is asked to take a deep breath. At this point, the gallbladder descends and comes into contact with the doctor's fingers. If the bladder is inflamed, at the time of inhalation, there is a pronounced soreness.

Symptoms of mediated gallbladder irritation

* Ortner-Grekov symptom - the appearance of soreness when beating the edge of the palm along the right costal arch.

* Eisenberg II symptom-the patient is asked to rise on his toes and then quickly fall on his heels and a concussion of the gallbladder causes pain in the right hypochondrium.

Irritative symptoms

* Boas symptom – the appearance of pain in the Boas points when pressing with a finger in the area of the free ends of the right XI and XII ribs

* McKenzie's symptom - pain subjectively and on palpation at the intersection of the outer edge of the right rectus abdominis muscle and the right costal arch (McKenzie's point)

* Eisenberg's symptom I - when tapping with fingers or the edge of the palm below the corner of the right shoulder blade, there is a "through" pain radiating to the gallbladder area and pain at the site of impact.

Segmental (outside the innervation of the gallbladder) symptoms

* Bergman's symptom-pain during palpation at the orbital point of Bergman (above the upper edge of the right eye socket, near the bridge of the nose)

* Mussy's symptom (frenicus-symptom) - pain when pressing on the point of the phrenic nerve between the legs of the sternocleidomastoid muscle on the right.

* Kharitonov's symptom - pain on palpation near the spine at the level of the upper third of the scapula (interscapular) and soreness in the subclavian fossa on the right

8.11. EXAMINATION OF THE SPLEEN

8.11.1. Percussion of the spleen

During the study, the patient lies on his right side (Fig. 32), the left hand bent in elbow, right hand under head, right leg extended, left bent at the knee and hip joints. To find the posterior border of the spleen, the paletsplessimeter is installed along the course of 10 ribs (perpendicular to the rib) on the left between the posterior axillary and scapular lines.

Percussion is carried out along the course of the rib 10 (Fig. 50 A) towards the navel until a blunted sound appears (point A). Point B (anterior border of the spleen) is determined by placing a palecplessimeter on the anterior abdominal wall to the left of the navel at the level of 10 intercostal space and percutaneous towards point A until bluntness appears (point B). The length of the spleen (AB) in healthy people is 6-8 sm (Fig. 50 B).

A B

Fig. 50. A – percussion of the spleen, B-the size of the spleen on the human body

Having determined the length, divide it in half and, percuting perpendicular to the 10 edge, determine the diameter. For this percuteret with 7-8 ribs at a 90° angle to the middle longitudinal axis of the found

top-down (point C), and then bottom-up from level 12 of the rib (point L). The diameter of the spleen (SD) in healthy people is 4-6 sm.

8.11.2. Palpation of the spleen

The patient's position is the same as in percussion (Figure 51). The doctor sits to the right of the patient and puts his left hand on the lower part of the left half of the patient's chest, slightly squeezing it. He places his right hand with slightly bent fingers on the anterior abdominal wall, parallel to the costal arch, opposite the 10th rib. The distance from the fingers to the costal arch depends on the result of percussion of the spleen. If the percussion size is within the normal range, the doctor's fingers are placed 3-4 sm below the costal arch. If an increase in the length of the spleen is determined during percussion, the fingers are placed 3-4 sm below the found pole. When palpating the spleen, the doctor must control the patient's breathing, as well as when palpating the liver. During exhalation, the palpating hand is inserted into the left hypochondrium.

During inhalation, the descending edge of the spleen comes into contact with the palpating fingers. It is considered that with palpatory detection of only the edge of the spleen, its volume is increased by 1.5 times. Palpation of the spleen allows you to assess its lower edge, surface, consistency, shape and soreness.

Fig. 51. Position of the patient and the doctor during palpation of the spleen, The surface of the spleen is usually smooth, dense, with a rounded edge, painless.

8.12. EXAMINATION OF THE RECTUM

Finger examination of the rectum is carried out in the knee-elbow position of the patient after cleaning the intestine with enemas or after the introduction of a drug into the intestine that allows cleaning the lower part of the colon (Microlax). During palpation, the doctor puts on a rubber glove and inserts an index finger smeared with vaseline into the rectum. To facilitate the process of administration, you can ask the patient to slightly strain. After examining the front wall of the intestine with a finger, turn the hand and examine the side and back walls of it. In this case, the doctor makes an impression on the condition of the intestinal mucosa (the presence of tumors, varicose nodes, swelling of the mucosa, scarring, etc.), as well as the condition of the tissues surrounding the rectum.

9. STUDY OF THE URINARY SYSTEM

When examining the patient, pay attention to the color of the skin. In diseases of the urinary organs, paleness of the skin is often noted, which depends on spasm and compression of the edematous fluid of the blood vessels of the skin, and in chronic renal diseases, also from developing anemia.

Kidney pathology is characterized by the development of so-called "renal" edema. They appear, first of all in the area of the eyelids, then spread to the entire face, and subsequently to the entire body with the development of abdominal edema and anasarca. These edemas can be palpated in the area of the zygomatic arches and on the sternum, pressing the skin with subcutaneous tissue to the underlying bone and fixing the appearance of a fossa at the place of pressing. These edemas are soft and mobile on palpation.

To identify the so - called "hidden" edema, water balance determination, dynamic weighing of the patient (in the morning after the toilet, before breakfast) and the McClure-Aldridge blister test are used. When performing this test, the patient is injected intradermally in the area of the palmar side of the forearm with 0.2 milliliters of saline solution with the appearance of a "lemon crust" (blister) at the injection site. The time of its resorption is noticed. The average time of resorption of the blister in healthy people is ~40 minutes. With edema, the hydrophilicity of the tissues increases, and the resorption of the blister occurs in less than 30 minutes. With the development of anasarca, the blister may not even form at all.

It is necessary to conduct thermometry of the patient's body, since many acute or chronic kidney diseases during the acute period occur with an increase in body temperature.

When examining the lumbar region, pay attention to the severity of lumbar lordosis, the symmetry of both sides of the lower back. With purulent disease or with a kidney tumor, muscle tension, swelling and a local increase in temperature in the lumbar region on the affected side can be detected.

9.1. PALPATION OF THE KIDNEYS

Palpatory examination of the kidneys should answer the following questions: whether the organ is palpated at all, what is the location of the organ, its mobility, size, consistency and nature of the surface.

Palpatory examination of the kidneys (Fig. 52) is usually performed when the patient is in a horizontal, vertical position, on the right and left side. Usually, the kidneys are not available for palpation. The kidney is felt only when it is lowered or increased by 1.5-2 times.

Fig. 52. Palpation of the kidneys

Palpation of the kidneys in an upright position of the patient. During the study, the doctor sits on a chair in front of the patient facing him. Palpation is bimanual (with both hands). The doctor's left hand is placed flat on the corresponding lumbar region so that the index finger lies directly under the 12th rib, and the pressure of the hand on the lower back is like feeding the kidney forward. The right palm is located on the corresponding flank of the abdomen, perpendicular to the left hand, 2-5 fingers are slightly bent, directed upwards and lie directly under the costal arch. The patient is asked to take a deep breath, then on the exhalation, palpation is performed, trying to bring both hands closer and grab the kidney between them. If this is successful, the fingers of the right hand slide down, feeling the kidney. At the same time, they form an idea of the consistency of the organ, the nature

of the surface, and soreness. When palpating the kidney, you can make pushes on the lower back with your left hand, while the blow is transmitted to the right hand-such balloting is characteristic of the probing kidney. The advantage of palpation in the standing position is a lower position of the kidney (due to its own weight, the kidney falls to the height of one vertebra, and sometimes more) and a lower standing of the diaphragm, which increases the possibility of palpation of the organ. Disadvantage – in this position, it is difficult for the patient to sufficiently relax the abdominal muscles, which makes palpation difficult.

Palpation of the kidneys in a horizontal position. The patient lies on his back, legs stretched out, breathing calm. The doctor sits at the side of the patient, at the level of his pelvis, facing the patient's face. Palpation is performed bimanually. The doctor brings the left hand with an open palm under the patient's lower back at the level of the XII rib so that the index finger is immediately below the XII rib. The right palm of the doctor is located on the anterior abdominal wall of the patient, outward from the outer edge of the rectus abdominis muscle, with the tips of 4 slightly bent fingers almost touching the costal arch. Palpation is performed perpendicular to the position of the left hand and parallel to the spine. The patient is asked to take deep and slow breaths. With each breathing movement, the doctor's right hand sinks deeper into the abdominal cavity, while his left hand lifts the patient's lumbar region up, bringing the kidney closer to the front and facilitating palpation. With the maximum convergence of the palms, the patient takes a deep breath with his stomach. You need to try to grab the kidney between two approaching palms. With an increase in the size of the kidney or with its omission, it is possible to probe the lower pole of the organ, less often-the entire kidney, determine its size, consistency, and surface character.

When palpating the left kidney, the doctor, without changing his position, holds his left palm along the patient's lower back to the XII rib on the left, and the palpating right palm lies, respectively, outside of the left rectus abdominis muscle.

Palpation of the kidneys in the patient's side position. The patient is placed on the opposite side in relation to the examined kidney, the knees are drawn up to the trunk, the breath is deep, the mouth is open. The doctor,

who is facing the patient, puts his right hand with the palm on the lumbar region, and the left hand on the stomach in the flank area below the costal arch. The patient is asked to breathe deeply, while bringing the palms together, trying to capture the kidney between them.

On the basis of palpation data, it is possible to identify kidney prolapse (nephroptosis) – a pathological condition when the kidney leaves its bed and in the vertical position of the body moves beyond the limits of physiological mobility. Nephroptosis can be fixed and mobile (wandering kidney).

There are 3 degrees of nephroptosis.

1. In the first degree, the lower pole of the kidney is palpated when inhaling, but when exhaling, it goes into the hypochondrium.

2. In the second degree of nephroptosis, the entire kidney leaves the hypochondrium in an upright position of the patient. In a horizontal position, the kidney goes into the hypochondrium.

3. In the third degree, the kidney completely leaves the hypochondrium, shifts to the large or small pelvis.

Palpation is also possible to feel the bladder overflowing with urine, but it is more convenient, in this case, to apply percussion.

9.2. Percussion of the kidneys

Percussion of a normally located kidney is impossible due to the powerful layer of muscle covering it, as well as due to the fact that the density of the kidneys is close to the density of the surrounding airless tissues. But percussion of the bladder is widely used in practice. Percussion of the bladder is more often performed in a standing position and is carried out in the direction from the navel to the pubis along the anterior median line. Alarmlistener is parallel to the pubis, percussion quiet. With an empty bladder, only intestinal tympanitis is heard. With an overflowing, protruding bladder above the pubis, the tympanic sound changes to a dull one. If a change in sound is detected, it is advisable to percute also from the level of the navel along the continuations of the mid-clavicular lines down on both sides. When the bladder is full, the boundary of the percussion sound changes (the appearance of a dull sound) in a standing patient, it will not have a horizontal (as in ascites), but a domed character.

This dullness will not change when the patient's body position changes from vertical to horizontal.

9.3. DETERMINATION OF F. I. PASTERNATSKY'S SYMPTOM

F. I. Pasternatsky to identify the pain syndrome in urolithiasis offered the patient to rise on his toes and push down on his heels. The resulting concussion of the paranephral region was accompanied by the appearance of pain on the side of the kidney lesion. In addition to the detection of pain, F. I. Pasternatsky also described the short-term appearance or increase of erythro-and / or leukocyturia in urolithiasis, pyelonephritis and paranephritis, hydronephrosis and stagnant kidney with concussion of the paranephral region. Pain alone can also occur with neuralgia, lesions of the lower back muscles.

Subsequently, the performance of Pasternatsky's symptom in the clinic was transformed into a simpler symptom of beating - the detection of pain during beating in the lumbar region.

Fig. 53. Pasternatsky's symptom.

9.4. A SIGN OF A BEATING

It is determined in the vertical position of the patient (Fig. 53). With the edge of the palm of the right hand, staccato blows are applied to the back of the palm of the left hand, located on the lumbar region in the projection of the kidney (not directly on the patient's body!). In the case of pain, a positive symptom of beating is indicated.

9.5. AUSCULTATION OF RENAL VESSELS

Auscultation of the renal vessels is performed slightly above the navel to the right and left of it, trying not to press hard with a phonendoscope on the anterior abdominal wall. With narrowing of the renal arteries, you can listen to systolic noise associated with arterial stenosis.

In addition, when kidney disease is accompanied by persistent increase in blood pressure as with hypertension, heart auscultation will be determined by the accent II tone of the aorta, the weakening of sound I on the apex of the heart and can listen and systolic murmur of relative insufficiency of the mitral valve (intermediate noise) hypertrophy and dilatatie left ventricle of the heart.

9.6. PAIN POINTS IN DISEASES OF THE KIDNEYS

When examining patients with kidney diseases, it is necessary to check the presence of pain points:

1. Costal-vertebral (in the corner formed by the XII rib and spine).

2. Costal-lumbar (the intersection of the XII rib and the lumbar muscle).

3. Anterior subcostal (at the anterior edge of the X rib).

4. Upper ureteral (at the outer edge of the rectus abdominis muscle at the intersection with the horizontal line drawn through the navel).

5. Mid-ureteral (the intersection of l. biiliaca with a vertical line passing through the spina osis pubis).

Pain when pressing on the first 3 points is characteristic of kidney pathology, the last 2-in the pathology of the ureter.

Conclusion

This tutorial will help students of the Faculty of Medicine to prepare for practical classes on propaedeutics of internal diseases.

The textbook is an additional source of information and should be used simultaneously with the study of the material of the textbook and the textbook "Propaedeutics of internal diseases".

SECURITY QUESTIONS

1. What is the procedure for general examination of the patient?
2. Name the types of the patient's position.
3. List and describe the types of constitution.
4. What does the study of subcutaneous fat give?
5. How is the condition of the muscles investigated?
6. What is the procedure for studying the respiratory system?
7. What is revealed during the examination of the chest?
8. How to count the frequency of respiratory movements?
9. How is the chest palpation performed?
10. How to detect voice tremor?
11. What types of chest percussion do you know?
12. How is lung auscultation performed?
13. Percussion of the heart-types and techniques of conducting.
14. Auscultation of the heart – the procedure for conducting.
15. What is determined in the study of the pulse?
16. What is the procedure for physical (physical) examination of the abdominal organs?
17. What is the procedure and technique for performing deep, sliding, topographic, methodical palpation according to Obraztsov-Strazhesco?
18. How to conduct a palpation of the intestine?
19. How is gastric palpation performed?
20. List the pain points in the pathology of the stomach
21. List the methods for determining the lower border of the stomach and tell the technique of performing them.
22. How is percutaneous determination of liver size performed according to M. G. Kurlov?

23. Name the pain points in the pathology of the gallbladder.

24. List the pain symptoms in the pathology
of the gallbladder.

25. Conduct a study of the spleen.

26. Palpate the kidneys.

27. How to determine the symptom of F. I. Pasternatsky?

28. How to determine the symptom of beating?

29. How is renal vascular auscultation performed?

30. What are the pain points in diseases of the kidney

TEST QUESTIONS

1. Constant fever occurs:
A. with brucellosis
B. typhoid fever
C.croup pneumonia
D.lymphogranulomatosis
E. b, c

2. A half-bent position with the hands pressed to the epigastric region is characteristic of:
A.for croup pneumonia
B.appendicitis
C.peptic ulcer disease
D.hypertension
E. pleurisy

3. Edema of renal origin:
A. increases in the evening
B. mostlyontheface
C. pale
D.true a, b
E. true b, c

4.Edema of cardiac origin:
A.increases in the evening
B.mostly on the face and pale
C.mostly on the feet
D.true a, B.
E.true b, c

5.Dense with an uneven surface of the lymph nodes are:
A.with tuberculosis
B.malignant neoplasms
C. leukemia
D.pneumonia

6.Wave fever happens:
A.with brucellosis

B. croup pneumonia
C.lymphogranulomatosis
D.true a, b
E.true a, b

7.Cyanosis with a purple tinge on the cheeks, lips, ears and nose occurs:
A. with hypertension
B.for bronchial asthma
C.for septic endocarditis
D.for mitral defects

8. The asthenic type of constitution is characterized by:
A. short neck, arms and legs
B. narrow, flat chest
C.obtuse epigastric angle
D.long neck, arms and legs
E.trueb, d- true a,b

9. When a brain hemorrhage occurs, a coma occurs:
A.hypoglycemic
B.epileptic
C.hyperglycemic
D.apoplexy
E.uremic

10. The hypersthenic type of constitution is characterized by:
A. acute epigastric angle
B.obtuse epigastric angle
C.tendency to hypertension
D.true a, b
E.true b, c

11.Basedova disease is characterized by:
A.puffy face with the presence of mucosal edema
B.goggle and glitter eyes
C.the eye slits are reduced
D.dry skin

12.Myxedema is characterized by:
A.puffy face with the presence of mucosal edema
B.positive symptom of Grefe
C.dry skin
D.true a, b
E.true a, b

13. The position of the patient in a comatose state:
A.active
B. forced lying on the right side
C.passive lying on the back
D.all the answers are wrong

14.Alcoholic coma is characterized by:
A. the face is cyanotic
B.shallow breathing
C.pulse is full, rare
D.true a, b
E.true b, c

15. Apoplexy coma is characterized by:
A.the face is cyanotic
B.the face is purplish-red
C.pulse is full, rare
D.true a, b
E.true b, c

16. Debilitating or hectic fever is characteristic of:
A. sepsis
B.croup pneumonia
C. typhoidfever
D.malaria

17. Mitral defects are characterized by:
A. pale, emaciated face
B.cyanotic blush of cheeks, lips, nose tip

C.limited blush of the cheeks
D."burning eyes»

18. Tuberculosis is characterized by:
A.pale, emaciated face
B.bright eyes
C.limited blush of the cheeks
D.all answers are correct
E.all answers are incorrectы

19.Diabetic (hyperglycemic) coma is characterized by:
A. the smell of acetone from the mouth
B.the smell of ammonia from the mouth
C.soft eye balls
D.true a, b
E.true b, c

20. Uremic coma is characterized by:
A.skin with high humidity (hyperhidrosis)
B.smell of ammonia from the mouth
C.dry skin with combs
D.the face is pale and puffy
E.true b, c, d
F.true a, b

Answers to test questions

1 -E
2 -C
3 -E
4 -D
5–B
6 –E
7 -E
8 -D
9 -E
10-E
11-D
12-E
13-B
14-D
15-D
16-C
17-D
18-E
19-A
20-B

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CONTENT

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INTRODUCTION TO PROPAEDEUTICS OF INTERNAL DISEASES AND THE BASICS OF PHYSICAL EXAMINATION METHODS

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