

PHTHISIOPULMONOLOGY

Terminological dictionary

Minsk BSMU 2022

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ФТИЗИОПУЛЬМОНОЛОГИЯ

RHTHISIOPULMONOLOGY

Терминологический словарь



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На английском языке

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LIST OF ABBREVIATIONS

ACE — Angiotensin-converting enzyme
AVL — Alveolar ventilation of lungs
AV — alveolar volume
APV — artificial pulmonary ventilation
ARB — acid resistance bacterium
ARDS — acute respiratory distress syndrome
ATD — anti-tuberculosis drugs
ATMs — anti-tuberculosis medicines
BACTEC-MGIT 960 — automatic system to bacteriologic diagnostic of TB
BCG — Calmette and Herren's bacilli
BP — blood pressure
BV — breathing volume
CF — mucoviscidosis, cystic fibrosis
CFP10 and ESAT6 — two antigens which present in virulent strains of MBT
CNS — central nervous system
CPH — chronic pulmonary heart
COPD — chronic obstructive pulmonary disease
DC — diffusion capacity
DH — delayed hypersensitivity
DIC — disseminated intravascular blood clotting.
DLC — diffusion lung capacity
DNA — denzoxyribonucleic acid
DOT — Directly Observed Treatment
DOTS — Directly Observed Treatment, Short-course
ETB — extrapulmonary tuberculosis
ERV— expiratory reserve volume
FER — function of external respiration
FiO₂ — fractional concentracion of O₂ in the inhaled gas
FRC — functional residual capacity
HbA1 — glycosylated (glycated) hemoglobin
HR — heart rate
IH — immediate hypersensitivity
IPF — idiopathic pulmonary fibrosis
IRV — inspitatory reserve volume
ILD — interstitial lung diseases
LPA — Line Probe Assay

MBT — mycobacterium tuberculosis
MDR-TB — Multidrug-resistant tuberculosis
MRI — magnetic resonance imaging
NTM — non-tuberculous mycobacteria
PAP — pulmonary alveolar proteinosis
PCO₂ — partial pressure of carbon dioxide in arterial blood
PCR — polymerase chain reaction
PEF — peak exhalation flow
PET — positron emission tomography
PO₂ — partial pressure of oxygen in arterial blood
RF— respiratory failure
RV — residual volume of lung
SpO₂ — peripheral blood oxygen saturation
VC — vital capacity of lung
TB — tuberculosis
TO — thoracic organs
TLC — total lung capacity
TV — tidal volume of lung
TNF-α — tumor necrosis factor-alpha
TPA — Thromboembolism of Pulmonary artery
V_a — volume of alveolar ventilation
VATS — video-assisted thoracoscopic surgeon
WASOG — World Association of Sarcoidosis and other Granulomatous Disorders
XDR-TB — Extensive drug-resistance tuberculosis
Xpert MTB/RIF — is a molecular genetic method for detection and identification MTB

CUTS

Ect. — and so on
f.e. — for example
bpm — beat per minute

A

Abscess is a purulent melting of tissue bounded by inflammatory infiltrate, granulation tissue, and a layer of fibrous fibers. After its emptying, a cavity is formed.

Abscess of a lung is a nucleus of necrosis of pulmonary tissue of non-tuberculosis origin. Lung abscesses are divided into: acute — lasts \leq 6–8 weeks and chronic — lasts $>$ 6–8 weeks.

Acidosis is a condition characterized by an absolute or relative decrease in alkalinity in body fluids relative to acid content (pH \geq 7.35); subcompensated acidosis (pH 7.34–7.25); decompensated acidosis (pH \leq 7.24).

Acidosis metabolic (metabolic acidosis) — occurs with a marked loss of bicarbonates with urine, increased formation, insufficient oxidation or binding of non-volatile acids; sodium, calcium, chlorine, water content is increased in cells, potassium, magnesium, inorganic phosphates, sulfates — outside cells.

Acidosis renal (renal acidosis) is a disorder of oxidative processes in renal tubules with preserved glomerular function.

Acidosis respiratory — decrease of blood pH and increase of blood $\text{PCO}_2 > 40$ mm Hg; occurs during hyperventilation of the lungs.

Acid-resistant mycobacteria (ARM) are microorganisms capable of retaining aniline dye after discoloration with an acid solution, can be detected by microscopy. These include *Mycobacterium tuberculosis* (MBT), as well as non-tuberculosis bacteria (NTM).

Acquired drug resistance — appears in previously treated patients and is the result of inadequate and/or incomplete treatment, resulting in mutations and subsequent selection of the microorganism.

Acrocyanosis — cyanosis of the tip of the nose, ears, hands, feet.

Acute bronchitis — acute inflammatory, often viral disease of mucous membrane (endobronchitis) or whole bronchial wall (panbronchitis) without involvement of lung parenchyma. Acute (2–3 weeks) and lingering ($>$ 1 month) course of the disease; proximal (tracheobronchitis) and distal; according to bronchoscopy: catarrhal, purulent, purulent-necrotic endobronchitis.

Acute respiratory distress syndrome (ARDS, wet lung syndrome) is a polyetiological syndrome with acute onset, severe hypoxemia, unrecoverable by oxygen therapy, due to edema of pulmonary interstitium and alveoli of noncardiac origin (ratio $\text{PaO}_2/\text{FiO}_2$ below 200 mm Hg). Pulmonary surfactant deficiency is the underlying cause. The syndrome can complicate any critical condition; mortality exceeds 50 %.

Adherence to TB treatment — the patient's confidence in the need for TB treatment, fulfillment of doctor's prescriptions and willingness to cooperate with medical employees.

Adjuvant — auxiliary, additional.

Adverse drug reaction — unintentional adverse reaction of the body associated with the use of drugs in the recommended doses.

Adverse event is any untoward medical occurrence in a patient or clinical investigation subject administered a pharmaceutical product and which does not necessarily have a causal relationship with this treatment.

Aerohematic barrier is the alveolar-capillary membrane, which includes the surfactant layer, alveolar epithelium, two basal membranes, blood capillary endothelium, blood plasma, and erythrocyte membrane. Thickness of the aerohematic barrier is about 1 μm , area $\sim 80 \text{ m}^2$.

Agensis of lung (lobe) — congenital absence of a lung (lobe) and corresponding bronchus.

Allergy is hypersensitivity of the body to allergens.

Alpha-antitrypsin deficiency is a genetic glycoprotein defect that leads to the development of pulmonary emphysema.

Alveolar macrophages are cells lining the surface of the alveoli that can capture particles (dust, microbes, etc.) that have got into the alveolar lumen with inhaled air. Detection of alveolar macrophages in sputum indicates that the sputum is from the distal airways.

Alveolar microlithiasis is a rare disease manifested by restrictive pulmonary ventilation disorder, progressive respiratory failure and pulmonary hypertension. The disease is characterized by intra-alveolar deposits of microcrystals of phosphates and carbonates of calcium, magnesium and metals that form small stony grains, clearly visible in plain radiographs.

Alveolar proteinosis (pulmonary alveolar proteinosis, PAP) is a rare disease characterized by accumulation of cell-free lipoprotein Schiff-positive surfactant in the lumen of the alveoli, leading to progressive respiratory failure.

Alveolar ventilation lungs (AVL) is the volume of alveolar ventilation (V_a). It is a part of the respiratory volume (RV) or the minute ventilation volume that is directly involved in gas exchange.

Alveolar volume is a part of respiratory volume air ($\sim 70 \%$) participating in gas exchange.

Alveolitis is a group of diseases characterized by diffuse inflammatory lesions of alveoli and interstitial lung tissue with frequent progression and development of pulmonary fibrosis and respiratory failure (RF).

Alveolocytes are the cells lining the alveoli.

Anaphylactic shock is an acute systemic reaction of sensitized organism to repeated contact with allergen, which develops according to the immediate type of allergic reactions. It is manifested by acute peripheral vasodilatation. It may occur after administration of antibiotics, local anesthetics and other medications, after vaccination, insect bites, contact with latex products (gloves, catheters).

Anaphylactoid reaction is a nonspecific allergic reaction characterized by hypersensitivity to primary parenteral administration of some substances, which in most cases are neither antigen nor hapten.

Anaphylaxis is an acute systemic reaction of a sensitized organism to repeated contact with an allergen, which develops according to type I allergic reactions; it is manifested by peripheral vasodilation caused by released vasoactive substances (histamine, bradykinin, serotonin, etc.).

Anergia on tuberculin — negative reaction to tuberculin. Primary anergy — no reaction to tuberculin in uninfected persons and secondary anergy — no reaction in persons infected with mycobacterium tuberculosis (MBT) are possible. Secondary anergy, in turn, may be positive when biologically cured of tuberculosis infection and negative when severe forms of tuberculosis and other diseases are immunosuppressed by cytostatics, HIV infection, autoimmune diseases (for example, sarcoidosis, etc.).

Anergy — lack of ability to respond to any stimuli, loss of reactivity.

Angioedema (Milton's edema, Quincke's edema, giant urticaria) is a type I hypersensitivity reaction associated with acute and possibly recurrent edema of the skin, subcutaneous tissue and other tissues. It can occur at any part of the body, the usual localization is face (mostly lips, eyelids), limbs, external genitalia. Swelling of the larynx and asphyxia are the most life-threatening.

Angiopulmonography — X-ray examination of the pulmonary artery and its branches after an X-ray contrast substance is injected into them.

Angiotensin-converting enzyme (ACE) is a glycoprotein present mainly in lungs, epithelium of proximal kidney tubules, endothelium of blood vessels and blood plasma. ACE is a marker of respiratory sarcoidosis activity (detected in 85–90 % of patients). Increased ACE levels are observed in acute and chronic bronchitis, pulmonary tuberculosis, occupational pneumoconiosis, and decreased — in COPD.

Aplasia (agenesis) — developmental abnormality in which a part of the body, an organ or its part, a section of any tissue is missing.

Aplasia lung, lobe (aplasia of lung, lobe) — congenital absence of a lung (lobe) in the presence of a rudimentary corresponding bronchus.

Apnea — respiratory arrest caused by lack of physiological stimulation of the respiratory center.

Apoptosis is programmed cell death (degradation of cell components with subsequent phagocytosis by macrophages).

Arrhythmia respiratory — variant of sinus arrhythmia (increase in heart rate during inhalation and decrease in heart rate during exhalation).

Arrhythmia respiratory (variant of sinus arrhythmia) — increase in HR during inhalation and decrease during exhalation.

Arrhythmias cardiac is any deviation from the normal sinus rhythm.

Arterial hypertension (AH) is elevated systolic blood pressure (SBP) from 140 mmHg and above, and simultaneously or independently — diastolic blood pressure (DBP) \geq 90 mmHg.

Arterial hypotension is a symptom reflecting different degrees of decreased blood pressure.

Artificial pneumothorax is a method of treating tuberculosis by injecting air into the pleural cavity to create collapse of the affected lung. It is of predominantly historical significance.

Artificial pulmonary ventilation (APV) is a procedure that provides gas exchange between ambient air (or gas mixture) and lung alveoli in order to maintain normal blood gas composition.

Aspergilloma is a type of visceral mycosis, which consists of the formation of a volumetric mass from the fungus *Aspergillus fumigatus* or *Aspergillus niger* in a sanitized tuberculosis cavern, bronchiectasis or pleural cavity. An important radiologic sign of aspergilloma is the marginal air strip, which over a large area adjoins the mycotic population, which is shaped like a balloon; a clinical symptom is hemoptysis. Aspergilloma diagnosis is confirmed by: sputum microscopy (mycelium of fungus detection), bronchoscopy with tissue samples, galactomannan antigen determination in serum and bronchoalveolar lavage samples.

Aspergillosis allergic bronchopulmonary (aspergillosis of bronchopulmonary, allergic) is a chronic infectious-allergic respiratory disease. Pathogenesis is based on hypersensitivity to fungal antigens, realized mainly by type I and III allergic reactions.

Aspergillosis invasive pulmonary (aspergillosis of bronchopulmonary, invasive) — occurs in immunocompromised patients after massive inhalation of spores of *Aspergillus* spp.

Aspergillosis is a disease caused by fungi of the genus *Aspergillus*.

Asphyxia — progressive suffocation as a result of closing the lumen of the throat, trachea, bronchi with a foreign body, water, swelling, tumor, etc., as well as due

to valve pneumothorax, paralysis of the respiratory muscles, respiratory center lesions, poisoning, altitude sickness. It shows hypoxia, hypercapnia and severe disorders of the nervous system, respiration and circulation.

Asthma is a pathological condition accompanied by disorders of external respiration associated with narrowing of the bronchial lumen, which is manifested by dyspnea/choking attacks. There are bronchial asthma and cardiac asthma according to the causes of its occurrence.

Asthmatic status — severe attack of bronchial asthma, in which bronchodilators are not effective.

Atelectasis compression pulmonary is a pathological condition when there is accumulation of large amount of fluid or air in pleural cavity.

Atelectasis obturation pulmonary is a collapse of the lung when the bronchus is obstructed by a tumor growing endobronchially, less often by viscous bronchial secretion, foreign body, vomit, blood clots, as well as when the bronchus is compressed by a tumor or enlarged lymph nodes.

Atelectasis pulmonary is a pathological condition in which pulmonary alveoli do not contain air, resulting in their walls collapsing. There are: obturation, compression, distensional and mixed atelectasis; according to the distribution there are total, lobe, segmental, lobular, disc-shaped atelectasis.

Atypical pneumonia is a pneumonia caused by atypical microorganisms: legionella, mycoplasma, chlamydia.

B

Bacterioexcreter is a patient with tuberculosis excreting in the external environment isolating *Mycobacterium tuberculosis* (MBT), which is identified by any of the available laboratory methods (smear microscopy, culture or molecular genetic testing).

Bacteriological sputum smear examination to detect mycobacteria is a method of detection and identification of MBT by culture of diagnostic material on nutrient media. Culture testing is the gold standard in diagnostics of tuberculosis and is conducted with the use of solid nutrient medium (Lowenstein-Jensen) and liquid medium Middlebrook 7H9 in the automatic system BACTEC-MGIT 960.

Bacterioscopic examination to detect mycobacteria (microscopy). Method of smear staining by Ziehl-Nielsen are based on acid resistance of mycobacteria, and allow to identify them in the presence of 10,000 or more in 1 ml of sputum.

BCG (Calmette and Herren's bacilli) are weakened living *Mycobacterium Bovis* that are contained in a vaccine for tuberculosis immunization. Named after the initials of the creators of the vaccine (Fr. BCG — *Bacillus Calmette–Gurin*).

Bleeding pulmonary is clinical syndrome characterized by blood flow into the tracheobronchial tree. Depending on the amount of exuded blood distinguish bleeding small (up to 100 ml), medium (up to 500 ml) and large or profuse (over 500 ml).

Bleeding this is any outpouring of blood from a vessel (vessels) into a hollow organ, body cavities or the external environment. Hemorrhage is a diffuse impregnation (imbibation) of a tissue with blood.

Bodyplethysmography (BPG) is a method for studying the function of external respiration by comparing spirometry indicators with indicators of mechanical vibration of the chest during the respiratory cycle. It is the gold standard of external respiratory function testing.

Breath rate (BR) is a number of breaths (inhalation-exhalation cycles) per unit of time (usually a minute). In healthy people, BR is 12–16 per minute.

Breathing is a process ensuring normal metabolism and energy exchange in the body and homeostasis maintenance through obtaining O₂ from the environment and excretion of metabolic products, primarily CO₂, H₂O, etc., in the opposite direction.

Breathing volume (BV) is a volume of air entering the lungs during one breath when breathing is calm (normal 400–800 ml; 15–20 % of the TLC). BV varies depending on tension and level of ventilation. BV in 1 minute at rest (normally 400–800 ml, 12–16 per minute) is 4.5–6 liters.

Broca–Potrieu angioid is a clinical and morphological form of sarcoidosis characterized by a clearly delineated painless red-violet flat infiltrate with telangiectasias on the face (variant skin lesion in sarcoidosis).

Bronchiectatic disease (BED) is an acquired or congenital disease characterized by a chronic suppurative process in irreversibly altered (dilated, deformed) and functionally defective bronchi, mainly in the lower parts of the lungs.

Bronchiolitis is a lesion of the airways with a diameter ≤ 2 mm (bronchioles), often of infectious genesis; it is manifested by expiratory dyspnea and RF.

Bronchitis acute is acute inflammation of the tracheobronchial tree after exposure to infectious, toxic or physical factors for up to a month.

Bronchitis chronic is manifested by cough with sputum for at least three months a year for the past two years, when the exclusion of alternative diseases. The morphological basis is diffuse lesions of the mucosa and deep layers of the bronchial wall.

Bronchitis is an inflammation of the bronchi.

Bronchoalveolar lavage is infusion of fluid into the subsegmental bronchi followed by its removal; it is used for therapeutic and diagnostic purposes.

Normal microscopy of the flush reveals alveolar macrophages, stab neutrophils, lymphocytes, cells of bronchial epithelium.

Bronchoconstriction is a pathological process resulting in decreased lumen of the bronchi and obstructive failure of external respiratory function as a result of bronchospasm, bronchial mucous membrane edema, discrinia.

Bronchography — radiographic examination of the bronchial tree (including bronchi of the 3–5th order) after injection of a contrast agent into its lumen.

Bronchospasm is bronchial obstruction caused by contraction of the smooth muscles of the distal bronchi and bronchioles and can lead to acute RF.

Bronchospirography is a method for studying pulmonary gas exchange by graphic recording of its parameters separately for each lung using a bronchospirograph.

Bulla of lung — air-filled thin-walled cavity of 1 to 10–15 cm and more, located under visceral pleura and limited by perilobular interlayers, often in upper lung regions.

Bullous pulmonary emphysema is a pathological condition caused by multiple local destruction of alveolar septa and formation of air cysts (bullae) > 1 cm in diameter.

C

Cancer of lung is a malignant tumor that develops from the epithelium of the bronchi, bronchial glands or alveoli.

Carcinomatosis is a malignant tumor in the dissemination stage. Formation of pleural carcinomatosis is most typical for pleural mesothelioma, lung cancer, breast cancer, any other tumor that can metastasize to the lungs and pleura.

Caseosis (cottage cheese necrosis) — dry necrosis with products of protein denaturation, which do not undergo hydrolysis for a long time and look like cottage cheese.

Caseous pneumonia — clinical form of acutely progressive secondary tuberculosis, characterized by sharply expressed caseous-necrotic component of tuberculosis inflammation, rapid progression and formation of multiple decay cavities. Caseous pneumonia lethality reaches 50–60 %. Morphological peculiarity is sharp predominance of caseous-necrotic changes over other specific changes in lung tissue.

Cavern is a cavity that appears in the organs of the body at the destruction, necrosis of tissue and the subsequent removal of the dead masses. For example, a cavity in a lung or kidney in tuberculosis.

Cellular lung — formation of air cysts from 2–3 to 10 mm in the lung tissue, which are subpleural and have clearly delineated walls.

Chemoprophylaxis of tuberculosis is a method of specific prevention of tuberculosis through the use of anti-tuberculosis medicines (ATMs) in those at highest risk of developing the disease.

Chemotherapy for tuberculosis (ethiotropic therapy) — treatment of all forms and localizations of tuberculosis with ATMs, which destroy MBT in the patient (bactericidal effect) or inhibit the reproduction of MBT (bacteriostatic effect).

Chronic obstructive pulmonary disease (COPD) is a chronic progressive disease of bronchopulmonary system characterized by airflow limitation, which is not fully reversible and caused by pathological inflammatory response to inhaled particles or gases, and is manifested by obstructive type of FER, diffuse pneumosclerosis and extrapulmonary manifestations: weight loss, myopathy, osteoporosis, depression, erythrocytosis; pulmonary artery branch thrombosis is possible.

Chronic obstructive pulmonary disease, bronchitic phenotype (“blue puffballs”, “blue edema”) — COPD, the predominant manifestations of which are purulent inflammatory processes in the bronchi, accompanied by intoxication, cough, profuse sputum. Bronchial obstruction is significant, pulmonary emphysema is weak. The development of complications and the terminal stage occur at a young age.

Chronic obstructive pulmonary disease, emphysematous phenotype (“pink puffers”) — COPD in which most patients have an asthenic physique, severe shortness of breath and an unproductive cough. In cases of severe pulmonary emphysema a barrel-shaped chest, widened intercostal spaces, bulging of supraclavicular fossae, presence of pulsation of hypertrophied and dilated right ventricle in the area of absolute stupidity of heart and epigastrium (in chronic pulmonary heart), diffuse (warm) cyanosis, swollen neck veins and edema on shins are revealed; expiratory dyspnea (with difficult exhalation) comes to the forefront of symptomatology. Pulmonary emphysema prevails over bronchial obstruction.

Chronic pulmonary heart (CPH) — hypertrophy and dilatation of the right ventricle, occurring secondary to lung diseases with the development of pulmonary hypertension. A distinction is made between acute, subacute, and chronic (compensated and decompensated) pulmonary heart.

Chylothorax — accumulation of chylous (fatty lymph) in the pleural cavity in the case of thoracic duct injury, lymphangiomyomatosis, sometimes in sarcoidosis.

Circle of the first (I) contact in tuberculosis is individuals who have the highest risk of contracting tuberculosis due to prolonged cohabitation in closed spaces with an index patient.

Cirrhotic tuberculosis is a clinical form of chronic tuberculosis, which is formed at the final stage of a long-lasting tuberculosis process in the lung. A characteristic feature is predominance of fibrous changes in the lung and pleura over the characteristic morphological signs of tuberculosis inflammation. It occurs in elderly people with high intensity of apoptosis processes.

Complementary lung (lobe) is a malformation in which an ancillary lung or lobe is formed that has its own bronchi, vessels, and visceral pleura.

Computed tomography (CT) is a method of X-ray examination, which provides an image of the transverse layers of the human body (axial projection).

Contact of tuberculosis (contact person) — any person who has had contact with an index patient with tuberculosis.

Contact with a TB patient, close non-domestic includes non-household contacts who are not members of the household but have shared a confined space with the index TB patient, such as work, training, education, or treatment (apartment, house, dormitory, social care facility, child care facility, health facility) for a long period of 3 months or more before the case was detected.

Contact with a TB patient, household (close household contact) includes contacts in a household (hearth) who: live with the index patient, share a household and breathe the same air as the index patient (in an apartment, house, dormitory, social care facility, child care facility, etc.) around the clock.

Content of oxygen in blood — normally 100 ml of arterial blood contains 19–20 ml of oxygen, 100 ml of venous blood contains 13–15 ml.

Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. The virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe. The radiology images show examples of typical COVID pneumonia in the lungs and the numerous complications the virus causes in the body in multiple organs, including the brain, kidneys, heart, abdomen and vascular system.

Course of chemotherapy for tuberculosis — a long-term continuous combined treatment with using ATMs.

Course of chemotherapy tuberculosis is an individual treatment in which each regime is developed based on the patient's anamnesis of tuberculosis treatment and the results of an individual drug sensitivity test.

Cyanosis is a bluish hue of the skin and/or mucous membranes due to increased amount of reconstituted hemoglobin (more than 50 g/l, while the norm is less than 30 g/l) or venous blood stagnation in the periphery.

Cyanosis peripheral (acrocyanosis) — develops due to venous blood stasis in the periphery; blood oxygenation in the lungs is not impaired; skin is cold, moist.

Cyanosis central (warm cyanosis) — develops with insufficient blood oxygenation in the lungs, increases with physical exertion, appearance of altered forms of hemoglobin (methemoglobin, sulfhemoglobin); manifestation of superior vena cava syndrome.

Cyst acquired is a cavity in the lung formed as a result of infectious destruction (abscess, cavern, decay of a cancerous tumor).

Cyst bronchogenic is a cystic mass filled with mucous fluid, located in the thickness of the lung parenchyma and lined by bronchial epithelium. True (bronchogenic) cysts are a lung malformation associated with impaired embryonic development of one of the small bronchi. They occur in 4–6 % of cases of pulmonary diseases. In most cases the cyst does not communicate with the bronchial tree, but in case of significant increase in size or suppuration its content bursts into the bronchus, and the cyst is partially or completely filled with air.

Cyst is a closed sac, having a distinct envelope and division compared with the nearby tissue.

Cysts congenital of the lung are a defect of small bronchus embryogenesis; a hollow formation that has a connection with the bronchus. Cysts are more often found in upper lobes, located at periphery of lung (subpleural) or centrally, may be solitary or multiple; they manifest as spontaneous (recurrent) pneumothorax and infection; giant cysts impair external respiratory function.

Cytokines are proteins of activated immune system cells that provide intercellular interactions. Cytokines include interferons, interleukins, chemokines, tumor necrosis factors, colony stimulating factors and growth factors.

D

Damuzo line (Sokolov–Ellis–Damuzo line) is an arc-shaped line with the apex on the posterior axillary line; it is the upper border of percussive blunting and shading on the radiograph and is characteristic of pleural effusion.

Dead space of respiratory — part of lung volume that does not participate in gas exchange (volume of airways and volume of nonperfused alveoli, i.e. anatomical and physiological dead space).

Defensins are peptides of immune system active against bacteria, fungi and many enveloped and non-enveloped viruses. Immune cells use defensins to kill bacteria ingested during phagocytosis.

Deficiency of α 1-antitrypsin is hereditary, genetic deficiency leading to primary pulmonary emphysema (10 %), COPD, spontaneous pneumothorax, diffuse liver lesion.

Delayed hypersensitivity is an allergic reaction that develops 6–10 hours or more after exposure to an allergen.

Destruction staphylococcal pulmonary — acute purulent-necrotic inflammation of the lungs with rapid decay and formation of many poorly drained pustules.

Diaskintest (recombinant tuberculosis allergen) is a highly specific intradermal diagnostic test for tuberculosis infection on the basis of recombinant tuberculosis allergen (recombinant protein containing two antigens associated with each other — ESAT6 and CFP10, typical for virulent *M. tuberculosis* and *M. bovis* strains). These antigens are absent in the vaccine strain of *M. bovis* and in nontuberculous mycobacteria. The staging technique and recording of the results is identical to the Mantoux test with 2 TU. Used as a skin test in diagnosing tuberculosis, latent tuberculosis infection.

Died — patient with TB who died before starting treatment or during the course of treatment.

Diffusion capacity of lungs is a efficiency of gas transfer from alveoli to pulmonary capillaries and back. Diffusion capacity (DC) for O₂ depends on: thickening of alveolar-capillary membrane; reduction of alveolar volume (AV) participating in gas exchange; pulmonary blood flow disorders (COPD, erythrocytosis, pulmonary edema).

Directly Observed Treatment, Short-Course (DOTS) is an international tuberculosis control strategy developed by WHO.

Disseminated intravascular coagulation (DIC, consumption coagulopathy, thrombohemorrhagic syndrome) is a pathological process that develops during shock, sepsis, surgery on the lungs, liver, prostate, burns and frostbite, anaphylactic shock, poisonous snake bites, massive hemotransfusion, pregnancy and delivery pathology, malignant processes. It is manifested in two phases: hypercoagulation (consumption of procoagulants and thrombocytes) with the phenomena of intravascular microcoagulation, hypocoagulation (activation of anticoagulants and fibrinolytic system) with the phenomena of evident hemorrhagic syndrome.

Disseminated tuberculosis is a clinical form of tuberculosis, which is the result of hematogenic, lymphatic or lymphatic spread of mycobacteria and formation of multiple tuberculosis foci. Three variants of disseminated tuberculosis are distinguished according to their spread: generalized; with predominant involvement of the lungs; with predominant involvement of other organs.

Dissemination is dissemination of an infectious agent or tumor cells from an isolated focus within an organ or throughout the body through the blood and lymphatic systems (e.g., dissemination of tuberculosis pathogen).

“Draining bronchus” — bronchus associated with a purulent focus (abscess, cavernous cavity).

Drug-resistance is the natural or acquired ability of the pathogen to remain viable when exposed to antibacterial drugs.

Drugs antituberculosis (ATDs) — drugs used for tuberculosis chemotherapy.

Drug-sensitive tuberculosis is a case of tuberculosis with confirmed presence of MBT and established drug sensitivity of clinical isolates to anti-tuberculosis drugs isoniazid, rifampicin, ethambutol, pyrazinamide.

Dyspnea expiratory — dyspnea with difficulty in exhalation.

Dyspnea inspiratory — dyspnea with difficulty in breathing; sign of obstruction at the level of the upper airways or lesion of interstitial tissue of lungs.

Dyspnea is an insufficiency or difficulty of breathing accompanied by unpleasant subjective sensations of shortness of air or difficulty in breathing.

Dyspnea mixed — dyspnea with difficulty in inhaling and exhaling; is observed when the respiratory parts of the lungs are affected.

Dyspnea nocturnal paroxysmal — episodes of dyspnea at night; develops in patients with left ventricular insufficiency and in patients with RF.

E

Edema — excessive accumulation of fluid in the tissue interstitium (without formational elements).

Edema altitude pulmonary is acute pulmonary edema associated with a decrease in barometric pressure.

Edema pulmonary is an acute RF syndrome that develops due to sweating liquid into interstitial tissue (interstitial edema) and alveoli (alveolar edema). It is manifested by inspiration dyspnea, choking, muffled breathing, discharge of frothy, and then pink sputum, cyanosis. Causes: acute left ventricular insufficiency, acute respiratory distress syndrome, etc.

Elastic traction of lung is a force with which stretched lungs tend to collapse (8 mm Hg during inhalation, 4 mm Hg during exhalation), which depends on elastin and collagen fibers, smooth muscle elements of vessels, bronchi and bronchioles, surface tension of liquid film lining the inner surface of alveoli.

Emphysema (lobar pulmonary) is a congenital lung abnormality characterized by emphysematous stretching of the lobe parenchyma or lung segment; usually detected in early childhood.

Emphysema (primary, idiopathic) develops without preceding lung pathology (α1-antitrypsin deficiency and other factors).

Emphysema mediastinal is an air infiltration into mediastinal tissue with possible spread to the upper trunk, neck, face (subcutaneous emphysema).

Emphysema of pulmonary is a pathological expansion of air spaces distal to terminal bronchioles with destruction of alveolar walls; elastic properties of the lungs are reduced, FRS is impaired (decreased VC, increased residual volume, reduced Tiffno index). Primary — congenital, hereditary and secondary, arising against the background of chronic lung diseases (more often COPD) are distinguished.

Emphysema subcutaneous — presence of air in the subcutaneous fatty tissue; on palpation — feeling of crunching (crepitation) under the fingers.

Empyema is a significant accumulation of pus in any body cavity or hollow organ.

Empyema of pleurae is a presence of pus in the pleural cavity; the effusion contains white blood cells (> 25,000/ml, dominated by polymorphonuclear forms), and/or bacterioscopy or culture reveals microorganisms, and/or pH < 7.1.

Eosinophilic granulomatosis with polyangiitis (Churg–Strauss disease) — necrotizing granulomatous inflammation of small and medium vessels with marked eosinophilic infiltration of various organs and tissues, proceeding with high eosinophilia, airway damage and the formation of the picture of asthma.

Eosinophilic pneumonia is a disease in which there is accumulation of eosinophils in the lung alveoli. Clinical picture: cough, fever, shortness of breath and night sweats. Diagnosis is made on the basis of the clinical picture, physical examination, clinical blood count and radiological signs.

Epithelioid-cell granuloma is a morphological substrate of sarcoidosis (compact cluster of mononuclear phagocytes — macrophages and epithelioid cells, with the presence of giant multinucleated Pirogov–Langchans cells, lymphocytes and granulocytes or without them) without caseous necrosis.

Esophageal hernia (diaphragmatic hernia) — movement of part of the stomach into the chest cavity through the esophageal opening of the diaphragm; there is a sliding hernia — movement into the chest of the stomach floor, cardia and the abdominal esophageal segment, paraesophageal hernia — movement into the chest of the stomach floor, but the cardia is fixed under the diaphragm.

Eupnea (eupnea) — normal frequency and depth of breathing at rest, which is accompanied by a sense of comfort.

Evidence-based medicine — using the results of multicenter controlled clinical trials in practical medicine.

Exogenous allergic alveolitis (hypersensitive interstitial pneumonitis) — caused by reactions of the immune system to external (exogenous) antigens (hypersensitivity types III and IV).

Extensive drug-resistance tuberculosis (XDR-TB) — TB caused by Mycobacterium tuberculosis (strains that fulfil the definition of MDR/RR-TB

and that are also resistant to any fluoroquinolone and at least one additional Group A drug (Bdq, Lzd).

Extrapulmonary tuberculosis (ETB) is a case of bacteriologically confirmed or clinically diagnosed tuberculosis in organs other than the lungs (e.g., pleura, lymph nodes, genitourinary tract organs, joints, bones, etc.).

Exudate — fluid in pleural cavities resulting from inflammatory processes; relative density > 1.015 , protein content $> 2.5\%$, positive Rivalt's test, protein to blood ratio > 0.5 and large cytosis (cellular composition).

F

“Farmer’s lung” — diffuse lung disease in people who work with hay or other decaying plants containing fungal flora, acute, subacute or chronic.

Fibrosis pulmonary (pneumofibrosis, pulmonary sclerosis, pneumosclerosis) — develops as a result of a chronic inflammatory or dystrophic process.

Fibrothorax is a formation of connective tissue between the visceral and parietal pleura sheets, sometimes with deposition of calcium salts.

Fibrous cavernous tuberculosis is a clinical form of chronic tuberculosis, which is characterized by the presence of one or more caverns with a well-formed fibrous layer in the walls, as well as pronounced fibrous and polymorphic focal changes in lung tissue. The main radiological sign of a cavern is a closed ring-shaped shadow.

Fistula is a channel lined with granulation tissue or epithelium that connects body cavities (including pathological ones, such as abscesses), as well as hollow organs with the external environment or among themselves.

Fluid of pleural — pathological fluid located in pleural cavities.

Fluid, Lavage — fluid obtained as a result of flushing from the walls of the subsegmental bronchi; used for diagnosis and determination of the causes of lung pathology.

Focal pulmonary tuberculosis is the earliest form of secondary tuberculosis in a person who has been infected with MBT and had a primary period of infection.

Foci of Ashoff–Poole are gradual formation of a fibrous or hyaline capsule around individual tuberculosis foci.

Foci of Simon are compartmentalized foci of primary tuberculosis complex in the apices of the lungs with inclusion of calcium salts.

Function of external respiration (FER) — providing gas exchange between external and internal systems of the body; it is carried out by ventilation (inflow of air into alveoli), diffusion (gas exchange in alveoli), perfusion (inflow of blood to alveoli, gas exchange, blood outflow from alveoli).

Function of external respiration, mixed type disorders — corresponds to the obstructive variant of disorders with decreased VC. This type of disorders is diagnosed on the basis of TLC structure analysis, when signs of obstruction are combined with decreased RV and TLC.

Functional residual capacity (FRC) is the volume remaining in the lungs after a normal, passive exhalation. Normally, FRC is ~ 40–50 % of TLC; ~ 3.0 L.

G

Gamartochondroma (hamartoma, chondroma, benign bronchioma) — malformation of the bronchial tree, usually with a benign course, consisting of elements of the bronchial wall.

Gas exchange is the main function of lungs aimed at ensuring gas exchange between external and internal environment of the body; it includes ventilation, gas diffusion and perfusion.

Gastroesophageal reflux disease is an acid-dependent disease that develops against the background of primary motor dysfunction of the lower esophageal sphincter. Leading symptoms: heartburn, regurgitation, painful and difficult passage of food, pain in epigastric region. Extra-esophageal manifestations: angina-like chest pain and bronchopulmonary symptoms (chronic cough, pneumonia, bronchial asthma, obstructive pulmonary disease, dysphonia, laryngitis).

Glycosylated (glycated) hemoglobin (HbA_{1c}) reflects the average blood sugar content over the last 60 days and is an indicator of compensation for carbohydrate metabolism during this period (the norm is 4.4–6.3 % of the total hemoglobin content).

Gold standard is an optimal combination of diagnostic methods and therapeutic measures to achieve the best results in diagnosis or treatment.

Granulomatosis is a common name for diseases or conditions characterized by the formation of granulomas.

Granulomatosis Wegener's disease (granulomatosis with polyangiitis) is an autoimmune granulomatous inflammation of the vascular walls (vasculitis), involving small and medium blood vessels: capillaries, venules, arterioles and arteries with involvement of the upper respiratory tract, eyes, kidneys, lungs, etc.

H

Hemopneumothorax — there is blood and gas in the pleural cavity; percussion shows a combination of blunt and tympanic sounds, auscultation — varying degrees of weakening of vesicular breathing.

Hemoptysis — presence of blood streaks in sputum or saliva, discharge of separate spits of liquid or partially coagulated blood.

Hemosiderosis — excessive deposition of hemosiderin (product of hemoglobin decay) in tissues of the body. Possible causes of hemosiderosis — increased decay of red blood cells, impaired utilization of this pigment in erythropoiesis, increased absorption in the intestine, impaired metabolism of iron pigments, aceruloplasminemia, overdose of iron drugs.

Hemosiderosis pulmonary (Abrikosov syndrome) — deposition of hemosiderin in lung tissue in patients with severe mitral stenosis or idiopathic hemosiderosis; manifestations: recurrent hemoptysis, pulmonary infiltrates.

Hemothorax — blood accumulation in pleural cavity.

Histiocytosis X (Langerhans-cell histiocytosis) is a disease of unexplained etiology in which pathological immune cells called histiocytes and eosinophils proliferate actively, especially in the lungs and bones, causing scar tissue to form. It is assumed that the disease is based on an immunopathological process that promotes the proliferation of histiocytes.

Hydropneumothorax — presence of fluid and air in pleural cavity; on percussion — combination of blunt and tympanic sounds, on auscultation — various degrees of weakening of vesicular breathing.

Hydrothorax — fluid accumulation in pleural cavity of non-inflammatory origin (transudate; normally up to 10 ml).

Hypercalcemia — increases in blood calcium (normal — 2.0–2.8 mmol/L), indicated in bone lesions (myeloma disease, bone metastases), endocrinopathies, sarcoidosis, contributes to nephrolithiasis.

Hypercapnia — increase in $PCO_2 > 50$ mm Hg (normal ≤ 40 mm Hg) is noted in hypoventilation, lung damage. Clinical manifestations: headaches, drowsiness, coma.

Hyperkalemia — increased potassium content (> 6.5 mEq/L; the norm — 3.5–5 mEq/L) in blood serum; clinical manifestations: muscle weakness, paresthesias, reflex disorder, heart failure and RF.

Hyperpnea — increase in minute volume of breathing (normal — 4.5 l/min), caused by deep and/or frequent breathing, which leads to decreased carbon dioxide tension and increased oxygen tension in blood; detected during physical activity, pulmonary and/or cardiac insufficiency, acidosis, hysteria.

Hyperventilation of lung — increase in air space distal from terminal bronchioles, with destruction of walls of lung alveoli.

Hypoperfusion — insufficient blood supply to organs and tissues.

Hypoventilation is gas exchange in the lungs, which is insufficient to meet the metabolic needs of the body.

Hypoventilation syndrome (subatelectasis) — insufficient ventilation of the lung due to partial obstruction of bronchial patency.

Hypoxia is insufficient supply of oxygen to tissues or violation of its utilization in the process of biological oxidation.

I

Iatrogenics — diseases or complications that arose in a patient as a result of the activities of health care providers.

Idiopathic pulmonary fibrosis (IPF) is a special form of chronic progressive fibrosing interstitial pneumonia of unknown etiology; it occurs mainly in older people, affects only the lungs and is associated with the histological and/or radiological pattern of common interstitial pneumonia. It leads to progressive respiratory and cardiac failure.

Immediate hypersensitivity is an allergic reaction that develops a few minutes after exposure to the allergen (IgE-mediated immune reaction).

Immunodiagnostic of tuberculosis is a method of diagnosing tuberculosis and latent tuberculosis infection by detecting immunological responses to mycobacterium tuberculosis circulating in the body. It combines in vivo tests (administration of tuberculin, recombinant tuberculosis allergen) and in vitro tests (γ -interferon tests).

Incidence of tuberculosis is the number of patients with active tuberculosis detected for the first time during the year per 100,000 population.

Index case of tuberculosis (index patient with tuberculosis) — newly diagnosed or repeated case of tuberculosis in a patient in a specific place of residence or other comparable conditions where there is a risk of TB infection for other people.

Induced sputum is the secretion of the mucosa of the trachea and bronchi obtained after irritant inhalation (usually with a saline solution).

Infarction is an area of an organ or tissue that has undergone necrosis due to a sudden disturbance of its blood supply.

Infarction of lung is a pathological condition caused by the development of ischemia of an area of lung tissue, caused by thrombosis or embolism of pulmonary artery branches (hemorrhagic consolidation of lung parenchyma).

Infection control — a set of measures and technological procedures, thanks to which the transmission of TB is reduced.

Infection rate of mycobacterium tuberculosis is the percentage of people who responded positively to tuberculin to the total number of people examined (excluding people with postvaccination allergies).

Infiltrative pulmonary tuberculosis is a clinical form of secondary tuberculosis, which occurs against the background of specific hypersensitization of lung tissue and significant increase in exudative tissue reaction in the inflammatory zone. Tuberculosis infiltrate is a complex of fresh or old focus with wide zone of perifocal inflammation. Clinical and morphological peculiarity is spreading lung lesion with tendency to rapid progression. Clinical and radiological variants of infiltrates: bronchiolobular, cloudy (segmental, polysegmental), rounded, lobar (lobitis, periscisuritis).

Interstitial lung diseases (ILD, diffuse parenchymatous lung diseases) is a heterogeneous group of diseases and pathological conditions of known and unknown nature characterized by widespread, usually bilateral involvement of respiratory parts of the lungs (alveoli, respiratory bronchioles).

Investigation of tuberculosis contact is the process of identifying previously undiagnosed cases of tuberculosis among persons who have been in contact with an index patient, as well as identifying persons with latent tuberculosis infection so that preventive treatment may be administered to them.

L

Latent tuberculosis infection (LTBI) — state of persistent immune response to Mycobacterium tuberculosis (MBT) antigens that have previously entered the body in the absence of clinical and radiological signs of active tuberculosis.

Lavage — sanitation (lavage) of a tubular organ or cavity.

Lavage bronchial therapeutic — washing of large and small bronchi for therapeutic purposes in various diseases (purulent bronchitis, etc.).

Lavage bronchoalveolar diagnostic — method of obtaining a flush from the surface of small bronchi, bronchioles and alveoli for cytological, microbiological, biochemical and immunological studies.

Legionnaires' disease — severe pneumonia caused by Legionella pneumophila; besides bronchopulmonary syndrome diarrhea, myalgia, headaches, disorientation are possible.

LineProbe Assay (LPA) is a method of mycobacterial identification based on hybridization with linear DNA probes, which allows for detection of MBT DNA and simultaneous determination of resistance to rifampicin, isoniazid, fluoroquinolones and aminoglycosides, i.e. to perform molecular genetic diagnosis of multidrug-resistant and extensively drug resistant TB.

Lobar (lobular) pneumonia — lesion of lobe of lung with involvement of pleura; accompanied by severe intoxication and RF.

Lobar pulmonary emphysema is a congenital lung abnormality characterized by emphysematous stretching of the lobe parenchyma or lung segment; it is usually detected in early childhood.

Locus (spatial boundaries) of TB infection — the place of actual residence (regardless of registration according to documents), place of work, education, upbringing, treatment, rest of the person with diagnosed pulmonary tuberculosis, where there was a possibility of infecting other people.

Locus (temporal boundaries) of TB infection are defined by two time frames: the period of contact with the source of MBT and the duration of the incubation period in contacts (the probability of increased disease in contacts in the locus remains for 1 year after the patient is taken off the epidemiologic register).

Locus of tuberculosis — the situation when two or more cases of active tuberculosis are detected outside the same place of residence of the index patient when epidemiological and/or molecular genetic relationship between strains of MBT that caused the disease is established.

Locus of tuberculous infection or epidemic locus of tuberculosis is a place where a source of MBT (usually a bacteria excretes patient), together with the people and environment around it, resides in the space and time in which infection is possible.

Lost to follow up — patient with TB who did not start treatment or whose treatment was interrupted for 2 consecutive months or more.

Lymphadenopathy — lymph nodes reaction in the form of an increase, a change in shape, structure, possibly painful, adhesion with surrounding tissues.

Lymphangiomyomatosis (LAM) is a rare multisystem disorder that affects women (mainly of reproductive age) and is characterized by progressive cystic destruction of lung tissue and appearance of tumor-like masses (angiomyolipses) of abdominal organs. LAM can be sporadic or develop in patients with tuberous sclerosis (histological changes in these cases are almost identical).

Lymphangitis is a chronic or acute inflammatory lesion of lymphatic vessels, which usually occurs due to purulent inflammatory processes.

M

Magnetic resonance imaging (MRI) is a method for obtaining tomographic medical images for the study of internal organs and tissues using the phenomenon of nuclear magnetic resonance.

Mantoux test is an immunological test to diagnose tuberculosis and latent tuberculosis infection by intradermal injection of tuberculin.

Mantoux test, the “rise of sensitivity to tuberculin” is the transition for the first time in the life of a negative tuberculin test to a positive one or an increase in the papule by 6 mm or more.

Mesadenitis tuberculosis is a lesion of the lymph nodes of the mesentery in abdominal tuberculosis.

Method of microscopy is the fastest and easiest method of detecting and estimating the number of acid-resistant bacteria in native material (most often sputum) or sediment obtained after homogenization and decontamination of diagnostic material.

Miliary tuberculosis is an acute disease with formation of tubercular tubercles in various organs. It develops with hematogenic spread of the pathogen. Severe clinical course with high fever and severe dyspnea is characteristic. Chest X-ray shows small, multiple similar foci resembling millet grains (the first 2–3 days there may be no X-ray changes). The liver and spleen are often enlarged, and there are also changes in the spinal fluid, fundus and CNS.

Molecular genetic diagnosis of TB — detection of MBT by PCR performed with GeneXpert apparatus and method based on hybridization with linear DNA probes (LPA). These methods allow for simultaneous detection of the presence of MBT in the specimen under study and determination of MBT drug sensitivity.

Monitoring of bacterial excretion — monitoring of the results of bacterial excretion of the patient with the established frequency of analysis in order to determine sputum negativation, establish the date of abacillation or ineffective treatment. Monitoring of bacterial excretion is a method of evaluating the effectiveness of treatment for all categories of patients.

Monoresistance to ATMs is a resistance to only one of the ATMs (H, R, Z, E).

Mortality of tuberculosis is the number of people who died of tuberculosis during the year per 100,000 population.

Mucociliary clearance is a physiological mechanism that ensures cleanliness of the tracheobronchial tree (mucus formation, function of the atomizing epithelium, local humoral and cellular protection).

Mucoviscidosis (CF, cystic fibrosis) is a systemic hereditary disease caused by a mutation in the gene for the transmembrane regulator of mucoviscidosis (the protein responsible for the transport of chlorine ions in cells) and characterized by lesions of the external secretion glands and severe respiratory dysfunction. The type of inheritance is autosomal recessive; it manifests itself by dysfunction of all exocrine glands (bronchial tree, gastrointestinal tract, sex glands).

Multidrug-resistant tuberculosis pathogen (MDR-TB) is resistance of the tuberculosis pathogen to at least isoniazid and rifampicin at the same time.

Mycobacteriosis of the lung is a lung disease caused by atypical mycobacteria.

Mycosis is a common name for inflammatory diseases caused by parasitic fungi (actinomycosis, aspergillosis, histoplasmosis, candidomycosis, etc.).

N

Night apnea — cessation of pulmonary ventilation during sleep for more than 10 seconds.

Noise extracardiac — pericardial friction noise, pleurocardiac noise;

Noise of pleural friction is caused by friction of pathologically changed pleural sheets (fibrin deposition in dry pleurisy, cancer metastases, scars, etc.) or their excessive dryness; it is heard in both respiratory phases.

Noises additional respiratory — rales, crepitation, pleural friction noise, pleuropericardial noise, etc.

Non-tuberculous mycobacteria (NTM) are opportunistic and non-pathogenic mycobacteria.

Not Evaluated — patient for whom **no treatment outcome was assigned***.

(*This includes cases “transferred out” to another treatment unit and those whose treatment outcome is unknown; however, it excludes those lost to follow-up).

O

Obstruction (bronchial) — clinical syndrome, which is a form of RF resulting from impaired patency of the bronchial tree, leading to inadequate pulmonary ventilation and difficulty in mucus emission from the bronchi.

Obstructive type of respiratory failure — airway obstruction as a result of increased tone of smooth muscles of the lower airways, hypertrophy or swelling of mucous membranes, accumulation of mucus, purulent discharge, in the presence of a tumor or foreign body.

Obturation (obstruction and occlusion) — blockage of a hollow anatomical formation (blood vessel, bile duct, ureter, bronchus, intestine, etc.) with violation of its patency both due to pathology within the hollow organ and due to compression from the outside (f.e., tumor).

Ornithiasis is an acute infectious disease caused by the intracellular microorganism *Chlamydothrix psittaci*. It is manifested by general intoxication, lung and CNS involvement, enlargement of liver and spleen. Domestic and wild birds are reservoirs of the pathogen and sources of infection.

Orthostatic hypotension — decrease of BP by 20 mmHg, BP by 10 mmHg during verticalization; manifestations: dizziness, darkening of eyes, syncope.

Orthostatic reflex — increase in heart rate by 8–12 beats/min when the patient moving to a vertical position.

Osteoarthropathy Pulmonary hypertrophic — the presence of “drumstick” syndrome, bone and periosteum lesions, bone pain syndrome in chronic lung diseases.

Oxyhemometry — determining the degree of arterial blood oxygen saturation in the lungs, i.e. determining the efficiency of external respiration.

P

Partial pressure of gas in blood is the pressure that a gas in a gas mixture would have if it alone occupied a volume equal to the volume of the mixture at the same temperature. Partial pressure of CO₂ (pCO₂) in blood in men — 4.7–6.0 kPa, in women — 4.3–5.7 kPa, partial pressure of O₂ (PO₂) is 10.2–13.1 kPa.

Peak exhalation flow (PEF) is the maximum volume of air that a patient is able to exhale per unit time after maximal possible inhalation; expressed in l/min; normally > 80 % of proper.

Perfusion is the passage of fluid through the circulatory or lymphatic system to an organ or tissue, usually referring to the delivery of blood to a capillary bed in a tissue.

Periscessuritis is a limited inflammatory process located along the interlobular slits, occupying the marginal parts of the lobes.

Platypnea is difficulty breathing when standing or sitting and decreases in the horizontal position in patients with liver disease, intrapulmonary shunts, or abdominal muscle weakness.

Pleural effusion — abnormal accumulation of fluid in pleural cavity (normal — up to 10–30 ml).

Pleurisy — inflammation of pleural leaflets with formation of fibrin on their surface (fibrinous) or exudate accumulation in pleural cavity (exudative).

Pleurodesis — pleuritis artificially created by chemical or mechanical action to obliterate the pleural cavity in order to prevent recurrence of pleural effusion or pneumothorax.

Pleuropericardial noise — appears when part of pleura adjacent to the heart is affected, associated with heart work and breathing; unlike pericardial friction noise increases when breathing in, but sharply decreases or disappears when exhaling and breath-holding.

Plugs of Detrich’s — presence of fragments of lung tissue, yellowish-gray lumps with an unpleasant odor in the sputum; detected in lung destruction; contain detritus, bacteria, fatty acids, fat droplets.

Pneumoconioses are occupational diseases caused by the reaction of pulmonary tissue to dust contamination, which occurs when inhaling air with dust particles.

Pneumocystic pneumonia is a pneumonia caused by the yeast-like fungus *Pneumocystis jirovecii*. Most often it is found in people with a weakened immune system (taking immunosuppressive medications, radiation therapy, exhaustion, HIV infection). *Pneumocystis pneumonia* occurs in 70 % of HIV-infected people.

Pneumocystosis is a widespread opportunistic infection caused by extracellular parasitic yeast-like fungus *Pneumocystis jirovecii*, which has a pronounced tropism to lung tissue, affecting first- and second-order pneumocytes.

Pneumonia common interstitial is a histological pattern, the main features of which are fibroblastic foci, interstitial chronic inflammation, fibrosis with “honeycomb” formation.

Pneumonia community-acquired — acute illness, which occurred out-of-hospital conditions or later than 4 weeks after hospital discharge or diagnosed within the first 48 hours of admission, accompanied by symptoms of lower respiratory tract infection (fever, cough, sputum discharge, often purulent, chest pain, shortness of breath) and radiological signs of “fresh” focal infiltrative pulmonary changes in the absence of obvious diagnostic alternatives.

Pneumonia discordant common interstitial is a form of common interstitial pneumonia in which different patterns of idiopathic interstitial pneumonia, most commonly common and nonspecific interstitial pneumonia, are found in different parts of the lung tissue. Prognosis is less favorable than in nonspecific interstitial pneumonia.

Pneumonia focal (bronchopneumonia, segmental) — development of infectious inflammatory process in lung parenchyma and corresponding bronchi.

Pneumonia is a group of acute infectious (mainly bacterial) diseases different in etiology, pathogenesis, morphological characteristics, characterized by focal lesion of respiratory lungs with obligatory presence of intraalveolar exudation.

Pneumonitis (pulmonitis) — inflammation of the lung tissue of non-infectious genesis.

Pneumoperitoneum is abnormal presence of air or other gas in the abdominal cavity, a potential space inside the abdominal cavity.

Pneumosclerosis (widespread or limited) — overgrowth of connective tissue in the lungs due to various pathological processes.

Pneumotachometry is a method of measuring the volumetric flow rate of inhaled and exhaled air. Normal volumetric flow rate of respiratory and exhaled air during quiet breathing — 300–500 ml/s, during forced breathing — 5–7 l/s.

Pneumothorax — air accumulation in pleural cavity.

Pneumothorax closed — pneumothorax, in which there is a single entry of a small amount of air into the pleural cavity, after which its volume no longer changes; the communication between the pleural cavity and alveolar space is closed; manifestations — the lung is partially collapsed, mediastinal organs are not displaced.

Pneumothorax iatrogenic — pneumothorax developed as a complication of medical manipulations.

Pneumothorax open — pneumothorax with a communication between the pleural cavity and the alveolar space, which persists during inhalation and exhalation; manifestations — the lung shrinks, the mediastinal organs do not move.

Pneumothorax recurrent — repeated spontaneous pneumothorax, which develops in patients with the presence of several bullae.

Pneumothorax spontaneous is a pathological condition characterized by sudden violation of the integrity of the visceral pleura and air inflow from the pulmonary tissue into the pleural cavity; it is accompanied by acute chest pain, shortness of breath, tachycardia, pallor of the skin, acrocyanosis, subcutaneous emphysema, and patient's urge to take a forced position; it is not associated with trauma or iatrogenic therapeutic and diagnostic interventions.

Polycystic is the presence of numerous thin-walled cysts filled with clear fluid in the parenchymatous organs.

Polycystic lung disease (cystic hypoplasia) is a malformation caused by antenatal underdevelopment of pulmonary parenchyma, vessels and bronchial tree with formation of multiple cavities (cysts) distal to the subsegmental bronchi.

Polymerase chain reaction (PCR) is a modern method of diagnosis that allows detecting DNA of specific infectious agent in the presence of DNA of other microorganisms and host organism as well as genotyping. Specific selection of reaction components (primers) allows simultaneous detection of DNA of closely related microorganisms.

Polyresistance — resistance to more than one ATMs, excluding multidrug resistance.

Positron emission tomography (PET) is a functional imaging technique that uses radioactive substances known as radiotracers to visualize and measure changes in metabolic processes and other physiological processes, including blood flow, regional chemistry, and absorption.

Pressure Oncotic — pressure in the vascular bed due to water retention by plasma proteins.

Pressure Osmotic — pressure in the vascular bed due to water retention by plasma salts.

Primary pulmonary hypertension (Aers disease) is an obliteration of the middle and small pulmonary vessels of unknown etiology, leading to pulmonary hypertension and formation of pulmonary heart.

Primary TB develops is a result of first infiltration of MBT into the human body (infection) when the human immune system fails.

Primary tuberculosis complex is a clinical form of primary tuberculosis, in which there are three components of specific lesion: primary affect with perifocal reaction, tuberculosis of regional lymph node (lymphadenitis) and tuberculous lymphangitis zone connecting them.

Proper Lung Vital Capacity (VCL) — individual normal VCL;

Proteins acute-phase are the proteins whose concentration in blood serum increases with the development of the acute phase of inflammation in the body; they include: C-reactive protein (normal — up to 0.5 mg/l), fibrinogen (normal — 200–400 mg/dl), seromuroid (normal — 0.22–0.28 g/l), ect.

Pseudochylous (chylous-like) exudate — a dirty, milky exudate, which, like chylous, is due to the presence of decayed degenerated cells in it. There is much less fat in it than in chylous exudates, and in microscopy it usually looks like larger fat globules. It is observed in chronic inflammation in pleural cavities in tuberculosis, syphilis and malignant neoplasms of pleura.

Pulmonary cyanosis — central, diffuse, warm — is a consequence of mismatch between ventilation and perfusion in the lungs; peripheral blood flow is not impaired — patient's hands are warm.

Pulmonary heart disease (cor pulmonale) is the enlargement and failure of the right ventricle of the heart as a response to increased vascular resistance or high blood pressure in the lungs.

Pulmonary pattern pathology syndrome is changes pulmonary pattern from the norm.

Types:

- 1) strengthening and enrichment of pulmonary pattern;
- 2) impoverishment of pulmonary pattern;
- 3) weakening of the pattern;
- 4) pattern reformation.

Pulse oximetry is the non-invasive method for determining the degree of blood oxygen saturation. The method is based on a spectrophotometric method for determining blood oxygen saturation.

Pyopneumothorax is a complication of pneumothorax, in which exudate is formed in pleural cavity, then it becomes infected with nonspecific microflora,

and thus pneumothorax is joined with purulent pleurisy. It is seen in patients with active tuberculosis, cancer, mycosis, lung abscess or gangrene.

Pyothorax acute — inflammation of the pleura with accumulation of pus in the pleural cavity lasting ≤ 2 months.

Pyothorax chronic — inflammation of the pleura with accumulation of pus in the pleural cavity lasting >2 months.

Pyothorax is an accumulation of pus in the pleural cavity.

Q

Quantiferon (γ -interferon) test — highly sensitive test for tuberculosis infection (in vitro), based on the determination of serum levels of specific interferon γ .

R

Regulation pulmonary ventilation — ensuring the consistency of alveolar air composition and compliance with its metabolic needs.

Regurgitation is the rapid movement of liquids or gases in a direction opposite to the normal one, which has arisen in a hollow muscular organ as a result of contraction of its wall.

Relapse of tuberculosis is a case in whom the previous course of treatment was successfully completed or cured and then a second case of tuberculosis was registered.

Relaxation — removal of psycho-emotional tension and/or relaxation of skeletal muscles.

Relaxation diaphragm — relaxation and high positioning of the diaphragm dome with protrusion of nearby organs into the chest.

Remission is a period of temporary improvement of the patient's condition in a chronic disease.

Restitution — restoration of activity of reversibly affected structures, organs and tissues.

Retention bronchial cysts — dilated bronchi distal to their narrowing or obliteration, filled with air or mucus.

Ring-shaped shadow syndrome is a radiological syndrome of a closed ring in the pulmonary field. The anatomical basis of this syndrome is cavities in lung tissue (cavernous or fibrous cavernous tuberculosis, pulmonary abscess, polycystic disease, cyst, decayed peripheral lung cancer, etc.).

Risk factors of tuberculosis, biomedical — children under 5 years of age; period of primary infection with a tuberculin reaction rise; presence of hyperergic tuberculin sensitivity; presence of HIV infection; long-term use of glucocorticosteroids, cytostatics, drugs with anti-TNF- α -effects, presence of diabetes mellitus, COPD.

Risk factors of tuberculosis, social — alcoholism of source of infection or contact; drug addiction of source of infection or contact; social disadaptation (homeless people, people in penitentiary institutions), migrants.

Risk factors of tuberculosis, epidemic — contact with an index patient in whom bacterial excretion was detected by smear microscopy (ARB+, massive bacterioexcrete); presence of MDR/XDR-TB; lack of treatment of patient for a long period of time; contact with deceased from TB.

Rounded shadow syndrome in the pulmonary field is a rounded or oval shaped shadow more than 10 mm in diameter. The anatomic basis of the rounded shadow is usually an inflammatory infiltrate (pneumonia, infiltrative tuberculosis, tuberculoma), tumor (benign or malignant) or cavity filled with liquid content.

S

Salty kissing syndrome — when kissing a child, a salty taste is felt, characteristic of cystic fibrosis.

Sanogenesis is a complex of protective and adaptive mechanisms aimed to restore the disturbed self-regulation of the body.

Sarcoidosis is a systemic disease of unknown nature, characterized by the formation of noncaseating granulomas, multisystemic lesions and activation of T-cells in the site of granulomatous inflammation with release of various chemokines and cytokines, including tumor necrosis factor- α (TNF- α). The lungs, skin, lymph nodes, liver, spleen, eyes, finger phalanges, and parotid glands are affected more frequently. Granulomas consist of epithelioid cells without caseous necrosis.

Sarcoidosis plaques are painless, clearly delineated elevated areas of scarlet-blue skin thickening in the periphery and atrophic, paler in the center; they usually localize symmetrically on the skin of the trunk, buttocks, limbs, and face. Plaques are one of systemic manifestations of chronic sarcoidosis.

Sarcoids Darier–Russi are subcutaneous masses characteristic of sarcoidosis.

Saturation is the proportion of oxygenated hemoglobin relative to total hemoglobin in the blood. For the arterial blood normal oxygen saturation is 95–100 %, for the venous blood — 75 %.

Sequestration pulmonary is a rare malformation caused by combined abnormal development of all lung structures, in which the affected area of lung tissue (representing a cyst or group of cysts) has no connection to the normal bronchial system of the lung and receives blood supply from the arteries of the great circle of circulation, departing from the aorta or its branches.

Serious adverse event (SAE) is any untoward medical occurrence that at any dose: i) results in death or ii) is life-threatening or iii) requires inpatient hospitalization or results in prolongation of existing hospitalization or iv) result in persistent or significant disability/incapacity or v) results in a congenital anomaly / birth defect or vi) is a medically important event or reaction.

Siderophages — alveolar macrophages containing hemoglobin derivatives; found in sputum in decompensated cardiac defects (mitral stenosis, etc.).

Silicosis is an occupational disease observed in workers of mining and metallurgical industries who have contact with silicon compounds.

Six-minute step test is a test to determine exercise tolerance (the distance walked by a patient in 6 minutes).

Social prevention of tuberculosis — way of preventing tuberculosis, which regulates the organization and widespread implementation of a set of health measures that help to prevent not only tuberculosis, but also many other diseases. These measures are universal and non-specific, but their importance in preventing tuberculosis is particularly great.

Specific prevention of tuberculosis is aimed at increasing resistance to the tuberculosis pathogen, i.e. it is mainly focused on the person who is exposed to the aggression of MBT. The main method is immunization with TB vaccines for young children (BCG).

Sputum negativity (sputum conversion) — negative result microscopic examination of sputum (or) microbiological sputum tests for MBT in patients who previously had positive results, performed at intervals of 30 days. The date of negativity is the date of collection of the first a sample with a negative result.

Staining smear according to Ziehl–Nielsen is a technique for staining smears to determine mycobacteria, based on the property of acid resistance. The smear is stained with fuchsin when heated, then decolorized with hydrochloric acid alcohol and stained with methylene blue. As a result, mycobacteria are stained crimson and do not lose this coloring after exposure to hydrochloric acid, and the background is blue. Microscopic examination of sputum smears stained by the Ziehl–Nielsen method is capable of detecting ARB in amounts of 10,000 or more in 1 ml of sputum, therefore the detection of ARB in smears is indicative of a significant epidemic hazard to a patient.

Superfluous lobe of the lung — area of aerated parenchyma separated from the main mass of the lung as a result of abnormal formation of interlobular furrows and location of large vessels.

Symptom — one of the manifestations of a disease, injury or maiming (deviation of a parameter from normal values due to a pathological process).

Frosted glass symptom is a phenomenon in computed tomography, characteristic of active sarcoidosis and many other interstitial lung diseases, characterized by a moderately pronounced increase in the density of lung tissue, against which lumen and bronchial walls, intralung vessels, as well as foci and reticular changes are seen. Morphological substrate is a set of tiny foci, indistinguishable as independent entities. In rarer cases, true “frosted glass” as a manifestation of diffuse thickening of the interalveolar septa due to alveolitis is detected.

Ortner’s symptom is 1) tapping pain on the right rib cusp; sign of liver and/or gallbladder involvement; 2) hoarseness of voice with enlargement of the left atrium or pulmonary artery trunk bulging; 3) unilateral venous congestion in the neck with Zenker diverticulum in the pharyngeal-esophageal area.

Eggshell symptom is a calcification of intrathoracic lymph nodes detected in silicotuberculosis.

Syndrome — set of symptoms with common pathogenesis.

Bronchoobstructive syndrome — temporary or permanent impairment of bronchial patency.

“Bald bronchus” syndrome — sharp decrease in the number of ciliated cells with impaired function of the atomizing epithelium in patients with chronic bronchitis or COPD.

Cartagener’s syndrome is characterized by transposition of internal organs (heart on the right, liver on the left, etc.), abnormality of mucociliary clearance (immobility of cilia), chronic bronchitis with bronchiectasis, chronic rhinosinusitis, chronic otitis media, male sterility (genital hypoplasia).

Dressler’s syndrome is a combination of pericarditis, pulmonitis, pleurisy, eosinophilia, fever; it develops 2–3 weeks after myocardial infarction, surgical interventions or blunt trauma of the heart; it is caused by sensitization of the body to destructively changed myocardial proteins.

Goodpasture’s syndrome is systemic capillaritis with predominant involvement of the alveoli of the lungs and basal membranes of the glomerular apparatus of the kidneys. Clinical manifestations: hemorrhagic pneumonitis (repeated pulmonary bleeding, RF) and rapidly progressing glomerulonephritis with macrohematuria as a result of formation of autoantibodies to the basal membrane of glomeruli and lung alveoli.

Heerfordt–Waldenström syndrome (uveoparotid fever) is a combination of fever, enlargement of parotid lymph nodes, and anterior uveitis, often combined with paralysis of the facial nerve (Bell's palsy). It is characteristic of sarcoidosis.

Hyperventilation syndrome — dizziness with possible loss of consciousness and convulsions in healthy people during forced breathing.

Immobile cilia syndrome (Primary Ciliary Dyskinesia, Immotile Cilia Syndrome, Kartagener Syndrome) — this is a genetically determined disease, which is based on a defect in the ultrastructures of the cilia of the ciliated epithelium, leading to a violation of their motor function.

Lefgren's syndrome is a combination of intrathoracic lymphadenopathy, erythema nodosum (usually on the shins) and acute arthritis — a typical variant of the acute course of sarcoidosis.

Lyell's syndrome is a sudden development of necrosis of mucous membranes and superficial skin areas with formation of large blisters, which spontaneously open (erythema drug manifestation).

Mediastinal syndrome — syndrome of mediastinal organs compression by volumetric process.

Middle lobe syndrome is a radiological syndrome arising from obstruction of the lobe bronchus of the middle lobe of the right lung, manifested by a reduction and thickening of the middle lobe shadow.

Pulmonary infiltration syndrome is accumulation of biological fluids and cellular elements in the lung tissue; it is observed during inflammation; the diagnosis is based on clinical and radiological manifestations.

Pancosta syndrome — develops in cancer of the apical segment of the lung. The tumor can squeeze the nearest vessels and nerves or grow into them. Clinical manifestations: Gorner syndrome (miosis, ptosis, enophthalmos), pain and weakness of the upper extremity, hoarseness of voice or rough cough.

Pleural syndrome is a set of symptoms of pleural damage: pain, heaviness, forced position of the patient, asymmetry of the chest, especially during breathing, pleural friction noise, marked shortening of percussion sound; with large amounts of fluid — pulmonary and heart failure.

Pleural fluid accumulation syndrome — accumulation of fluid in the pleural cavity.

T

Test of Genchy — ability to hold breath on exhalation. Before the test, the subject's pulse is counted twice for 30 seconds while standing. Breath is held for a full exhalation, which the subject makes after three breaths of $\frac{3}{4}$ of

the depth of a full inhalation. The time of the delay is recorded with a stopwatch. Immediately after resuming breathing, the pulse is counted. The test can be carried out twice, with 3–5 min intervals between the measurements. The results of examination are processed. The test is evaluated according to the duration of breath-holding as follows: < 34 s — unsatisfactory, 35–39 s — satisfactory, ≥ 40 s — good). Evaluated by the duration of the delay and by the heart rate response (HR). The ratio of heart rate after the test to the initial heart rate is determined: $HR = HR \text{ (after the test)} / HR \text{ (before the test)}$. The norm is up to 1.2.

Test of Stange — ability to hold breath on inhalation. Before the test, the subject's pulse is counted twice for 30 seconds while standing. The breath is held for a full breath, which the subject takes after three breaths of $\frac{3}{4}$ of the depth of a full breath. A nose clip is put on the nose or the subject clamps his/her nose with his/her fingers. The delay time is recorded using a stopwatch. Immediately after resuming breathing, the pulse is counted. The test is estimated by the duration of breath-holding in the following way: < 39 s — unsatisfactory, 40–49 s — satisfactory, ≥ 50 s — good). The ratio of heart rate after the end of the test to the initial heart rate is determined: $HR = HR \text{ (after the test)} / HR \text{ (before the test)}$. The norm is up to 1.2.

Tetrad of Ehrlich is a simultaneous detection of four pathological elements in sputum: calcified elastic fibers, Mycobacterium tuberculosis, cholesterol crystals and amorphous lime; a sign of a breakthrough in the bronchus of the contents of the old tuberculosis focus.

Thoracoscopy (pleuroscopy) — endoscopic examination of pleural cavity using thoracoscope.

Thromboembolism of Pulmonary artery (TPA) is a disruption of the patency of the pulmonary artery trunk and/or its branches by thromboemboli primarily formed in the veins of the great circle of circulation (pelvic veins, deep femoral) or in the right heart cavities.

Total lung capacity (TLC) is the volume of air in the lungs upon the maximum effort of inspiration. Among healthy adults the average lung capacity is amount 6 liters. Methodically, the TLC is calculated by summation of the four primary lung volumes, TV, RV, IRV, ERV. $TLC = RV + VC$.

Tracheal dyskinesia (tracheobronchial dyskinesia) is morphofunctional changes in the cartilaginous and membranous parts of the trachea with impaired obstructive breathing as a result of exhalation of the membranous part of the trachea.

Tracheobronchomegaly — developmental anomaly: excessively large diameter of the trachea due to underdevelopment of elastic, muscular and (or) cartilaginous tissue of its wall, clinically manifested at 20–40 years.

Tracheobronchopathy osteochondroplastic is a pathological condition caused by formation of calcification and ossification sites in submucosa layer of trachea and bronchi, protruding into airways lumen.

Tracheobronchoscopy is an endoscopic method of examining the lumen and mucous membrane of the bronchi and trachea.

Tracheostomy — opening the lumen of the trachea followed by insertion of a cannula into the trachea or suturing the tracheal wall to the skin to allow air to enter the airways.

Tractional bronchiectasis — uneven expansion of the lumen of bronchi and bronchioles, caused by shrinkage of lung tissue and stretching (traction) of the lumen of bronchi of lung tissue as a result of progressive fibrosis.

Transudate — non-inflammatory effusion into pleural cavity due to hydrostatic disturbances or decrease of oncotic pressure of blood plasma, it does not clot while standing, has alkaline reaction, protein amount < 30 g/l (< 3 %), albumin/globulin ratio — 2.5–4.0, relative density < 1.015, Rivalt test — negative, sediment — a single amount of formal elements, slough mesothelium prevails.

Transudation is the exit of the liquid part of blood from capillaries and venules into tissue crevices or body cavities.

Treatment completed — patient with TB who completed treatment as recommended by the national policy, whose outcome does not meet the definition for cure or treatment failure.

Treatment failed — patient with TB whose treatment regimen needed to be terminated or **permanently changed*** to a new regimen or treatment strategy.

(*This includes cases “transferred out” to another treatment unit and those whose treatment outcome is unknown; however, it excludes those lost to follow-up).

Triad of Osler (Austrian triad) — triad including pneumonia, meningitis, endocarditis.

Triad of Pancosta is a clinical sign of lung cancer (severe shoulder pain, atrophy of the arm muscles, Horner’s syndrome), when localized in the upper lung area, the tumor rapidly invades the dome of the pleura, the posterior segments of the ribs, vertebrae, trunks of the brachial nerve plexus, and the sympathetic trunk.

Tuberculin is a preparation containing separate biologically active components of MBT (from immunological point of view — specific allergen and incomplete antigen). It is used to perform the Mantoux test, an intradermal test for TB.

Tuberculin Mantoux test with 2 units is a test for latent tuberculosis infection or tuberculosis by intradermal injection of tuberculin with determination and recording the diameter of the infiltrate after 72 hours.

Tuberculin reaction “Rise” is the first positive reaction to tuberculin in the Mantoux test with 2 units, unrelated to previous BCG vaccine immunization. A sharp increase in the diameter of the papule by 6 mm or more, can also be a “Rise”.

Tuberculinodiagnosics is a method of using tuberculin to diagnose tuberculosis and latent tuberculosis infection (Mantoux test). It is based on assessment of tension of immunity to tuberculosis pathogen in cutaneous and intradermal tests.

Tuberculoma is a clinical form of secondary tuberculosis, in which an encapsulated necrotic caseous mass with a diameter of more than 10 mm is formed in the lung tissue.

Tuberculosis (TB) is an infectious disease caused by MBT, characterized by the development of specific granulomas in various organs and a polymorphic clinical picture. The most frequently affected organs are the lungs, lymphatic system, bones, joints, genitourinary organs and the nervous system are most commonly affected.

Tuberculous meningitis is a severe form of extrapulmonary tuberculosis that affects the membranes of the spinal cord and brain. It is characterized by meningeal syndrome, paralysis and paresis of cranial nerves. Meningeal syndrome is manifested by headache, hydrocephalus and muscle contractures due to irritation of nerve roots. Signs of contractures: stiffness of occipital muscles (inability to bend forward a head thrown backward); Kernig’s sign (a patient lying on his back cannot straighten in the knee joint a leg bent in the hip joint); Brudzinsky sign (head bending causes leg bending); abdominal muscles tightening; opisthotonus (a patient lying on his side with his head thrown back and legs pulled up to the stomach).

Tuberculous pleurisy is a tuberculous inflammation of the pleura. Tuberculosis pleurisy may be dry (fibrinous) and exudative.

Tumor necrosis factor-alpha (TNF-a) is a glycoprotein produced by macrophages, eosinophils and natural killer cells (14 % of lymphocytes). In the blood serum of healthy people, TNF-a is practically undetectable. Its level increases during infection, ingestion of bacterial endotoxins. In moderate concentrations, TNF-a has a pyrogenic effect, stimulates phagocyte formation, enhances blood clotting, decreases appetite, and is an important factor in the development of cachexia in chronic diseases (tuberculosis and cancer).

U

Unpaired vein fraction (Raisberg fraction) — additional lung fraction.

V

Videothoracoscopic biopsy is a biopsy of lung tissue and/or intrathoracic lymph nodes, pleura, performed during videothoracoscopic diagnostic surgery.

Videothoracoscopy (video-assisted thoracoscopic surgery — VATS) is an operation in which a camera-assisted thoracoscope and instruments are inserted into the pleural cavity through thoracoports.

Vital capacity (VC) is defined as the total volume of air that can be displaced from the lungs by maximal expiratory effort. The value is about 4.8 liters.

Volume residual (RV) is the volume of air, remaining in the lungs after maximum forceful expiration. Its value is 1–1.5 liters (20–30 % of TLC).

Volumetric rate of inhalation and exhalation — rate of forced inspiration and exhalation (normal — 5–7 liters per second), determined by pneumotachometer. Resting rate of inhalation and exhalation, the norm — 300–500 ml/s.

W

WASOG (World Association of Sarcoidosis and other Granulomatous Disorders).

Weeping willow symptom — symmetrical lifting up of the shadow of the lung roots due to fibrosis and reduction of the volume of the upper lobes of the lungs.

Window cavernous symptom is a symptom of cavernous tuberculosis. It is an area of the lung bounded by a ring-shaped shadow. It is more transparent than the surrounding lung tissue. No shadows due to structural elements of the lung tissue can be seen in the window of the cavern. Indirect signs of a cavern are shadows of horizontal level of fluid inside it and focal shadows of bronchogenic insemination. As a rule they are large, irregularly shaped, without clear contours and in some places confluent.

X

Xpert MTB/RIF method is a molecular genetic method for detection and identification of mycobacteria with simultaneous detection of mutations associated with rifampicin resistance. It is based on the PCR method.

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