

1. A 57-year-old man, a miner, complains of a pain in his chest, dyspnea on physical exertion, excessive sweating, constant subfebrile temperature, and cough that produces blood-streaked sputum. He has been smoking for approximately 40 years (2 packs a day) and frequently has "pneumonias". Survey chest X-ray shows a triangular shadow in the middle lobe of the right lung. One of the apices of the shadow points to the lung root. Cardiac and mediastinal shadows are displaced toward the affected area. Make the provisional diagnosis:

- A. *Cancer of the right lung
- B. Right-sided pleuropneumonia
- C. Pneumoconiosis
- D. Tuberculosis of the right lung
- E. Chronic bronchitis

2. A patient was brought into the pulmonology department with complaints of inspiratory dyspnea and dry cough at the highest point of inhalation. On examination the following is observed: pale skin, cyanotic lips, "Hippocratic fingers". Auscultation detects Velcro-type crackles (like opening a Velcro fastener). X-ray shows a "ground glass opacity" pattern. What is the most likely diagnosis?

- A. Hand-Schuller-Christian disease
- B. *Idiopathic pulmonary fibrosis
- C. Pulmonary histiocytosis X
- D. Idiopathic pulmonary hemosiderosis
- E. Exogenous allergic alveolitis

3. A 68-year-old patient complains of shortness of breath during physical exertion and cough that produces mucous sputum. The patient has a history of chronic obstructive pulmonary disease. Objectively, auxiliary muscles are involved in the act of breathing, the neck veins distend on inspiration, percussion produces a banbox resonance over the lungs, the respiration is vesicular and weakened. Chest X-ray shows flattening of

the diaphragm and a pulmonary pattern with a decreased number of elements. What is the most likely diagnosis in this case?

- A. Atelectasis of both lungs
- B. Pneumonia
- C. Pulmonary edema
- D. Bilateral pneumothorax
- E. *Emphysema of the lungs

4. A 13-year-old boy complains of a dry cough and shortness of breath. The onset of the disease was one year ago. He has brief asphyxia attacks that occur 1-2 times per month. Objectively, the child is anxious and has expiratory dyspnea, his skin is pale, his nasolabial triangle is cyanotic. His respiratory rate is 48/min. Percussion produces a banbox resonance over the lungs; auscultation detects weakened breathing with bilateral dry wheezing. Forced expiratory volume is 80% of the normal. What medicine should be prescribed to this boy?

- A. *Salbutamol
- B. Euphyllin (Aminophylline)
- C. Prednisolone
- D. Indomethacin
- E. Suprastin (Chloropyramine)

5. A 57-year-old man complains of cough with profuse mucopurulent sputum (up to 150 mL per 24 hours). Objectively, he has drumstick fingers with watch-glass nails. Percussion produces a shortened sound over the lungs. Auscultation detects moderate and large bubbling crackles. Complete blood count shows leukocytosis and a left shift in the leukogram. Chest X-ray shows intensified pulmonary pattern and ring-like shadows. Bronchography detects multiple cylindrical thickenings of the bronchi with clear margins. Make the provisional diagnosis:

- A. *Bronchiectasis
- B. Pulmonary echinococcosis

C. Chronic pleural empyema

D. Pulmonary gangrene

E. Pulmonary cyst

6. A 19-year-old young man complains of cough with expectoration of purulent sputum in amount of 100 mL per day, hemoptysis, dyspnea, increased body temperature up to 37.8°C , general weakness, weight loss. The patient's condition lasts for 4 years. Exacerbations occur 2-3 times a year. The patient presents with malnutrition, pale skin, cyanosis of the lips, drumstick (clubbed) fingers. Tympanic percussion sound in the lungs, weakened respiration, and various numerous moist crackles in the lower pulmonary segments on the left can be observed in this patient. Complete blood count: erythrocytes - $3.2 \cdot 10^{12}/\text{L}$, leukocytes - $8.4 \cdot 10^9/\text{L}$, ESR - 56 mm/hour. On X-ray: lung fields are emphysematous, the left pulmonary root is deformed and dilated. What is the most likely diagnosis?

A. Suppuration of the cyst in the left lung

B. *Multiple bronchiectasis of the left lung

C. Chronic left-sided pneumonia

D. Chronic abscess of the left lung

E. Left-sided pulmonary cystic dysplasia

7. A 36-year-old patient complains of suffocation attacks with predominantly problematic exhalation. The attacks occur up to 2-3 times a day and can be relieved by inhalation of β_2 -adrenomimetics. This condition lasts for 10 years already. Objectively, the chest is expanded, percussion detects a bandbox resonance over the lungs, auscultation detects harsh respiration with prolonged exhalation. Laboratory analysis of sputum detects numerous eosinophils, Charcot-Leyden crystals, and Curschmann spirals. What is the provisional diagnosis in this case?

A. Cardiac asthma

B. *Bronchial asthma

C. Carcinoid syndrome

D. Spontaneous pneumothorax

E. Chronic obstructive bronchitis

8. A 43-year-old man, a coal-face worker with 15-year-long record of work, complains of cough, thoracic pain, and dyspnea. The cough is mild, usually dry, occurs mostly in the morning. The pain is localized in the interscapular region and aggravates during a deep intake of breath. Dyspnea occurs during physical exertion. Vesicular respiration in the lungs is weakened. Heart sounds are rhythmic, heart rate is 86/min., blood pressure is 135/80 mm Hg. The abdomen is soft and painless. X-ray shows micronodular pulmonary fibrosis. Make the provisional diagnosis:

A. Siderosis

B. Byssinosis

C. Metal pneumoconiosis

D. *Carboconiosis

E. Berylliosis

9. A 40-year-old patient presents with cough in the morning with production of mucopurulent sputum and elevated body temperature up to 37.6°C . He has been smoking since he was 17 years old. Objectively, auscultation detects coarse respirations and diffuse dry crackles in the lungs. Complete blood count: leukocytes - $12 \cdot 10^9/\text{L}$, ESR - 19 mm/hour. Bronchoscopy shows purulent catarrhal endobronchitis. Make the diagnosis:

A. Pulmonary tuberculosis

B. Bronchial asthma

C. Community-acquired pneumonia

D. *Chronic bronchitis

E. Lung cancer

10. A 10-year-old boy was brought into the hospital with complaints of expiratory dyspnea, respirations are 30/min. He explains his state by a change in the weather conditions. For the last 4 years the boy has been registered for regular check-ups due to

his diagnosis of third degree persistent bronchial asthma. To provide emergency aid for this child, first he needs to be given:

- A. Euphylline (Aminophylline)
- B. Adrenaline
- C. Claritin (Loratadine)
- D. *Salbutamol or short-acting beta₂-agonists
- E. Dexamethasone

11. A 50-year-old man complains of shortness of breath that becomes worse during physical exertion. The patient's history states that he has been smoking for the last 30 years. Objectively, the following is observed: body temperature - 36.5°C, respiratory rate - 22/min., heart rate - 88/min., blood pressure - 130/85 mm Hg. The chest is barrel-shaped, auscultation detects weakened vesicular respiration with a bandbox resonance over the entire surface of the lungs. What is the most likely diagnosis in this case?

- A. Bronchiectasis
- B. Pulmonary tuberculosis
- C. Bronchogenic carcinoma
- D. *Chronic obstructive pulmonary disease
- E. Community-acquired pneumonia