

"Approved"
**at a meeting of the Department of General
Surgery, Radiation Medicine and Phthisiology**

Protocol № _____

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Head of Department
d.med.n, Professor _____ I.D.Duzhiy

**METHODOLOGICAL RECOMMENDATIONS FOR TEACHERS
FOR THE PRACTICAL STUDIES OF PREPARATION FOR
PHTHISIOLOGY GENERAL PRACTITIONERS**

<i>Academic discipline</i>	Phthisiology
<i>Subject lesson number 9</i>	Complications of secondary forms of tuberculosis, hemoptysis and pulmonary hemorrhage, spontaneous pneumothorax, pleural empyema, chronic pulmonary heart, amyloidosis of internal organs. Pathogenesis, clinical manifestations, diagnosis, treatment.
<i>Course</i>	4

Topic № 9: Complications of secondary forms of tuberculosis, hemoptysis and pulmonary hemorrhage, spontaneous pneumothorax, pleural empyema, chronic pulmonary heart, amyloidosis of internal organs. Pathogenesis, clinical manifestations, diagnosis, treatment.

Actuality: Often pulmonary TB especially its chronic form with complications. Often a pulmonary hemorrhage and hemoptysis (21-23% of cases) is often spontaneous pneumothorax (SP), pulmonary heart disease, amyloidosis, chronic pulmonary heart. Because life-threatening complication of tuberculosis patients, and can sometimes lead to death, the doctor of any profession should be able to recognize complications and to provide qualified first aid.

Specific goals:

- Diagnose complications of secondary TB
- Provide emergency assistance during emergency conditions in patients with tuberculosis.

Control questions:

1. Give the definition of pulmonary heart.
2. Pathogenesis of pulmonary heart disease and pathological anatomy.
3. Clinical pulmonary heart and diagnostics. Treatment
4. Give the definition of pulmonary hemorrhage (LC) and hemoptysis (HF).
5. Pathogenesis. Diagnosis, treatment (first aid, specialized assistance)
6. How to distinguish pulmonary hemorrhage and hemoptysis of esophageal and gastric?
7. Complications of pulmonary hemorrhage.
8. Spontaneous pneumothorax. Etiology, pathogenesis, diagnostics, medical tactic.
9. Amyloidosis internal organs. The pathogenesis, clinical manifestations, diagnosis, treatment.

Materials for self - control

1. Patient complains of stabbing pain in the right hemithorax, rapidly increasing dyspnea. Has been suffering from fibrous-cavernous tuberculosis for 6 year. On examination: the condition is grave, dyspnea at rest, cyanosis, RR 28 /min, P 120/min. Right hemithorax lags behind the breathing, intercostal spaces are smoothed, tympanic percussion sound and absent breathing over right hemithorax detected. Heart borders are shifted to the left. Which complication more likely could produce such dramatic worsening?
 - A. Myocardial infarction.
 - B. Pulmonary embolism.
 - C. Atelectasis.
 - D. Community acquired pneumonia.
 - E. Spontaneous pneumathorax.

2.

Patient suffering from disseminated tuberculosis complains of stabbing pain in the right hemithorax, rapidly increasing dyspnea. On examination: skin is pale, dyspnea at rest, RR 30/min, P 120/min. Right hemithorax lags behind the breathing, intercostal spaces are smoothed, tympanic percussion sound and absent breathing over right hemithorax detected. Heart borders are shifted to the left. Which complication is more likely?

- A. Spontaneous pneumothorax.
- B. Pulmonary embolism.
- C. Atelectasis.
- D. Community acquired pneumonia.
- E. Myocardial infarction.

3.

45-year-old patient suffering from fibrous-cavernous tuberculosis presented with spontaneous pneumothorax. Choose necessary critical aid.

- A. Analgesia.
- B. Bed rest.
- C. Oxygen therapy.
- D. Thoracocentesis.
- E. All of the above.

4.

50-year-old patient suffering from pulmonary tuberculosis presented with stabbing chest pain, dyspnea, tachycardia, which appeared suddenly on cough attack. On examination: right hemithorax lags behind the breathing, intercostal spaces are smoothed, tympanic percussion sound and absent breathing over right hemithorax detected. Chest X-ray detected several foci, limited fibrotic area and pleural coalescences on right apex and an area without vessel patterns in the peripheral part of right hemithorax. Which complication is more likely?

- A. Pulmonary embolism.
- B. Atelectasis.
- C. Spontaneous pneumothorax.
- D. Community acquired pneumonia.
- E. Myocardial infarction.

5.

Patient suffering from fibrous-cavernous tuberculosis complains of stabbing pain in the right hemithorax, rapidly increasing dyspnea. On examination: skin is pale, dyspnea, RR 32/min, P 120/min, BP 90/60. Right hemithorax lags behind the breathing, intercostal spaces are smoothed, tympanic percussion sound and breathing absence over right hemithorax detected. Heart borders are shifted to the left. Which complication is more likely?

- A. Pulmonary embolism.
- B. Spontaneous pneumothorax.
- C. Atelectasis.
- D. Community acquired pneumonia.

E. Myocardial infarction.

6.

40-year-old patient suffering from fibrous-cavernous tuberculosis presented with shin edema. Urine test showed proteinuria, cylinderuria, hypostenuria. Serum creatinine level 200 $\mu\text{mol/l}$. What's the most probable reason for these changes?

- A. Amiloidosis.
- B. Glomerulonephritis.
- C. Kidney tuberculosis.
- D. Pyelitis.
- E. Anti-TB drugs side effect.

7.

36-year-old patient suffering from fibrous-cavernous tuberculosis complains of stabbing pain in the right hemithorax, quickly increasing dyspnea. On examination: skin is pale, dyspnea at rest, P 120/min. Right hemithorax lags behind the breathing, intercostal spaces are smoothed, tympanic percussion sound and absent breathing over right hemithorax detected. Chest X-ray detected a huge cavity on right apex and an area without vessel patterns in the peripheral part of right hemithorax. Which complication is more likely?

- A. Pulmonary embolism.
- B. Spontaneous pneumothorax.
- C. Atelectasis.
- D. Community acquired pneumonia.
- E. Myocardial infarction.

8.

28-year-old patient with disseminated tuberculosis presented with left side chest pain, which is ameliorating while lying on the affected side, dry cough, temperature rapid arising up to 38°C (earlier was about 37.2°C). Disseminated tuberculosis was detected about 2 months ago but patient denied treatment. On examination: dull percussion sound and weakened breathing in the left lower zone. Which complication is the most likely?

- A. Spontaneous pneumothorax.
- B. Myocardial infarction.
- C. Pleurisy.
- D. Myositis.
- E. Liver abscess.

9.

60-year-old patient suffering from fibrous-cavernous tuberculosis for 10 year has been brought to the emergency department with hemoptysis. On examination: RR 22/min, P 90 /min, BP 100/60. Auscultation revealed a lot of diffuse moisture rales. Liver is enlarged, painful. Chest X-ray showed the large cavity with thick walls in the diminished right upper lobe surrounded by fibrotic area. All over left lung and in the lower zone of the right lung lots of high density foci are seen.

Mediastinum is shifted to the right. ZN sputum staining showed positive result. What's the most likely principle of hemoptysis?

- A. Vessel walls rupturing.
- B. Hypocoagulation.
- C. Pulmonary embolism.
- D. Vessel walls permeability increasing.
- E. Fibrinolysis activation.

10.

40-year-old alcohol abuser known as fibrous-cavernous tuberculosis case has been brought into emergency department with the suspicion of pulmonary hemorrhage. The hemorrhage started just after consuming of 0.5 liter of alcohol. On examination: patient is expectorating sputum without blood streaks. All over lung fields lots of bubbling rales are heard. Abdomen is painful in the epigastric area. The doctor excluded pulmonary hemorrhage and suspected gastric bleeding. Which data allowed to do it?

- A. Epigastric pain.
- B. Alcohol abusing provoked the bleeding.
- C. Absence of blood streaks in the sputum.
- D. Absence of previous bleeding history.
- E. All of the above.

11.

Patient is presented with pulmonary hemorrhage. Emergency doctor reported that he expectorated about 450 ml of blood. On examination: P 122/m, RR 28/m, BP 80/60. Define the degree of hemorrhage.

- A. I.
- B. II.
- C. III.
- D. IV.
- E. V.

12.

43-year-old male with unremarkable past medical history went to a hike far from any dwelling. At night woke up from started pulmonary bleeding. What must be the first step of critical care taking into consideration the absence of specific facilities?

- A. Sedation, ice application, calcium chloride and ethamzylate intravenous administration.
- B. Horizontal position, ice application, extremities tourniquets, ascorbinic acid oral administration.
- C. Semisitting position, oral cavity freeing, extremities tourniquets bringing to a specialized unit as soon as possible.
- D. Semisitting position, antitussive drugs, hypertonic salt solution inside, sedation.
- E. Bringing to a specialized unit by any available means.

The patterns of answers:

1 E 2 A 3 E 4 C 5 B 6 A 7 B 8 C 9 A 10 C 11 B 12 C