

MINISTRY OF HEALTH OF UKRAINE  
ZAPORIZHZHIA STATE MEDICAL AND PHARMACEUTICAL UNIVERSITY  
DEPARTMENT OF GENERAL PRACTICE – FAMILY MEDICINE  
AND INTERNAL DISEASES

## **INTERNAL MEDICINE**

TESTS  
*for 3<sup>rd</sup> year students*  
*speciality 221 «Dentistry»*



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**Internal medicine:** tests for final knowledge control for the practical classes and individual work for 3<sup>rd</sup> year students of international faculty (speciality 221 «Dentistry») Discipline «Internal medicine (with infectious diseases, epidemiology, and clinical pharmacology)» / *N. S. Mykhailovska, A. V. Grytsay, O.V. Shershnyova* [et al.]. – Zaporizhzhia : ZSMPHU, 2023. – 107 p.

Tests compiled in accordance with the program of «Internal medicine (with infectious diseases, epidemiology, and clinical pharmacology)». Guidelines are intended to help students prepare for practical classes and learn the material. Can be used for training of 3<sup>rd</sup> year students of international faculty, speciality «Dentistry».

Збірник тестових завдань складений відповідно до програми «Внутрішня медицина (у тому числі інфекційні хвороби, епідеміологія та клінічна фармакологія)». Видання має на меті сприяти кращому засвоєнню теоретичних знань студентами під час підготовки до практичних занять. Збірник рекомендований для використання студентами III курсу міжнародного факультету, спеціальність «Стоматологія».

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## PREFACE

The tests in disciplines became an an integral part of the university's curriculum for assessment of theoretical knowledge of students of medical universities. Students studying «Dentistry» have to master skills of differentiating basic pathological symptoms and syndromes of diseases either internal organs or oral cavity, diagnosing medical emergency needing urgent treatment, making provisional diagnosis, and providing emergency. The dentist is a medical professional of the primary health care, who sees a lot of patients, so careful examination of the oral cavity can give essential information about the condition of internal organs of the patient.

The tests on «Internal medicine» is composed on the basis of the current tests' data base of the department in accordance with requirements of the educational program for the discipline «Internal medicine (with infectious diseases, epidemiology, and clinical pharmacology)», the speciality 221 «Dentistry». This workbook is designed for 3<sup>rd</sup> studying year students of medical institutions of higher education, the III-IV levels of accreditation and includes tests on current and final control of knowledge of all parts of the academic discipline: pulmonary, cardiovascular, gastrointestinal and connective tissue diseases.

The cover image was downloaded from website: <https://onlinetestpad.com/ua>

The publication aims to facilitate the better acquisition of theoretical knowledge by the students of the III course of the international faculty during the preparation for the final control.

The tests is designed for the students of the III course of the international faculty, interns, as well as teachers involved in the preparation of future dentists. This tests is being published for the first time.

**TOPIC 1**  
**COPD. ASTHMA. EMPHYSEMA. PULMONARY INSUFFICIENCY.**  
**DENTAL ASPECTS**

1. Most important component of the COPD pathophysiology is:
  - A. Mucus hypersecretion and dysfunction of the ciliated epithelium.
  - B. Restriction of air flow in the bronchi and excessive pulmonary edema.
  - C. Disruption of gas exchange.
  - D. Pulmonary hypertension.
  - E. Pulmonary heart
  
2. In the study of the external breathing function the most important in COPD are:
  - A. Volume of forced expiration in the first second (FEV1).
  - B. Forced Vital Lung Capacity (FVC).
  - B. The ratio of FEV1 / FVC
  - D. All of the above.
  - E. The most important indicator is not named
  
3. The COPD diagnostic criterion is a decrease in indicators, starting with:
  - A. FEV1 <90% of the appropriate in combination with FEV1 / FVC < 80%.
  - B. FEV1 < 80% of the corresponding in combination with FEV1 / FVC < 70%.
  - C. FEV1 < 70% of the proper in combination with FEV1 / FVC < 60%.
  - D. FEV1 < 60% of the due in combination with FEV1 / FVC < 50%.
  - E. FEV1 < 50% of the due in combination with FEV1 / FVC < 40%.
  
4. Short-acting bronchodilators, inhaled  $\beta_2$ -agonists include, except:
  - A. Salbutamol.
  - B. Terbutalin.
  - B. Fenoterol.
  - G. Salmeterol.
  
5. Inhalation corticosteroids do not include:
  - A. Beclamethasone.
  - B. Budesonide.
  - C. Prednisone.
  - D. Fluticasone.
  
6. Bronchodilators do not include:
  - A.  $\beta_2$ -agonist.
  - B.  $\beta_2$ -blockers
  - C. Cholinolytics
  - D. Theophylline
  - E. Euphylline.

7. Patient 55 years, after appendectomy for 2 days complains of progressive shortness of breath and cough with purulent sputum. Such symptoms are noted in the autumn and spring. Smokes for 25 years. Temperature -  $37.1^{\circ}\text{C}$ . In the lungs - breathing is weakened with single dry wheezing. In the blood:  $\text{L} - 10 \times 10^9 / \text{l}$ . X-ray: increased lung airiness, increased pulmonary pattern. Bronchoscopy: hyperemia of the mucous membrane with the presence of purulent-mucous character secretions. What is the previous diagnosis?

- A. Bronchial asthma
- B. Chronic bronchitis
- C. Bronchoectatic disease
- D. Pulmonary artery branches embolism
- E. Pneumonia

8. A 39-year-old truck driver complains of shortness of breath, a cough with a small amount of mucous sputum, mostly in the morning. Has been suffering from COPD for a long time, sinusitis. Smokes, consumes alcohol occasionally. Objectively: temperature -  $36.5^{\circ}\text{C}$ , BH - 24 / min, pulse - 90 / min, blood pressure - 120/80 mm Hg. Art. At auscultation breathing is hard, a moderate amount of dry wheezing. FEV1 - 68% of due value. What

preventive measures are appropriate in the first place?

- A. Rational employment
- B. Refusing to drink alcohol
- C. Remediation of chronic infection foci
- D. Smoking cessation
- E. Moving to another climate zone

9. A 60-year-old man complains of shortness of breath, exacerbated by exertion, cough with a small amount of mucous-purulent sputum mostly in the morning. COPD in anamnesis. Objectively: temperature -  $36.0^{\circ}\text{C}$ , RR - 22 / min, HR - 84 / min, BP - 110/70 mm Hg. Art. Skin is moist, diffuse cyanosis. At auscultation, the breath is stiff, scattered wheezing. FEV - 62% of due value; pharmacological test with salbutamol - increase of 5%. What is the most likely mechanism of bronchial obstruction development in the patient?

- A. Hypercrynina
- B. Inflammatory edema
- C. Bronchospasm
- D. Diffuse-sclerotic changes
- E. Mucostasis

10. A 60-year-old man complains of shortness of breath, which is exacerbated by exercise. Smokers for about 30 years. Objectively:

temperature - 36.5° C, RR - 22 / min, HR - 88 / min, BP - 130/85 mm Hg; barrel chest, band box sound over the entire surface of the pulmonary fields, weakened vesicular breathing. Which anamnesis disease most likely led to pathological changes?

- A. COPD
- B. Bronchiectatic disease
- C. Pulmonary tuberculosis
- D. Pneumonia
- E. Tumor of the bronchus

11. According to WHO recommendations, the daily dose of inhaled corticosteroids in persistent mild bronchial asthma in adults is:

- A. 150-300 mcg
- B. 200-500 mcg
- C. 800-2000 mcg
- D. More than 2000 mcg

12. The patient is diagnosed with "bronchial asthma, a moderate persistent course". Which drug will you prefer for the planned treatment of the disease?

- A. Intal
- B. Becotide Mitte
- C. Budesonide Fort
- D. Salbutamol
- E. Berotech

13. The patient complains of constant asthma attacks, which often occur at

night, physical activity is significantly limited due to respiratory discomfort. The PEFr is less than 60% of the proper level, the daily variability > 30%. What is the likely diagnosis for this patient?

- A. Chronic obstructive bronchitis in the acute phase
- B. Intermittent bronchial asthma
- C. Mild persistent bronchial asthma
- D. Moderate persistent bronchial asthma
- E. Severe persistent bronchial asthma

14. The patient with mild persistent bronchial asthma has exacerbation. What are your recommendations?

- A. Increase the short-acting beta-2-agonist dose without increasing the dose of inhaled glucocorticosteroid.
- B. Test with bronchodilator and then increase the dose of inhaled glucocorticosteroid and beta-2 agonist.
- C. Carry out a provocative trial with histamine and then increase the dose of inhaled glucocorticosteroid and beta-2 agonist.
- D. Increase the dose of inhaled glucocorticosteroid, beta-2 agonist, and then

conduct a provocative trial with histamine.

E. Increase the dose of inhaled glucocorticosteroid, a short-acting beta-2-agonist.

15. A 35-year-old patient experiences infrequent (at least once a week) attacks of asthma, which are easily removed by short-acting beta<sub>2</sub> sympathomimetics. During the attack, dry whistling wheezes are heard in the lungs, FEV<sub>1</sub> more than 80% of the predicted between the attacks. At this patient:

- A. Intermittent bronchial asthma.
- B. Mild persistent asthma
- C. Persistent asthma of moderate severity
- D. Severe persistent asthma
- E. This information is insufficient to determine bronchial asthma severity

16. A patient of 42 years complains of asthma attacks stops with 1-2 doses of salbutamol. The end of the attack is accompanied by a cough with a small amount of viscous vitreous sputum. The patient has been ill for 8 years. There is acute urticaria in anamnesis. Objectively: the temperature is 36.7°; RR - 21 / min; HR-90 / min .; BP - 130/80 mm Hg.; FEV<sub>1</sub> - 77%. There is a small

amount of dry wheezing above the lungs. Blood test: HB - 120 g / l; erythrocytes -  $4.7 \times 10^{12}$  / l; leukocytes -  $7.9 \times 10^9$  / l; P - 6%; E - 6%; C - 60%; L - 24%; M - 4%; ESR - 12 mm / h. What drugs are "basic" in the treatment of the patient?

- A. Cholinolytics.
- B. Mucolytics
- C. Anti-inflammatory drugs
- D. Antihistamines.
- E. B<sub>2</sub>-adrenomimetics.

17. In a patient, a severe attack of bronchial asthma lasts more than 1 hour, despite the use of beta-adrenomimetics inhalation and prescription, ephedrine and anticholinergic agents. What medications should be used to supplement emergency treatment?

- A. Beta-blockers IV
- B. Corticosteroids by inhalation
- C. Antihistaminic agents
- D. Corticosteroids IV
- E. Nonsteroidal anti-inflammatory drugs

18. Chronic bronchitis with progressive airflow limitation and the diverse pathogenic mechanisms are called:

- A. acute bronchitis
- B. bacterial bronchitis
- C. COPD
- D. emphysema



E. Asthma COPD overlap syndrome

19. The COPD onset in people older than 35 years, including elderly, is connected with the following:

A. recurrent viral and bacterial infections

B. industrial air pollution and cigarette smoking

C. cardio-vascular pathology

D. inherited alpha-1-antitrypsin deficiency

E. cosmetics use

20. The complications of COPD are the followings, except:

A. right-ventricular failure

B. erythrocytosis

C. pulmonary insufficiency

D. left-ventricular failure

E. lung cancer

## TOPIC 2

### PNEUMONIA. PLEURAL SYNDROME. DENTAL ASPECTS

1. Patient of 32 y. visited the doctor. It was found that 4 days ago he caught a cold: there was a tickle in the throat, fatigue. The next morning there was a dry cough, increased body temperature to 38,2°S, lost appetite. Objectively: lower the right scapuladullness percussion sounds, moist fine bubbling sonorous rales were listened. What diagnosis is most likely?

- A. Asthma
- B. Non-hospital right-sided pneumonia
- C. Acute bronchitis
- D. Lung Cancer
- E. Gangrene

2. The patient of 18 years complains of increased body temperature to 39°C, pain in the right side of the chest, dry coughing after hypothermia. Objectively: the skin is moist, pale; BP - 110/70 mm Hg, HR - 96 / min, RR - 27 / min. Dullness percussion sounds below the left shoulder blade angle, a weakened vesicular breathing with moist fine bubbling rales, crackles were auscultated. What is the diagnosis?

- A. Community-acquired lobar left-sided pneumonia

- B. Aspiration right-sided pneumonia
- C. Immunodeficiency right-sided pneumonia
- D. Nosocomial (hospital) pneumonia
- E. Left lung abscess

3. The patient of 29 years is treated an outpatient with acute respiratory viral infection (ARVI), than the body temperature increased to 39°C, cough with "rusty sputum", breathlessness, faint developed. During the X-ray study infiltration in the lower lobe of the right lung was revealed.

What is the complication developed in ARVI patient?

- A. Acute bronchitis
- B. Exudative pleurisy
- C. Spontaneous pneumothorax
- D. Pneumonia
- E. Pulmonary atelectasis

4. The patient complains of a temperature to 38,9°C, cough, stabbing chest pain, more at the left. On examination, the left half of the chest is lagging in breathing act. Auscultation – lower the left shoulder blade angle bronchial breathing, moist fine bubbling rales

were auscultated. CBC: RBC -  $4.12 \times 10^{12}$  / L, WBC -  $10,2 \times 10^9$  / L, ESR - 28 mm / hr. What is the diagnosis?

- A. Left-sided lobar pneumonia
- B. The left-sided pleural effusion
- C. Lung Cancer
- D. Left-sided infarct - pneumonia
- E. Pulmonary tuberculosis

5. Patient K. of 25 years complains of cough with a minor amount of mucopurulent sputum, shortness of breath, increased body T to  $38,5^{\circ}\text{C}$ , weakness. Felt ill 7 days ago after supercool exposure. Objectively: lungs examination - dullness percussion sound lower the right shoulder blade angle and right axillary area; weakened vesicular breathing, moist fine bubbling sonorous rales. What is the previous diagnosis of the patient?

- A. ARVI
- B. Acute bronchitis
- C. Right-sided pneumothorax
- D. Pleural effusion
- E. Community-acquired pneumonia

6. The male patient of 26 years was acutely ill after a fishing trip. The disease associates with hypothermia,

it all began with a headache, weakness. Then the fever and dry cough came. Objectively: consciousness is retained, facial flushing, RR - 19 per minute. The lung percussion: a dull sound lower the right scapula angle, auscultation - crepitus, moist fine bubbling rales. BP - 110/70 mm Hg, HR - 78 per minute, body temperature is  $38,7^{\circ}\text{C}$ . CBC: WBC. -  $10 \times 10^9$  / L, ESR - 17 mm / h. Lungs X-ray: the homogeneous infiltrative blackout in the lower lobe of the right lung. Which of the following diagnoses is the most likely?

- A. Community-acquired right-sided lobar pneumonia, clinical group I, RF I st.
- B. Community-acquired right-sided lobar pneumonia, clinical group II, Nam I st.
- C. Community-acquired C. sided lobar pneumonia, clinical group III, RF I st
- D. Community-acquired right-sided lobar pneumonia, clinical group IV, RF I st.
- E. Community-acquired sided lobar pneumonia, clinical group V, RF I st.

7. A man of 56 years, acutely ill. The complaints of fever, cough with mucopurulent sputum. From history

we know that he is sick with asthma for 20 years. Objectively: body temperature is  $38,7^{\circ}\text{C}$ , consciousness is retained, facial flushing, RR- 21 per minute. The lung percussion: a dull sound lower the right scapula angle, auscultation - crepitus, moist fine bubbling rales. BP - 110/70

mm Hg, HR - 78 per minute. CBC: RBC -  $4.12 \times 10^{12}$  / L, WBC -  $11 \times 10^9$  / L, ESR - 24 mm / h. Lungs X-ray: the homogeneous infiltrative blackout in the lower lobe of the right lung. The most likely diagnoses:

- A. Community-acquire dright-sided lobar pneumonia, clinical group III, RF Ist.
- B. Community-acquired right-sided lobar pneumonia, clinical group I, RF Ist.
- C. Community-acquired right-sided lobar pneumonia, clinical group II, RF Ist.
- D. Community-acquired right-sided lobar pneumonia, clinical group IV, RF Ist.
- E. Bronchial asthma, persistent course, moderate severity, RF Ist.

8. The male patient of 26 years was acutely ill after a fishing trip. The disease associates with hypothermia, it all began with a headache, weakness. Then the fever and cough

with "rusty" sputum came. Objectively: consciousness is retained, facial flushing, RR - 36 per minute. The lung percussion: a dull sound lower the right scapula angle, auscultation - crepitus, moist fine bubbling rales. BP - 100/70 mm Hg, HR - 98 per minute, body temperature is  $38,7^{\circ}\text{C}$ . CBC: WBC. -  $14 \times 10^9$  / L, ESR -24 mm / h. Lungs X-ray: the homogeneous infiltrative blackout in the lower lobe of the right lung. Which of the following diagnoses is the most likely?

- A. Community-acquired right-sided lobar pneumonia, III clinical group, RF II stage.
- B. Community-acquired right-sided lobar pneumonia, II clinical group, RF II stage.
- C. Community-acquired sided lobar pneumonia, I clinical group, RF II stage.
- D. Community-acquired right-sided lobar pneumonia, IV clinical group, RF II stage.
- E. Community-acquired sided lobar pneumonia, V clinical group, RF II stage.

9. The male patient of 26 years was acutely ill after a fishing trip. The disease associates with hypothermia, it all began with a headache, weakness. Then the fever and cough with "rusty" sputum came. Objectively: consciousness is

retained, facial flushing, RR - 36 per minute. The lung percussion: a dull sound at right side of the chest, auscultation - crepitus, moist fine bubbling rales. BP - 90/70 mm Hg, HR - 110 per minute, body temperature is 38,7°C. CBC: WBC. -  $14 \times 10^9$  / L, ESR -24 mm / h. Lungs X-ray: the homogeneous infiltrative entire blackout in the right lung. Which of the following diagnoses is the most likely?

- A. Community-acquired pneumonia, right-total, the V clinical group, RF II stage.
- B. Community-acquired pneumonia, right-total, II clinical group, RF II stage.
- C. Community-acquired pneumonia, right-total, and clinical group, RF II stage.
- D. Community-acquired pneumonia, right-total, IV of clinical group, RF II stage.
- E. Community-acquired pneumonia, right-total, IV clinical group, RF II stage.

10. The male patient of 26 years was acutely ill after a fishing trip. The disease associates with hypothermia, it all began with a headache, weakness. Then the fever and dry cough came. Objectively: consciousness is retained, facial flushing, RR - 19 per minute. The lung percussion: a dull sound lower

the right scapula angle, auscultation - crepitus, moist fine bubbling rales. BP - 110/70 mm Hg, HR - 78 per minute, body temperature is 38,7°C. CBC: WBC. -  $10 \times 10^9$  / L, ESR -17 mm / h. Lungs X-ray: the homogeneous infiltrative blackout in the lower lobe of the right lung. Community-acquired right-sided lobar pneumonia, I clinical group, RF I st was diagnosed. What

is the management tactics?

- A. The treatment at the intensive care unit (ICU)
- B. Treatment in a therapeutic hospital
- C. Ambulatory treatment
- D. Treatment in a surgical department
- E. Treatment in a pulmonary hospital

11. A patient with nosocomial pneumonia has signs of collapse. Which of the following pneumonia complication is the most likely to be accompanied with collapse?

- A. Septic shock
- B. Exudative pleuritis
- C. Bronchial obstruction
- D. Toxic hepatitis
- E. Emphysema

12. A 52 y.o. male patient has become ill gradually. There is pain in the left side of the thorax during 2 weeks,

elevation of temperature till 38 – 39

C. On examination: left chest side falls behind in breathing movement no voice tremor over the left lung. Dullness that is more intensive in lower parts of this lung. Right heart border is deviated outside. Sharply weakened breathing over the left lung, no rales. Heart sounds are muffled, tachycardia. What is the most probable diagnosis?

- A. Cirrhotic tuberculosis
- B. Spontaneous pneumothorax
- C. Atelectasis of lung
- D. Exudative pleuritis
- E. Infarction-pneumonia

13. A 56 y.o. woman has an acute onset of fever up to 39<sup>0</sup>C with chills, cough, and pain on respiration in the right side of her chest. On physical examination: HR- 90/min, BP- 95/60 mm Hg, Ps- 26/min. There is dullness over the right lung. On X-ray: infiltrate in the right middle lobe of the lung on palpation. What is the diagnosis?

- A. Community-acquired bronchopneumonia
- B. Community-acquired lobar pneumonia with moderate severity
- C. Acute pleurisy
- D. Acute lung abscess
- E. Hospital-acquired lobar pneumonia

14. A 26 year old man was admitted to the hospital because of stabbing back pain on inspiration and dyspnea. Examination results: BT of 37°C, Ps of 24/min, HR of 92/min, vesicular breath sounds. There is a dry, grating, low-pitched sound heard on both expiration and inspiration in the left inferior lateral part of the chest. What is the most likely diagnosis?

- A. Acute fibrinous pleuritis
- B. Myocarditis
- C. Pneumonia
- D. Acute bronchitis
- E. Pneumothorax

15. On the 4th day after suturing the perforative stomach ulcer a patient with pulmonary emphysema developed spontaneous pneumothorax. What is the best place for pleural drainage?

- A. The seventh intercostal space along the anterior axillary furrow
- B. The eighth intercostal space along the posterior axillary furrow
- C. The second intercostal space along the medioclavicular line
- D. The sixth intercostal space along the anterior axillary furrow
- E. The fifth intercostal space along the medioclavicular line

16. A 26-year-old male patient complains of piercing pain during breathing, cough, dyspnea. Objectively:  $t = 37,3^{\circ}\text{C}$ , respiration rate - 19/min, heart rate - 92/min; AP - 120/80 mm Hg. Vesicular respiration. In the inferolateral parts of chest auscultation in both inspiration and expiration phase revealed noise that was getting stronger at phonendoscope pressing and can be still heard after cough. ECG showed no pathological changes. What is the most likely diagnosis?

- A. Pericarditis sicca
- B. Intercostal neuralgia
- C. Subcutaneous emphysema
- D. Spontaneous pneumothorax
- E. Acute pleuritic

17. 4 days ago a 32-year-old patient caught a cold: he presented with sore throat, fatigue. The next morning he felt worse, developed dry cough, body temperature rose up to  $38,2^{\circ}\text{C}$ , there appeared muco-purulent expectoration. Percussion revealed vesicular resonance over lungs, vesicular breathing weakened below the angle of the right scapula, fine sonorous and sibilant wheezes. What is the most likely diagnosis?

- A. Bronchial asthma
- B. Focal right-sided pneumonia

- C. Acute bronchitis
- D. Pulmonary carcinoma
- E. Pulmonary gangrene

18. A 22-year-old patient is a clerk. His working day runs in a conditioned room. In summer he was taken by an acute disease with the following symptoms: fever, dyspnea, dry cough, pleural pain, myalgia, arthralgia. Objectively: moist rales on the right, pleural friction rub. X-ray picture showed infiltration of the inferior lobe. In blood: WBC -  $11 \cdot 10^9/l$ , stab neutrophils - 6%, segmented neutrophils - 70%, lymphocytes - 8%, ESR - 42 mm/h. What is the ethiological factor of pneumonia?

- A. Legionella
- B. Mycoplasma
- C. Streptococcus
- D. Staphylococcus
- E. Pneumococcus

19. A 21-year-old female patient has been hospitalized on an emergency basis because of severe dyspnea, pain in the left side of chest. Body temperature is  $38,8^{\circ}\text{C}$ . The condition developed three days ago. Respiratory rate is 42/min, auscultation reveals shallow breathing. There is percussive dullness on the right starting from the middle of the blade, breath sounds cannot be heard. The left border of

heart is 3 cm displaced outwards. Embryocardia is present, HR is 110/min. The right hypochondrium is painful on palpation. What urgent therapeutic measures should be taken in this situation?

- A. Emergency puncture of the pleural cavity
- B. Administration of penicillin antibiotics
- C. Injection of Lasix
- D. Injection of cardiac glycosides
- E. Transferring the patient to the thoracic surgery department

20. A 32-year-old patient has developed an acute condition after hypothermia: temperature - 40°C, cough with 200 ml of sputum per day. The sputum is purulent, foul-smelling. To the right of the lower lobe the mixed moist rales can be auscultated. Blood test results: WBCs -  $18,0 \cdot 10^9/l$ , ESR - 45 mm/h. Radiographically: in the lower lobe of the right lung there is a thick-walled cavity up to 6 cm in diameter with a high horizontal level. What is the most likely diagnosis?

- A. Lung cyst
- B. Fibro-cavernous pulmonary tuberculosis
- C. Lung abscess

D. Decomposing lung carcinoma

E. Infiltrative pulmonary tuberculosis

21. A patient was admitted to the intensive care unit 48 hours ago for treatment of a gunshot wound. The patient has recently developed a productive cough and a fever of 104.3 °F. The patient is breathing on their own and doesn't require mechanical ventilation. On assessment, you note coarse crackles in the right lower lobe. A chest x-ray shows infiltrates with consolidation in the right lower lobe. Based on this specific patient scenario, this is known as what type of pneumonia?

- A. Aspiration pneumonia
- B. Ventilator acquired pneumonia
- C. Hospital-acquired pneumonia
- D. Community-acquired pneumonia
- E. There is no right answer

22. A patient is admitted with pneumonia. Sputum cultures show that the patient is infected with a gram positive bacterium. The patient is allergic to Penicillin. Which medication would the patient most likely be prescribed?



- A. Macrolide  
 B. Cephalosporins  
 C. Pencillin G  
 D. Tamiflu  
 E. There is no right answer
23. An elderly client with pneumonia may appear with which of the following symptoms first?  
 A. Fever and chills  
 B. Altered mental status and dehydration  
 C. Hemoptysis and dyspnea  
 D. Pleuretic chest pain and cough  
 E. There is no right answer
24. Which of the following community-acquired pneumonias demonstrates the highest occurrence during summer and fall?  
 A. Legionnaires' disease  
 B. Streptococcal (pneumococcal) pneumonia  
 C. Mycoplasma pneumonia  
 D. Viral pneumonia  
 E. There is no right answer
25. Which of the following organisms most commonly causes community-acquired pneumonia in adults?  
 A. Haemophilus influenzae  
 B. Klebsiella pneumoniae  
 C. Streptococcus pneumoniae  
 D. Staphylococcus aureus  
 E. All answers is correct
26. A diagnosis of pneumonia is typically achieved by which of the following diagnostic tests?  
 A. ABG analysis  
 B. Chest x-ray  
 C. Blood cultures  
 D. All answers is correct  
 E. There is no right answer
27. Which of the following best describes pleural effusion?  
 A. The collapse of alveoli.  
 B. The collapse of bronchiole.  
 C. The fluid in the alveolar space.  
 D. The accumulation of fluid between the linings of the pleural space.  
 E. There is no right answer
28. Nosocomial pneumonia is pneumonia that is acquired from:  
 A. The community  
 B. Hospital environment  
 C. Within the place of residence  
 D. All answers is correct  
 E. There is no right answer
29. Pneumonia that develops following passage of food particles, drink etc. into the lungs is called:

A. Community-acquired pneumonia

B. Aspiration pneumonia

C. Atypical pneumonia

D. All answers is correct

E. There is no right answer

30. The flu vaccine has to be administered:

A. Every year

B. Every 5 years

C. Every 10 years

D. Only once in a lifetime

E. Every 20 years

31. Which of the following refers to a milky white effusion high in triglycerides?

A. Chyliform effusion

B. Chylous effusion

C. Hemothorax

D. Trapped lung

E. There is no right answer

32. Mortality rates in patients with pneumonia are highest in which of the following scenarios?

A. Pathogen is atypical bacteria

B. Patient is < 50 years of age

C. Pathogen is gram-positive bacteria

D. Pathogen is gram-negative bacteria

E. There is no right answer

33. 4 days ago a 32-year-old patient caught a cold: he presented with sore throat, fatigue. The next morning he felt worse, developed dry cough, body temperature rose up to 38,2°C, there appeared muco-purulent expectoration. Percussion revealed vesicular resonance over lungs, vesicular breathing weakened below the angle of the right scapula, fine sonorous and sibilant wheezes. What is the most likely diagnosis?

A. Focal right-sided pneumonia

B. Bronchial asthma

C. Acute bronchitis

D. Pulmonary carcinoma

E. Pulmonary gangrene

34. A 35-year-old victim of a road accident has got an injury of the right side of his chest. Objectively: respiration rate - 28-30/min, respiration is shallow, restricted respiratory excursion and acrocyanosis are present. Ps-110 bpm, AP- 90/60 mm Hg. Respiratory sounds over the right lung cannot be auscultated. Chest radiograph shows fractures of the VI-VII ribs on the right, the right pleural cavity contains both air and fluid, with the fluid at about the level of the V rib, the shadow of the mediastinum is displaced to the left. What first aid should be provided to the victim?

- A. Vagosympathetic blockade
- B. Antibiotic administration
- C. Puncture of the pleural cavity
- D. Artificial ventilation of lungs
- E. Urgent thoracotomy

35. A 45-year-old male patient with acute abscess of the left lung has suddenly developed acute chest pain and dyspnea while coughing, tachycardia has increased. The control Ro-gram shows left lung collapse, the air in the left pleural cavity and a horizontal fluid level. What is the mechanism of this complication?

- A. Abscess burst into the pleural cavity
- B. Bullae rupture of the left lung
- C. Inflammation spread to the visceral pleura
- D. Atelectasis of the left lung
- E. Acute cardiovascular insufficiency

36. A 42-year-old male patient has been delivered to a hospital in a grave condition with dyspnea, cough with expectoration of purulent sputum, fever up to 39,5°C . The first symptoms appeared 3 weeks ago. Two weeks ago, a local therapist diagnosed him with acute right-sided

pneumonia. Over the last 3 days, the patient's condition deteriorated: there was a progress of dyspnea, weakness, lack of appetite. Chest radiography confirms a rounded shadow in the lower lobe of the right lung with a horizontal fluid level, the right sinus is not clearly visualized. What is the most likely diagnosis?

- A. Acute pleuropneumonia
- B. Abscess of the right lung
- C. Right pulmonary empyema
- D. Atelectasis of the right lung
- E. Pleural effusion

37. A 32-year-old man complains of pain in the chest on the left, dyspnea, temperature rise up to 38,0°C, slight cough. The disease onset was 2 weeks ago after overexposure to cold. He had suffered from bronchadenitis in his childhood. The affected side lags during breathing; percussion reveals dull sound with oblique margin in the lower left lung, where breathing is absent. The right heart border is displaced outwards. Mantoux test with 2 TU resulted in a papule 16 mm in size. What diagnosis is most likely?

- A. Thromboembolism of the pulmonary artery branches
- B. Central carcinoma of the left lung
- C. Congestion pneumonia
- D. Tuberculous pleurisy

E. Community-acquired pneumonia

38. A 40-year-old patient suffers from influenza. On the 5th day of illness there are pain behind sternum, cough with sputum, inertness. Temperature is 39,5°C. Face is pale. Mucosa of conjunctivas and pharynx is hyperemic. Heart rate is 120/min, breathing rate is 38/min. In the lower lung segments shortening of percussion sound and moist rales (crackles) can be detected. What additional investigation should be performed first of all to specify the diagnosis?

- A. Lung X-ray
- B. ECG
- C. Heart US
- D. Mantoux test
- E. Spirography

39. A 26-year-old patient with left lower lobe pneumonia experiences an acute chest pain on the left during coughing. Objectively: diffuse cyanosis, extension of the left side of chest. Percussion reveals high tympanitis. Auscultation reveals no respiratory murmurs above the left side of chest. There is a deviation of the right cardiac border towards the midclavicular line. What examination will be the most informative?

- A. Spirography
- B. Bronchoscopy
- C. Bronchography
- D. Pneumotachometry
- E. X-Ray

40. A 40-year-old patient has acute onset of disease caused by overexposure to cold. Temperature has increased up to 39°C. Foul-smelling sputum is expectorated during coughing. Various moist crackles can be auscultated above the 3rd segment on the right. Blood test: leukocytes -  $15,0 \cdot 10^9 /l$ , stab neutrophils - 12%, ESR- 52 mm/hour. On Xray: in the 3rd segment on the right there is a focus of shadow 3 cm in diameter, low density, with fuzzy smooth margins and a clearing in its center. What disease is most likely in the given case?

- A. Pneumonia complicated by an abscess
- B. Infiltrative tuberculosis
- C. Peripheral pulmonary cancer
- D. Cystic echinococcosis
- E. Pulmonary cyst

41. The causative agents of hospital-acquired pneumonia are the following:

- A. Streptococcus
- B. pneumococcus
- C. Staphylococcus
- D. Escherichia coli

## E. Klebsiella

42. The 37-year-old woman complained of dry cough, dyspnea, fever 39.2°C, which had commenced after the overcooling. Upon the physical examination: her right cheek was hyperemic, focal small calibrated wet rales under the right scapula at the auscultation. The chest radiography revealed the homogenous focus with unclear edges in several lobules of the right lung. What was the preliminary diagnosis?

- A. Community-acquired pneumonia
- B. Acute viral infection
- C. COPD
- D. Acute bronchitis
- E. Focal pulmonary tuberculosis

43. The 37-year-old man complained of an acute left chest pain, dyspnea, which increased on movement. He had become ill just after the physical loading. Upon the physical examination: his face was cyanotic, the left-sided reduced chest expansion, left tympanic to percussion, left-sided decreased intensity of breath sounds, tachypnea (24 respirations/min), pulse was regular with the rate of 90 beats/min; his heart sounds were decreased. The chest radiography revealed the line of visceral pleura with unclear pulmonary structure. What was the preliminary diagnosis?

- A. left-sided exudative
- B. left-sided pneumonia
- C. myocardial infarction
- D. spontaneous pneumothorax
- E. pulmonary embolism

44. The patient complained of an intense dyspnea, increased with effort. He had become ill abruptly 2 hours before at work: an acute left chest pain and cough. The pain had been decreasing and the dyspnea had been increasing, light-headedness, paleness, cold sweat and cyanosis appeared. Upon the physical examination: absence of the vesicular breathing. The chest radiography revealed left-sided opacity. What was the preliminary diagnosis?

- A. pulmonary infarction
- B. spontaneous left-sided pneumothorax
- C. pleurisy
- D. left-sided pneumonia
- E. pulmonary abscess

45. The patient with left lower lobe pneumonia complained of an intense left chest pain. Upon the physical examination: extended area of dullness to percussion on the left (Sokolov-Ellis-Damuazo line). Which method is the best diagnostic modality?

- A. X-ray
- B. bronchoscopy with biopsy
- C. bronchography
- D. spirometry
- E. thoracoscopy

46. The 35-year-old men complained of an intense left chest pain on the weight lift. His condition had been deteriorating, with increased dyspnoea, weakness and light-headedness. Upon the physical examination: left tympanic to percussion, absence of the vesicular breathing. What was the preliminary diagnosis?

- A. pneumothorax
- B. pulmonary embolism
- C. myocardial infarction
- D. left-sided myofascial chest pain
- E. myositis

47. The 35-year-old men complained of dyspnoea, coughing with hemoptysis, left-sided chest pain, chilling on the 3 day of disease. Upon the physical examination: herpetic vesicles on the cheek, tachypnea (34 respirations/min), the retardation of left side of the chest on breathing, decreased intensity of breath sounds under the left scapula, non-sonorous crepitus. What was the preliminary diagnosis?

- A. left-sided lobular pneumonia
- B. left-sided pneumonia
- C. left-sided pleurisy
- D. left-sided pneumothorax
- E. left-sided pulmonary abscess

48. The 52-year-old men has become ill abruptly. For 2 weeks he had been

feeling left-sided chest pain, temperature increase to 38-39°C. Upon the physical examination: the retardation of left side of the chest on breathing, no aegophony on the left chest, lower left lobe dullness on percussion, the right heart boarder shift to the right, the significant decrease of breath sounds on the left, no rales; heart sounds were muffled, tachycardia. What was the preliminary diagnosis?

- A. exudative pleurisy
- B. spontaneous pneumothorax
- C. atelectasis
- D. cirrhotic tuberculosis
- E. Инфаркт- pleurisy

49. The appropriate method to reveal pleural effusions is a following:

- A. chest radiography - orthoposition
- B. chest radiography
- C. chest CT scanning
- D. lateroscopy (chest radiography - lateroposition)
- E. chest MRI

50. The 55-year-old men had a GP appointment. Upon the physical examination: the retardation of right side of the chest on breathing, dullness on percussion under the 3 rib, decrease of breath sounds at this area. The chest radiography revealed the heart shift to the left. What was the preliminary diagnosis?

- A. exudative pleurisy
- B. pneumonia

C. emphisema

D. pneumophibrosis

E. pneumothorax

### TOPIC 3

#### ARTERIAL HYPERTENSION. SYMPTOMATIC ARTERIAL HYPERTENSION. HYPERTENSIVE CRISIS. DENTAL ASPECTS

1. A 41-year-old woman comes to the physician's office complaining of fatigue, muscle weakness, cramping, headaches, polydipsia, and polyuria. She has been treated for hypertension for 6 years, and her doctors have told her that she has renal problems. Beta-blockers, calcium channel blockers, and diuretics have been used to control her hypertension. There is a family history of renal disease and hypertension. Her blood pressure is 240/140 mm Hg and her pulse is 85/min. The remainder of her examination is normal. A routine chemical panel shows hypokalemia, hypernatremia, and metabolic alkalosis. Pathologic examination of this patient would most likely reveal which of the following findings?

- A. Adrenal adenoma
- B. Adrenal carcinoma
- C. Bilateral nodular hyperplasia
- D. Multiple adrenal adenomas
- E. Unilateral nodular adrenal hyperplasia

2. A 34-year-old man undergoing a routine physical examination is found to have a blood pressure of 165/105

mm Hg. The measurement is repeated 40 minutes later, and is 162/103 mm Hg. The physician asks the patient to return the next week and the week following, and each time repeats the evaluation yielding the following results: 170/102, 168/107, 175/108, 167/102 mm Hg. This patient's blood pressure should be classified as which of the following?

- A. Optimal
- B. Normal
- C. High-normal
- D. Stage 1 (mild) hypertension
- E. Stage 2 (moderate) hypertension
- F. Stage 3 (severe) hypertension

3. A 35-year-old man has hypertension, which has been difficult to control with medication. Periodically, he experiences periods when he develops intense symptoms including racing heart, lightheadedness, flushing, diaphoresis, clammy skin, headache, and a sense of impending doom. He has gone to the emergency department of a local hospital several times during these episodes, but by the time he is seen several hours later, the



symptoms have long passed, and nothing can be found on physical examination or serum chemistry studies.

The patient's physician orders a 24-hour urine to be collected, which is found to contain significantly elevated levels of vanillylmandelic acid. This compound is a degradation product of which of the following?

- A. Acetylcholine
- B. Cholesterol
- C. Epinephrine
- D. Serotonin
- E. Testosterone

4. Patients with hypertension would be most likely to have which of the following findings on renal biopsy?

- A. Crescent formation
- B. Hyaline arteriosclerosis
- C. Kimmelstiel-Wilson nodules
- D. Papillary necrosis
- E. Subepithelial electron-dense humps

5. All of the following statements are true about the management of hypertensive emergencies EXCEPT:

- A. Mean arterial pressure (MAP) should be reduced by 20% to 25% over the first 2 to 3 hours in a patient with hypertensive encephalopathy.

B. Myocardial ischemia in a patient with a blood pressure (BP) of 174/110 mm Hg is considered a hypertensive emergency.

C. An asymptomatic patient with a BP of 170/116 mm Hg requires immediate pressure reduction prior to discharge.

D. The presence of proteinuria, hematuria, and casts in the urine of a patient with severe hypertension suggests a hypertensive emergency.

E. Papilledema distinguishes malignant hypertension from accelerated hypertension

6. All of the following pairs of antihypertensive agents and side-effects/complications are correctly matched EXCEPT:

- A. Nitroglycerin: methemoglobinemia
- B. Nicardipine: local phlebitis
- C. Fenoldopam: fluid retention
- D. Phentolamine: tachycardia, flushing, headache
- E. Trimethaphan: paresis of bowel and bladder

7. A 18-year-old man presents to the emergency department following

complaints of lower extremity weakness. BP recordings reveal systolic and diastolic pressures that are lower in the legs than in the arms. A chest radiograph demonstrates rib notching and a figure-three silhouette of the aorta. The most likely cause of these findings is:

- A. Aortic dissection
- B. Incorrect cuff size when measuring lower extremity pressures
- C. Renal stenosis
- D. Coarctation of the aorta
- E. Tetralogy of Fallot

8. A 48-year-old man presents with a 2-day history of worsening morning occipital headaches and blurring of vision in his right eye. He has a BP of 220/130 mm Hg and a heart rate of 78 bpm. On funduscopic examination, the physiologic cup of the optic disc in the right eye is obscured. Flame-shaped hemorrhages are noted. The remainder of the physical examination is normal. Laboratory findings include hematuria (2+) and a serum creatinine level of 2.1 mg/dL. Optimal management of this patient would be:

- A. Gradual reduction of diastolic BP to 100 mm Hg over 2 days

- B. Reduction of diastolic BP to 90 mm Hg over 2 to 3 hours
- C. Reduction of MAP to 120 mm Hg over 2 to 3 hours
- D. Reduction of MAP to 120 mm Hg over 6 to 12 hours
- E. Measurement of intracranial pressure prior to lowering the BP

9. A 19-year-old woman presents to her doctor's office for an annual physical examination. She has been previously healthy and is currently doing well without complaints. She is a non-smoker and has no significant past medical history or family history. Her temperature is 36.9 °C (98.5 °F), blood pressure is 160/90 mm Hg (confirmed in all extremities), pulse is 84/min, and respirations are 16/min. Her pulses are symmetric and equal, her cardiac and pulmonary examinations are unremarkable, and there is an abdominal bruit with a systolic and diastolic component. Serum chemistry reveals: Sodium – 145 mEq/L, potassium – 3.1 mEq/L, chloride – 102 mEq/L, bicarbonate – 28 mEq/L, blood urea nitrogen – 14 mg/dL, creatinine - 1.0 mg/dL, glucose – 80 mg/dL. Which of the following is the most likely cause of her elevated blood pressure?

- A. Coarctation of the aorta

- B. Cushing syndrome  
 C. Pheochromocytoma  
 D. Renovascular hypertension  
 E. Thyrotoxicosis
10. A 70-year-old man feels trembling of all body, pulsation in the head, periodic syncope. The left border of heart is on the left front axillary line, diastolic noise in the Botkin-Erb's point. BP is 150/20 mm Hg. What disease is most likely in the patient?
- A. Thyrotoxic heart  
 B. Hypertrophic cardiomyopathy  
 C. Insufficiency of aortic valves  
 D. Arterial hypertension  
 E. Mitral orifice stenosis
11. A 40 y.o. man complains of headache in occipital area. On physical examination: the skin is pale; face and hand edema, BP- 170/130mm Hg. On EchoCG: concentric hypertrophy of the left ventricle. Ultrasound examination of the kidneys reveals thinned cortical layer. Urine analysis shows proteinuria of 3,5 g/day. What is the probable diagnosis?
- A. Essential arterial hypertension  
 B. Chronic pyelonephritis  
 C. Chronic glomerulonephritis  
 D. Polycystic disease of the kidneys  
 E. Cushing's disease
12. A 60 y.o. woman has had increased BP up to 210/110 mm Hg for the last 7 years. On examination: heart apex is displaced to the left. There are signs of left ventricular hypertrophy on ECG. What is the most probable diagnosis?
- A. Cardiomyopathy  
 B. Essential hypertension, 1st stage  
 C. Symptomatic hypertension  
 D. Essential hypertension, 2nd stage  
 E. Ischemic heart disease
13. A 52 year old patient has hypervolaemic type of essential hypertension. Which of the following medications is to be prescribed either as monotherapy or in complex with other antihypertensive drugs?
- A. Dibazol  
 B. Hypothiazid  
 C. Clonidine  
 D. Kapoten  
 E. Nifedipin
14. A 46 year old woman who has been suffering from hypertension for 5 years was diagnosed with hypertensive crisis. She complains about palpitation, sense of head pulsation; heart rate is 100/min, AP is 190/100 mm Hg

(haemodynamics is of hyperkinetic type). What medication should be the medication of choice?

- A.  $\beta$ -adrenoceptor blocker
- B. Adenosine pyrophosphate inhibitor
- C. Diuretic
- D.  $\alpha$ -adrenoceptor blocker
- E. Dihydropyridine calcium antagonist

15. A 58-year-old patient complains of a headache in the occipital region, nausea, choking, opplotentes. The presentations appeared after a physical exertion. Objectively: the patient is excited. Face is hyperemic. Skin is pale. Heart sounds are regular, the 2nd aortic sound is accentuated. AP-240/120 mm Hg, HR-92/min. Auscultation reveals some fine moist rales in the lower parts of the lungs. Liver is not enlarged. ECG shows signs of hypertrophy and left ventricular overload. What is the most likely diagnosis?

- A. Bronchial asthma exacerbation
- B. Acute myocardial infarction, pulmonary edema
- C. Complicated hypertensive crisis
- D. Uncomplicated hypertensive crisis

E. Community-acquired pneumonia

16. A 58-year-old female patient complains about periodical headache, dizziness and ear noise. She has been suffering from diabetes mellitus for 15 years. Objectively: heart sounds are rhythmic, heart rate is 76/min, there is diastolic shock above aorta, AP is 180/110 mm Hg. In urine: OD1,014. Daily loss of protein with urine is 1,5 g. What drug should be chosen for treatment of arterial hypertension?

- A. Inhibitor of angiotensin converting enzyme
- B.  $\beta$ -blocker
- C. Calcium channel antagonist
- D. Thiazide diuretic
- E.  $\alpha$ -blocker

17. A 67-year-old female patient with hypertensive crisis has asthma, cough with expectoration of frothy pink sputum, moist rales in the lungs. The patient stays in sitting position, respiratory rate is 40/min, AP-214/136 mm Hg, heart rate - 102/min. What is the most rational tactics of this patient management?

- A. Intravenous administration of  $\alpha\beta$ -blocker
- B. Urgent pneumography
- C. Bed rest, lying position

D. Intravenous administration of furosemide

E. Tactics can be determined after ECG and chest radiography

18. A 32-year-old female complains of dizziness, headache, palpitation, tremor. For the last several months she has been under outpatient observation for the increased arterial pressure. Since recently such attacks have become more frequent and severe. Objectively: skin is covered with clammy sweat, tremor of the extremities is present. HR- 110/min, AP- 220/140 mm Hg. Heart sounds are muffled. Blood test results: WBCs -  $9,8 \cdot 10^9/l$ , ESR - 22 mm/h. Blood glucose - 9,8 millimole/l. What disease is the most likely cause of this crisis?

- A. Preeclampsia
- B. Essential hypertension
- C. Pheochromocytoma
- D. Primary hyperaldosteronism
- E. Diabetic glomerulosclerosis

19. A young patient who came to a polyclinic was diagnosed with the 1 stage of hypertension. How often should he undergo the medical check-up?

- A. Twice a year
- B. Once a year
- C. 3 times a year

D. 4 times a year

E. 5 times a year

20. A 20 y.o. patient complains of amenorrhea. Objectively: hirsutism, obesity with fat tissue prevailing on the face, neck, upper part of body. On the face there are acne vulgaris, on the skin - striae cutis distense. Psychological and intellectual development is normal. Gynecological condition: external genitals are moderately hairy, acute vaginal and uterine hypoplasia. What diagnosis is the most probable?

- A. Turner's syndrome
- B. Itsenko-Cushing syndrome
- C. Stein-Levental's syndrome
- D. Shichan's syndrome
- E. Babinski-Froehlich syndrome

21. Which of the following classes of antihypertensive drugs is not recommended for initial treatment?

- A. Thiazide-type diuretics
- B. Potassium-sparing diuretics
- C. Angiotensin receptor blockers
- D. ACE inhibitors
- E. Answers B+C

22. A 55-yr-old woman, who is devoted to singing in her church chorus, has hypertension which has been well controlled with enalapril for the past month. She calls to report a

new, intolerable side effect, and she requests to be switched to a different drug. Which of the following adverse effects is most likely to be intolerable to this patient?

- A. Frequent urination
- B. Dysgeusia
- C. Dry cough
- D. Headache
- E. Answers C+D

23. During her annual physical examination, a 45-yr-old patient with a history of asthma is found to have an elevated blood pressure. Elevated pressures are confirmed on 2 additional readings in the physician's office. In evaluating therapies for this patient, which class of antihypertensive drugs is contraindicated?

- A. Thiazide diuretics
- B. Beta blockers
- C. Angiotensin II blockers
- D. Calcium channel blockers
- E. There is no right answer

24. About 90% of pheochromocytomas are located in which of the following?

- A. The adrenal medulla
- B. The brain
- C. The genitourinary (GU) system
- D. The pericardial sac
- E. There is no right answer

25. What tests should NOT be used to diagnose pheochromocytoma?

- A. Fasting free fatty acid levels
- B. Plasma insulin levels
- C. Provocative tests with histamine or tyramine
- D. A suppression test with clonidine or IV pentolinium
- E. Answers A+B

26. A 58 y.o. man complained of severe inspiratory dyspnea and expectoration of frothy and bloodtinged sputum. He has been suffering from essential hypertension and ischemic heart disease. On examination: acrocyanosis, "bubbling" breathing, Ps- 30/min, BP- 230/130mm Hg, bilateral rales. Choose medicines for treatment.

- A. Morphine, furosemide, nitroprusside sodium
- B. Theophylline, prednisolon
- C. Albuterol, atropine, papaverine
- D. Strophanthine, potassium chloride, plathyphylline
- E. Cordiamine, isoproterenol

27. A 74 y.o. patient has been suffering from hypertension for 20 years. He complains of frequent headache, dizziness, he takes enalapril. Objectively: accent of the SII above

aorta, Ps- 84 bpm, rhythmic, AP- 180/120 mm Hg. What group of hypotensive medications could be additionally prescribed under consideration of the patient's age?

- A. Loop diuretics
- B. Thiazide diuretics
- C.  $\beta$ -adrenoceptor blockers
- D.  $\alpha$ -adrenoceptor blockers
- E. Central sympatholytics

28. A patient with suspected pheochromocytoma has normal blood pressure in the periods between the attacks and a tendency to tachycardia. Urine test revealed no pathology. It was decided to use a provocative test with histamine. What medication should be prepared to provide emergency care in case of a positive test result?

- A. Phentolamine
- B. Pipolphen
- C. Nifedipine
- D. Mesatonum
- E. Prednisolone

29. At what age should you have your first screening for high blood pressure?

- A. 16
- B. 18
- C. 30
- D. 50
- E. 65

30. The numbers in a blood pressure reading:

- A. Vary, depending on the time of day your blood pressure is checked
- B. Get lower with high levels of stress
- C. Are the same for people of the same age and weight
- D. Stay the same throughout the day
- E. All answers is correct

31. Which of these can increase your risk of high blood pressure?

- A. Obesity
- B. A family history of high blood pressure
- C. Smoking
- D. All answers is correct
- E. There is no right answer

32. At what point is blood pressure considered "high"?

- A. 120 over 80
- B. 130 over 80
- C. 140 over 90
- D. 210 over 120
- E. 90 over 60

33. What can you do to control high blood pressure?

- A. Get to and stay at a healthy weight
- B. Exercise regularly

C. Take the blood pressure medicine prescribed by your doctor

D. All answers is correct

E. There is no right answer

34. You are seeing a 60-year-old man for the first time. He has untreated hypertension (168/106 mm Hg and blood pressure has been elevated on at least 3 occasions). There is currently no evidence of target organ dysfunction (heart, neurological, or eyegrounds). From a therapeutic perspective, what is the best initial approach?

A. Initiate treatment with 25 mg of hydrochlorothiazide.

B. Consider initiating treatment with a 2-agent combination pill.

C. Delay pharmacologic intervention and treat with salt restriction.

D. All answers is correct

E. There is no right answer

35. A patient is being discharged home on Hydrochlorothiazide (HCTZ) for treatment of hypertension. Which of the following statements by the patient indicates they understood your discharge teaching about this medication?

A. I will make sure I consume foods high in potassium.

B. I will only take this medication if my blood pressure is high.

C. I understand a dry cough is a common side effect with this medication.

D. I will monitor my glucose levels closely because this medication may mask symptoms of hypoglycemia.

E. All answers is correct

36. A patient with hypertension is started on a new medication for treatment and is reporting a continuous dry cough. Which of the following medications do you suspect is causing this problem?

A. Labetalol

B. Bisoprolol

C. Lisinopril

D. Losartan

E. Hydrochlorothiazide

37. Which of the following patients is not a candidate for a beta blocker medication?

A. A 45 year old male with angina.

B. A 39 year old female with asthma.

C. A 25 year old female with migraines.

D. A 55 year old male with a history of two heart attacks.



- E. All answers is correct
38. Which of the following systems of the body are affected by hypertension?
- Cardiovascular, brain, kidney, eyes
  - Cardiovascular, gastrointestinal, reproductive, and kidney
  - Brain, respiratory, kidney, cardiovascular
  - None of the options are correct
  - All answers is correct
39. Which family of drugs are the following medications considered: Amlodipine, Verapamil, Diltiazem?
- Beta blockers (BB)
  - ACE Inhibitors (ACEI)
  - Angiotension Receptor Blockers (ARBs)
  - Calcium Channel Blockers (CCBs)
  - Alpha blockers
40. Non-pharmacological techniques can help lower blood pressure. Which of the following is not considered one of these types of techniques?
- Dietary changes
  - Multivitamins
  - Smoking cessation
  - Limiting caffeine
  - All answers is correct
41. During the regular medical check-up, the 40-year-old men had blood pressure of 170/102 mmHg. The ECG revealed sings of the left ventricular hypertrophy. Please, assess the level of blood pressure:
- normal.
  - Prehypertension.
  - moderate hypertension
  - mild hypertension
  - severe hypertension.
42. The 54-year-old men complained of weakness, nausea, headache, palpitation and a nasal bleeding in the morning. He had a medical history of arterial hypertension. Upon the physical examination: his heart rate was 110 beats/min, rhythmic, BP was 230/110 mmHg. What was the preliminary diagnosis?
- Hypertensive crisis
  - Intracranial haemorrhage
  - paroxysmal tachycardia
  - complicated hypertensive crisis
  - haemorrhagic vasculitis
43. The 40-year-old men had a medical history of arterial hypertension, stage II and reported elevations of BP to 180/110 mm pt.ct. Which ophthalmoscopy change can be found?
- no change

B. minimum segmental narrowing of arteries and arterioles

C. narrowing of arteries and arterioles with thickening and waving of their walls, and veins dilatation.

D. narrowing of arteries and arterioles with thickening of their walls, veins dilatation and waving, varying retinal hemorrhages, "cotton-wool spots".

E. narrowing of arteries and arterioles with thickening of their walls, veins dilatation and waving, bilateral papilledema.

44. The 42-year-old men complained of elevation of blood pressure, headache and lightheadedness. Upon the physical examination: his height was 174 cm, his weight was 100 kg, heart sounds were rhythmic, with the II tone accent on the aorta, his heart rate was 100 beats/min. On the ECG:  $R V5 > R V4$ ,  $R V6 + S V2 = 50\text{mm}$ . The laboratory tests: glucose level was 5,2 mmol/l, urinalysis – relative density was 1020, protein was 0,033 g/l, leucocytes were 3-4 /view. What was the preliminary diagnosis?

- A. Arterial hypertension, stage I
- B. Arterial hypertension, stage II
- C. Arterial hypertension, stage III

III

D. chronic glomerulonephritis, symptomatic arterial hypertension

E. aorta atherosclerosis, arterial hypertension

45. The 42-year-old women complained of the body mass increase over last 1,5-2 years, dry mouth, headache, and irregular menstruation. Upon the physical examination: her height was 160 cm, her body mass was 130 kg; her subcutaneous fat was distributed by the dysplastic type, abdominal purple stretch marks, BP was 170/110 mmHg. MM pt. ct. The laboratory tests: glucose level was 7,5 mmol/l. What was the preliminary diagnosis?

- A. Cushing disease
- B. arterial hypertension
- C. metabolic syndrome
- D. type 2, diabetes mellitus
- E. alimental obesity

46. The 26-year-old men had blood pressure on arms of 176/116 mmHg, on legs of 140/86 mmHg. Such type of hypertension is typical for the following:

- A. vasorenal arterial hypertension
- B. pheochromocytoma
- C. aortic coarctation
- D. Kon syndrome
- E. Cushing disease

47. The 22-year-old woman complained of the paroxysm of tremor, pale skin, palpitation, elevated blood pressure 280/120 mmHg, abdominal pain, chest pain and anxiety, lasted 15 min and resolved abruptly with the urination (nearly 250 ml of light urine). He had reported 3 similar episodes. What was a leading symptom?

- A. arterial hypertension
- B. sympathetic crisis
- C. chest pain
- D. arterial hypertension and abdominal pain
- E. parasympathetic crisis

48. The 22-year-old woman complained of the paroxysm of tremor, pale skin, palpitation, elevated blood pressure 280/120 mmHg, abdominal pain, chest pain and anxiety, lasted 15 min and resolved abruptly with the urination (nearly 250 ml of light urine). He had reported 3 similar episodes. What was the preliminary diagnosis?

- A. Kon syndrome
- B. pheochromocytoma
- C. Cushing disease
- D. arterial hypertension
- E. vasorenal arterial hypertension.

49. The 22-year-old woman complained of the paroxysm of tremor, pale skin,

palpitation, elevated blood pressure 280/120 mmHg, abdominal pain, chest pain and anxiety, lasted 15 min and resolved abruptly with the urination (nearly 250 ml of light urine). He had reported 3 similar episodes. Which test should be performed for the diagnosis?

- A. Vanillylmandelic acid in urine
- B. ECG
- C. GBC, Nechiporenko urine analysis
- D. Excretory urography
- E. blood electrolytes

50. The 60-year-old woman complained of the paroxysm of dyspnoea after the stressful situation. She had been suffering from arterial hypertension for 20 years. Upon the physical examination: orthopnoea, her heart rate was 120 beats/min, BP was 210/120 mmHg, I heart sound was weak at the apex, the added diastolic sound, her respiration rate was 32 respirations/min, her breathing was weak, with scattered non-sonorous moist rales. What was the preliminary diagnosis?

- A. vasorenal arterial hypertension
- B. pheochromocytoma
- C. Cushing disease
- D. arterial hypertension.
- E. complicated hypertensive crisis

## TOPIC 4

### ATHEROSCLEROSIS. IHD. ANGINA PECTORIS. ACUTE MYOCARDIAL INFARCTION. DENTAL ASPECTS

1. A 78-years-old previously healthy man is admitted to the ER with complaints of angina, dyspnea, and near syncope. Electrocardiogram is normal, and a loud systolic murmur is heard in the second right intercostal space with radiation to the carotids. Give your presumable diagnosis:
  - A. Myocardial infarction
  - B. Pericarditis
  - C. Mitral regurgitation
  - D. Aortic stenosis
  - E. Aortic insufficiency
  
2. What is the main cause of atherosclerotic lesions?
  - A. Hypercholesterolemia, dyslipoproteinemia
  - B. Infection
  - C. Trauma
  - D. Rheumatism, endocarditis
  - E. Myocardial infarction
  
3. Which factor is the leader in the development of atherosclerosis?
  - A. Smoking
  - B. Diabetes.
  - C. Suprarenalism.
  - D. Frequent hypothermia.
  - E. Dyslipoproteinemia.
  
4. A 4-years-old boy is evaluated for a systolic murmur upon auscultation of the chest. Chest radiograph demonstrates cardiomegaly and rib notching. Physical examination reveals diminished femoral pulses. A 40 mm differential exists between upper and lower extremity blood pressures. Give your presumable diagnosis:
  - A. Patent ductus arteriosus
  - B. Coarctation of aorta
  - C. Atrial septal defect
  - D. Bilateral common femoral artery stenosis
  - E. Aortic stenosis
  
5. What are the contrast agents used for angiography?
  - A. Triyodtrast, verografin.
  - B. Methylene blue.
  - C. Barium sulfate.
  - D. Alprostan.
  - E. Vasoprostan.
  
6. All of the following lesions BUT ONE have a right-to-left shunt in the presence of normal pulmonary vascular resistance:
  - A. Tetralogy of Fallot
  - B. Ventricular septal defect

- C. Tricuspid atresia
  - D. Pulmonic stenosis and atrial septal defect
  - E. Complete atrioventricular canal
7. A 1-week-old severely cyanotic infant is most likely to have:
- A. Aortic stenosis or partial anomalous pulmonary venous drainage with atrial septal defect
  - B. Coronary arteriovenous fistula or pulmonary stenosis
  - C. Transposition of the great vessels, tetralogy of Fallot, or truncus arteriosus
8. Tetralogy of Fallot includes all BUT ONE of the following lesions:
- A. Ventricular septal defect
  - B. Pulmonic stenosis
  - C. Hypoplastic left ventricle
  - D. Overriding aorta
  - E. Right ventricular hypertrophy
9. What is the morphological basis of atherosclerotic lesions?
- A. The accumulation of lipids in the intima
  - B. Thrombosis
  - C. Inflammatory process
  - D. Embolism
  - E. Aneurysm
10. What is the most common cause of a heart attack and stroke?
- A. Patchy deposits (called plaques) that form in the lining of the artery wall
  - B. Plaques growing into the opening (lumen) of the artery, gradually causing it to narrow
  - C. Plaques that split open (rupture) and expose the plaque material within to the bloodstream, causing blood clots to form
  - D. Thickening of arteriole walls, causing arteriosclerosis
11. Which of the following risk factors for atherosclerosis cannot be modified?
- A. A diet low in fruits and vegetables
  - B. A family history of early atherosclerosis
  - C. Tobacco use
  - D. High blood pressure
12. Which of the following are an effect of tobacco use on risk of atherosclerosis?
- A. Increased blood oxygen levels
  - B. Increased levels of HDL (good) cholesterol
  - C. No effect
  - D. Further constriction of the arteries

13. Chest pain is very common. It may be sharp or dull. The sensation may be described as discomfort, tightness, pressure, gas, burning, or aching. Which of the following leads to chest pain when a person exerts himself or herself physically?

- A. Blockage of an artery to the lungs by a blood clot
- B. Heart attack
- C. Stable angina
- D. Tear in the wall of the aorta (a main artery leading to the heart)

14. Which of the following situations in which chest pain is predominant does NOT need to be treated as an emergency?

- A. Chest pain that lasts for 30 seconds or less
- B. Crushing or squeezing pain in the chest
- C. Sensation of a rapid or irregular heartbeat, accompanied by chest pain
- D. Shortness of breath, accompanied by chest pain

15. Adults with sudden chest pain typically undergo certain tests to rule out life-threatening causes. Which of the following is NOT one of the usual initial tests doctors do when evaluating

a person with possible heart attack or unstable angina?

- A. Chest x-ray
- B. Electrocardiography (ECG)
- C. Heart catheterization
- D. Measurement of oxygen levels with a sensor on the finger (pulse oximetry)

16. Which of the following is the most common cause of coronary artery disease?

- A. A blood clot
- B. Atherosclerosis
- C. Use of certain drugs such as cocaine and nicotine
- D. Viral infection such as Kawasaki disease

17. Which of the following is the medical term for the procedure in which a catheter is threaded through an artery and into a narrowed or blocked coronary artery?

- A. Coronary artery bypass grafting (CABG)
- B. Keyhole procedure
- C. Percutaneous coronary intervention (PCI)
- D. Robotic surgery

18. A 50-year-old man has the sudden onset of substernal chest pain. The pain persists for the next three hours. He

then becomes short of breath and diaphoretic. He goes to the emergency department and on physical examination his vital signs include T 37°C, P 100/minute, RR 26/minute, and BP 130/90 mm Hg. A chest x-ray shows a slightly enlarged heart and mild pulmonary edema. An EKG shows ST segment elevation in anterior leads V1 - 6. Which of the following serum laboratory test findings is most likely to be present in this man?

- A. Urea nitrogen of 110 mg/dL
- B. Sodium of 115 mmol/L
- C. ALT of 876 U/L
- D. Troponin of 32 ng/mL
- E. HDL cholesterol of 55 mg/dL

19. Which is a symptom of coronary artery disease?

- A. Headache
- B. Sleep problems
- C. Pain or discomfort in the chest, arms or lower jaw
- D. Diarrhea

20. Which test is used to diagnose CAD?

- A. Electrocardiogram
- B. Treadmill stress test
- C. Cardiac catheterization
- D. All of the above

21. One possible treatment for CAD is coronary angioplasty. What does it involve?

- A. A new section of artery replaces the blocked section
- B. A tiny balloon is inflated inside an artery
- C. Medicine is used to expand the artery
- D. None of the above

22. A patient reports during a routine check-up that he is experiencing chest pain and shortness of breath while performing activities. He states the pain goes away when he rests. This is known as:

- A. Unstable angina
- B. Variant angina
- C. Stable angina
- D. Prinzmetal angina

23. A patient reports having crushing chest pain that radiates to the jaw. You administer sublingual nitroglycerin and obtain a 12 lead EKG. Which of the following EKG findings confirms your suspicion of a possible myocardial infraction?

- A. absent Q wave
- B. QRS widening
- C. absent P-wave
- D. ST segment elevation

24. Angina pectoris is usually described as chest discomfort rather than as chest “pain.” The symptoms of angina pectoris may be a vague, barely troublesome ache or may rapidly become a severe, intense precordial crushing sensation. Although the location of the discomfort varies, it is most commonly felt at which of the following locations?

- A. Beneath the sternum
- B. Down the inside of the right arm
- C. In the throat, jaws, and teeth
- D. In the upper abdomen

25. Which of the following terms refers to chest pain brought on by physical or emotional stress and relieved by rest or medication?

- A. atherosclerosis
- B. angina pectoris
- C. atheroma
- D. ischemia

26. What causes unstable angina?

- A. Atherosclerosis which reduces O<sub>2</sub> to tissue
- B. Atherosclerosis which ruptures, thrombus forms on top, always followed by breaking up and embolus formation leading to complete occlusion and infarction

C. Atherosclerosis which ruptures, thrombus forms on top, often leading to complete occlusion

27. A patient is complaining of chest pain. You obtain a 12-lead EKG and see ST elevation in leads II, III, AVF. What area of the heart does this represent?

- A. Lateral
- B. Septal
- C. Anterior
- D. Inferior

28. On an EKG, the lateral view of the heart is represented with leads?

- A. V1, V2, V3
- B. II, II, AVF
- C. I, AVL, V5, V6
- D. V1, V2, V6

29. A patient is 36 hours status post a myocardial infarction. The patient is starting to complain of chest pain when they lay flat or cough. You note on auscultation of the heart a grating, harsh sound. What complication is this patient mostly likely suffering from?

- A. Cardiac dissection
- B. Ventricular septum rupture
- C. Mitral valve prolapse
- D. Pericarditis



30 A patient is admitted with chest pain to the ER. The patient has been in the ER for 5 hours and is being admitted to your unit for overnight observation. From the options below, what is the most IMPORTANT information to know about this patient at this time?

- A. Troponin result and when the next troponin level is due to be collected
- B. Diet status
- C. Last consumption of caffeine
- D. CK result and when the next CK level is due to be collected

31. A doctor has ordered cardiac enzymes on a patient being admitted with chest pain. You know that \_\_\_\_\_ levels elevate 2-4 hours after injury to the heart and is the most regarded marker by providers.

- A. Myoglobin
- B. CK-MB
- C. CK
- D. Troponin

32. Which of the following is NOT classified as an acute coronary syndrome?

- A. Unstable angina
- B. Non-ST-segment elevation myocardial infarction (MI)
- C. Stable angina
- D. ST-segment elevation MI

33. You order lab tests on a patient presenting with complaints of chest pain for 6 hours. Which of the following abnormal values would you expect to see if the patient's chest pain is cardiac related?

- A. Low potassium of 3.1
- B. Elevated troponin of 4.5
- C. Low hemoglobin of 7.3
- D. Low glucose of 65

34. Based on the following options which modifiable risk factors place your patient at increased risk for MI?

- A. Age of 65
- B. Smoking history of 3 packs per day for 30 years
- C. Male
- D. Vigorous exercise 3 times a week

35. Which of the following statements is CORRECT?

- A. Myocardial tissue necrosis occurs immediately when blood flow is occluded.
- B. Cardiac troponin is highest 30 minutes after infarction.
- C. Inflammatory biomarkers are often elevated after an acute MI.
- D. Chest pain is always present in myocardial infarctions.

36. Which of the following types of pain is most characteristic of angina?

- A. Knifelike
- B. Tightness
- C. Shooting
- D. Sharp

37. A patient with unstable angina pectoris was given the following complex treatment: anticoagulants, nitrates, beta-adrenoblockers. However on the third day of treatment the pain still remains. Which investigation should be carried out to establish diagnosis?

- A. Coronarography
- B. Stress-echocardiogram
- C. Test with dosed physical exercises
- D. Esophageal electrocardiac stimulator
- E. Myocardial scintigraphy

38. A 42-year-old patient applied to hospital with complaints of pain behind the sternum with irradiation to the left scapula. The pain appears during significant physical work, this lasts for 5-10 minutes and is over on rest. The patient is sick for 3 weeks. What is the preliminary diagnosis?

- A. IHD:First established angina pectoris

B. IHD:Variant angina pectoris (Prinzmetal's)

C. IHD:Stable angina pectoris of effort I FC

D. IHD:Stable angina pectoris of effort IV FC

E. IHD:Progressive angina pectoris

39. A 56-year-old scientist experiences constricting retrosternal pain several times a day while walking for 100-150 m. The pain lasts for up to 10 minutes and can be relieved by nitroglycerine. Objectively: the patient is overweight, heart borders exhibit no abnormalities, heart sounds are rhythmic, Ps- 78 bpm, AP- 130/80 mm Hg. ECG contains low amplitude of T wave in V4-5. What disease might be suspected?

- A. Stable FC III stenocardia
- B. Instable stenocardia
- C. Stable FC I stenocardia
- D. Stable FC II stenocardia
- E. Stable FC IV stenocardia

40. A 62-year-old male has been hospitalized in the intensive care unit with a continuous attack of retrosternal pain that cannot be relieved by nitroglycerin. Objectively: AP- 80/60 mm Hg, heart rate - 106/min, breathing rate - 22/min. Heart sounds are

muffled, a gallop rhythm is present. How would you explain the AP drop?

- A. Reduction in cardiac output
- B. Reduction in peripheral resistance
- C. Blood depositing in the abdominal cavity
- D. Adrenergic receptor block
- E. Internal haemorrhage

41. A 52 year old patient with history of functional Class II angina complains of having intense and prolonged retrosternal pains, decreased exercise tolerance for 5 days. Angina is less responsive to nitroglycerine. What is the most probable diagnosis?

- A. IHD. Unstable angina
- B. Cardialgia due to spine problem
- C. IHD. Functional Class II angina
- D. Myocarditis
- E. Myocardial dystrophy

42. A 61 y.o. man complained of sneezing and substernal pain on exertion. In the last 2 weeks such pain appeared at rest, with increased frequency, and couldn't be suppressed by 1 tablet of nitroglycerin. What is the most likely diagnosis?

- A. Unstable angina pectoris

B. Angina pectoris of a new onset

C. Myocarditis

D. Radiculitis

E. Stable angina pectoris of the III functional class

43. A 45-year-old driver was admitted to the hospital with 5 hour substernal pain. Nitroglycerin is not effective. He is pale, heart sounds are regular but weak. HR - 96 per minute, BP of 100/60 mm Hg. What is the most likely diagnosis?

- A. Acute left ventricular failure
- B. Stable angina
- C. Pulmonary embolism
- D. Acute myocarditis
- E. Acute myocardial infarction

44. A 42-year-old patient applied to hospital with complaints of pain behind the sternum with irradiation to the left scapula. The pain appears during significant physical work, this lasts for 5-10 minutes and is over on rest. The patient is sick for 3 weeks. What is the preliminary diagnosis?

- A. IHD:Progressive angina pectoris
- B. IHD:Variant angina pectoris (Prinzmetal's)
- C. IHD:Stable angina pectoris of effort I FC

D. IHD:Stable angina pectoris of effort IV FC

E. IHD:First established angina pectoris

45. A 52 y.o. male patient suffers from squeezing pain attacks in substernal area which irradiates to the left hand and occurs occasionally and on physical exercises. He has had it for 1 year. On examination: heart borders are enlargement to the left side, sounds are muffled, Ps-76 bpm, rhythmic, AP-155/80 mm Hg, ECG: the left type, the rest signs are normal. What additional examination is necessary to confirm the diagnosis?

- A. General blood count
- B. Echocardiography
- C. Lipoprotein test
- D. Veloergometry
- E. Transaminases of blood

46. A patient had macrofocal myocardial infarction. He is overweight for 36%, AP is 150/90 mm Hg, blood sugar- 5,9 mmol/L, general cholesterol- 4,9 mmol/L, uric acid- 0,211 mmol/L. Which risk factor should be urgently eradicated during the secondary prevention?

- A. Hyperglycemia
- B. Arterial hypertension
- C. Obesity

D. Hypercholesterolemia

E. Hyperuricemia

47. The 45-year-old men had a dentist appointment. He complained of the intense left mandibular night pain, which increased during brisk walking. He had had this pain for 2 days and did not pay attention. His medical history is remarkable with ischemic heart disease with angina. Please, define the first reasonable test for this patient.

- A. The oral cavity check-up
- B. The panoramic X-ray of teeth
- C. BP control
- D. GBC
- E. ECG

48. For 2 years the 45-year-old men had been experiencing episodes of squeezing pain retrosternal pain with the irradiation to the left mandibular, neck, left scapula, which were lasted for 15-20 min and had alleviated with nitroglycerine intake. He reported these episodes 1-2 times per month. On the ECG (at the time of the attack): the ST segment elevation for 8 mm in leads V2-V5. After the nitroglycerine intake – the isoline on the ECG. What was the preliminary diagnosis?

- A. neck pain
- B. oesophagitis
- C. ICD: Prinzmetal angina
- D. ICD: myocardial infarction
- E. Aortic dissection

49. The heart attack of IV

functional class happens in the case of the following:

- A. On intense physical effort
- B. On moderate intense physical effort
- C. After the emotional stress
- D. On light intense physical effort and at rest
- E. All of mentioned above

50. The 45-year-old men noticed an intense retrosternal pain and dyspnoea after the physical effort. The nitroglycerine was not effective. Upon the physical examination: the severe general condition, acrocyanosis, , the

pulse was regular with the rate of 100 beats/min; the blood pressure was 160/100 mmHg, his heart sounds were muffled. On the ECG – the sinus rhythm, the deep “coronary” T wave in leads V1-V4. What was the preliminary diagnosis?

- A. Unstable angina
- B. lateral wall non-Q-wave myocardial infarction
- C. anteroseptal non-Q-wave myocardial infarction
- D. anterior Q-wave myocardial infarction
- E. posterior wall non-Q-wave myocardial infarction

## TOPIC 5

### ACUTE HEART FAILURE. ACUTE VASCULAR INSUFFICIENCY. CHRONIC HEART FAILURE. DENTAL ASPECTS

1. A 58 y.o. man complained of severe inspiratory dyspnea and expectoration of frothy and bloodtinged sputum. He has been suffering from essential hypertension and ischemic heart disease. On examination: acrocyanosis, "bubbling" breathing, Ps- 30/min, BP- 230/130mm Hg, bilateral rales. Choose medicines for treatment.
  - A. Morphine, furosemide, nitroprusside sodium
  - B. Theophylline, prednisolon
  - C. Albuterol, atropine, papaverine
  - D. Strophanthine, potassium chloride, plathyphylline
  - E. Cordiamine, isoproterenol
  
2. A patient has got a sudden attack of severe substernal pain at night. On examination: confusion, pallor of the skin, acrocyanosis, cold sweat, BP- 80/50 mm Hg, Ps- 120/min, irregular and weak pulse. What condition are these symptoms typical for?
  - A. Acute left-side heart failure
  - B. Cardiogenic shock
  - C. Acute right-side heart failure
  - D. Radicular syndrome
  - E. Acute vascular insufficiency
  
3. A 62 year old patient complains of rest dyspnea, heart pains. 3 years ago he had myocardial infarction. Physical examination: orthopnea, acrocyanosis, swollen cervical veins. Ps - 92, total heart enlargement, the liver is enlarged by 7 cm, shin edema. What is the stage of chronic heart failure (CHF)?
  - A. CHF- 0
  - B. CHF- 1
  - C. CHF- 2 A
  - D. CHF- 2 B
  - E. CHF- 3
  
4. The patient with aquired heart failure has diastolic pressure of 0 mm Hg. What heart failure does the child have?
  - A. Mitral stenosis
  - B. Aortal insufficiency
  - C. Aortal stenosis
  - D. Mitral insufficiency
  - E. Rheumatism
  
5. A 63-year-old male patient with persistent atrialfibrillation complains of moderate dyspnea. Objectively: peripheral edemata are absent, vesicular breathing is present, heart rate - 72/min, AP- 140/90mmHg. What

combination of drugs will be most effective for the secondary prevention of heart failure?

- A. Diuretics, beta-blockers
- B. Beta-blockers, cardiac glycosides
- C. Cardiac glycosides, diuretics
- D. Cardiac glycosides, ACE inhibitors
- E. Beta-blockers, ACE inhibitors

6. A 57-year-old male patient had an attack of retrosternal pain that lasted more than 1,5 hours. Objectively: the patient is inert, adynamic, has pale skin, cold extremities, poor volume pulse, heart rate - 120/min, AP- 70/40 mm Hg. ECG shows ST elevation in II, III, aVF leads. What condition are these changes typical for?

- A. Perforated gastric ulcer
- B. Arrhythmogenic shock
- C. Cardiogenic shock
- D. Acute pericarditis
- E. Acute pancreatitis

7. A 57-year-old man complains of shortness of breath, swelling on shanks, irregularity in cardiac work, pain in the left chest half with irradiation to the left scapula. Treatment is ineffective. On physical exam: heart's sounds are diminished, soft systolic murmur on the apex. Ps -

100/min, arrhythmical, BP - 115/75 mm Hg. The liver is +2 cm, painful. Roentgenoscopy: enlargement of heart shadow to all sides, pulsation is weak. Electrocardiogram (ECG): left ventricular extrasystolia, decreased voltage. What method of investigation is necessary to do to determine the diagnosis?

- A. Velocimetry
- B. Echocardiography
- C. X-ray kymography
- D. ECG in the dynamics
- E. Coronarography

8. A 64 y.o. patient has developed of squeezing substernal pain which had appeared 2 hours ago and irradiated to the left shoulder, marked weakness. On examination: pale skin, cold sweat. Pulse- 108 bpm, AP- 70/50 mm Hg, heart sounds are dull, vesicular breathing, soft abdomen, painless, varicose vein on the left shin, ECG: sinus rhythm, heart rate is 100 bpm, ST-segment is sharply elevated in II, III aVF leads. What is the most likely disorder?

- A. Cardiogenic shock
- B. Cardiac asthma
- C. Pulmonary artery thromboembolism
- D. Dissecting aortic aneurysm
- E. Cardiac tamponade

9. A 60-year-old patient complains about asphyxia, palpitation, rapid fatiguability. He has 8 year history of essential hypertension. Objectively: the left cardiac border is 2 cm deviated to the left from the medioclavicular line, heart sounds are rhythmic and weak; there is diastolic shock above aorta. AP- 170/100 mm Hg. Liver - +2 cm; shin pastosity is present. ECG shows deviation of cardiac axis to the left, left ventricle hypertrophy. Ejection fraction - 63%. What type of heart failure is observed?

- A. It's a norm
- B. Systolic
- C. Combined
- D. Diastolic
- E. Unspecified

10. A 23-year-old patient with hypertrophic cardiomyopathy complains of dyspnea on minimal exertion. EchoCG reveals asymmetric left ventricular hypertrophy, signs of pulmonary hypertension, dilatation of the left atrium. EF is 64%. The revealed alterations are indicative of:

- A. Systolic heart failure
- B. Diastolic heart failure
- C. Primary pulmonary hypertension
- D. Primary arterial hypertension

E. Symptomatic arterial hypertension

11. Which of the following is a sign or symptom of right ventricular failure in heart failure?

- A. Agitation
- B. Dyspnea
- C. Fatigue
- D. Fluid accumulation
- E. All answer is correct

12. Which of the following is a feature of heart failure with preserved ejection fraction (HFpEF)?

- A. Decreased left atrial pressure
- B. Decreased left ventricular end-diastolic pressure at rest or during exertion
- C. Impaired right ventricular filling
- D. Normal global contractility
- E. There is no right answer

13. Which of the following nonhumoral receptors is downregulated in patients with heart failure?

- A. Angiotensin II type 2 receptors
- B. Beta-1 receptors
- C. Cytokine receptors
- D. Muscarinic receptors
- E. All answer is correct



14. Syncope is a sudden, brief loss of consciousness (LOC) with loss of postural tone followed by spontaneous revival. Most episodes of syncope result from which of the following?

A. Seizures  
B. Insufficient cerebral blood flow

C. Insufficient cerebral glucose  
D. Insufficient cerebral oxygen  
E. There is no right answer

15. Which of the following drugs may cause bradyarrhythmias leading to syncope?

A. Phenothiazines  
B. Loop diuretics  
C. Calcium channel blockers  
D. Tricyclic antidepressants  
E. All answer is correct

16. When is ECG done in patients with syncope?

A. When syncope occurs during exertion  
B. When symptoms suggest arrhythmias as the cause  
C. When syncope occurs while the patient is lying down  
D. Always  
E. right answer B,C

17. A patient is being discharged home after hospitalization of left ventricular

systolic dysfunction. As the nurse providing discharge teaching to the patient, which statement is NOT a correct statement about this condition?

A. "Signs and symptoms of this type of heart failure can include: dyspnea, persistent cough, difficulty breathing while lying down, and weight gain."

B. "It is important to monitor your daily weights, fluid and salt intake."

C. "Left-sided heart failure can lead to right-sided heart failure, if left untreated."

D. "This type of heart failure can build up pressure in the hepatic veins and cause them to become congested with fluid which leads to peripheral edema."

E. There is no right answer

18. A patient is diagnosed with left-sided systolic dysfunction heart failure. Which of the following are expected findings with this condition?

A. Echocardiogram shows an ejection fraction of 38%.

B. Heart catheterization shows an ejection fraction of 65%.

C. Patient has frequent episodes of nocturnal paroxysmal dyspnea.

D. Options A and C are both expected findings with left-sided systolic dysfunction heart failure.

E. There is no right answer

19. Patients with heart failure can experience episodes of exacerbation. All of the patients below have a history of heart failure. Which of the following patients are at MOST risk for heart failure exacerbation?

A. A 55 year old female who limits sodium and fluid intake regularly.

B. A 73 year old male who reports not taking Amiodarone for one month and is experiencing atrial fibrillation.

C. A 67 year old female who is being discharged home from heart valve replacement surgery.

D. A 78 year old male who has a health history of eczema and cystic fibrosis.

E. All answer is correct

20. A 74 year old female presents to the ER with complaints of dyspnea, persistent cough, and unable to sleep at night due to difficulty breathing. On assessment, you note crackles throughout the lung fields, respiratory rate of 25, and an oxygen saturation of 90% on room air. Which of the

following lab results confirm your suspicions of heart failure?

A. BNP 820

B. K+ 5.6

C. BUN 9

D. Troponin <0.02

E. All answer is correct

21. Which of the following tests/procedures are NOT used to diagnose heart failure?

A. Echocardiogram

B. Brain natriuretic peptide blood test

C. Holter monitoring

D. Nuclear stress test

E. There is no right answer

22. What type of heart failure does this statement describe? The ventricle is unable to properly fill with blood because it is too stiff. Therefore, blood backs up into the lungs causing the patient to experience shortness of breath.

A. Left ventricular diastolic dysfunction

B. Left ventricular ride-sided dysfunction

C. Right ventricular diastolic dysfunction

D. Left ventricular systolic dysfunction

E. There is no right answer

23. Which of the following is a late sign of heart failure?

- A. Shortness of breath
- B. Frothy-blood tinged sputum
- C. Edema
- D. Orthopnea
- E. There is no right answer

24. These drugs are used as first-line treatment of heart failure. They work by allowing more blood to flow to the heart which decreases the work load of the heart and allows the kidneys to secrete sodium. However, some patients can develop a nagging cough with these types of drugs. This description describes?

- A. Beta-blockers
- B. Vasodilators
- C. Angiotensin II receptor blockers
- D. Angiotensin-converting-enzyme inhibitors
- E. There is no right answer

25. A patient with heart failure is taking Losartan and Spironolactone. The patient is having EKG changes that presents with tall peaked T-waves and flat p-waves. Which of the following lab results confirms these findings?

- A. Na+ 135

- B. BNP 560
- C. K+ 8.0
- D. K+ 1.5
- E. Na+ 120

26. During your morning assessment of a patient with heart failure, the patient complains of sudden vision changes that include seeing yellowish-green halos around the lights. Which of the following medications do you suspect is causing this issue?

- A. Lisinopril
- B. Losartan
- C. Lasix
- D. Metoprolol
- E. Digoxin

27. Which of the following is a common side effect of Spironolactone?

- A. Renal failure
- B. Hyperkalemia
- C. Hypokalemia
- D. Dry cough
- E. There is no right answer

28. Which patient below is at MOST risk for developing cardiogenic shock?

- A. A 52-year-old male who is experiencing a severe allergic reaction from shellfish.
- B. A 25-year-old female who has experienced an upper thoracic spinal cord injury.

C. A 72-year-old male who is post-op from a liver transplant.

D. A 49-year-old female who is experiencing an acute myocardial infarction.

E. There is no right answer

29. What is not one of the main symptoms of heart failure?

A. Shortness of breath

B. Warm hands

C. Reduced urinary output

D. Edema

E. None of the above

30. What is the name for shortness of breath when lying down?

A. Orthopnea

B. Apnea

C. Sleep apnea

D. Paroxysmal nocturnal dyspnea

E. Narcolepsy

31. You listen to the heart of your 50 year old patient. You hear an S3 sound. What is the likely diagnosis?

A. Patent ductus arteriosus

B. Aortic stenosis

C. Mitral stenosis

D. Heart failure

E. Cardiopulmonary murmur

32. 1. Which of the following would not be an expected sign of right-sided congestive heart failure?

A. Prominent jugular vein

B. Hepatomegaly

C. Pulmonary edema

D. Pleural effusion

E. There is no right answer

33. Which of the following is true regarding the natriuretic peptides?

A. Contribute to balanced vasoconstriction

B. Promotes sodium retention

C. Increases vasopressin (ADH) release

D. Antagonizes the sympathetic nervous system (SNS)

E. All answer is correct

34. Appropriate interventions in the management of cardiogenic shock:

A. supplemental oxygen

B. surgery to repair valve pathologies or to revascularize

C. intra-aortic balloon pump

D. IV nitroglycerin

E. All answer is correct

35. Vasovagal episodes are often associated with

A. Blood loss

B. Hypothermia

C. Excitement

- D. Distressing news
- E. All answer is correct

36. Vasomotor syncope best refers to

A. Syncope caused by a sudden loss of blood to the brain due to vasoconstriction

B. Syncope caused by a sudden loss of blood to the brain due to vasodilation

C. Syncope caused by a sudden loss of blood to the brain due to loss of vessel tone

D. Syncope caused by a sudden loss of blood to the brain due to vasoconstriction

E. There is no right answer

37. Loss of cerebral blood flow for \_\_\_ seconds results in loss of consciousness.

- A. 3-5
- B. 5 - 10
- C. 10-15
- D. 15-20
- E. 30-45

38. At night a 63-year-old woman suddenly developed an asphyxia attack. She has a 15- year-long history of essential hypertension and had a myocardial infarction 2 years ago. Objectively her position in bed is orthopneic, the skin is pale, the patient

is covered with cold sweat, acrocyanosis is observed. Pulse - 104/min. Blood pressure - 210/130 mm Hg, respiration rate - 38/min. Pulmonary percussion sound is clear, with slight dullness in the lower segments; throughout the lungs single dry crackles can be heard that become bubbling and non-resonant in the lower segments. What is the most likely complication in this patient?

- A. Acute left ventricular failure
- B. Paroxysmal tachycardia
- C. Bronchial asthma attack
- D. Pulmonary embolism
- E. Acute right ventricular failure

39. A 72-year-old man diagnosed with ischemic heart disease presents with diffuse cardiosclerosis, permanent tachysystolic atrial fibrillation, heart failure IIa, FC III. Objective examination of vital signs: blood pressure is 135/80 mm Hg, heart rate is 160/min., pulse is 125/min. Left ventricular ejection fraction is 32%. What drug is indicated in this case and should be prescribed to the patient?

- A. Ivabradine
- B. Procainamide  
(Novocainamide)
- C. Isadrine (Isoprenaline)
- D. Verapamil
- E. Digoxin

40. A patient has a history of heart failure. Which of the following statements by the patient indicates the patient may be experiencing heart failure exacerbation?

A. "I've noticed that I've gain 6 lbs in one week."

B. "While I sleep I have to prop myself up with a pillow so I can breathe."

C. "I haven't noticed any swelling in my feet or hands lately."

D. Options B and C are correct.

E. Options A and B are correct.

## TOPIC 6

### INFECTIOUS ENDOCARDITIS. RHEUMATIC DISEASE. CONGENITAL HEART DISORDER. DENTAL ASPECTS

1. A 40 y.o. patient of rheumatic heart disease complains of anorexia, weakness and loss of weight, breathless and swelling of feet. On examination:  $t=39^{\circ}\text{C}$ , pulse is 100/min. Auscultation: diastolic murmur in the mitral area. Petechial lesion on the right clavicle; spleen was palpable, tooth extraction one month ago.

- A. Subacute bacterial endocarditis
- B. Recurrence of rheumatic fever
- C. Thrombocytopenia purpura
- D. Mitral stenosis
- E. Aortic stenosis

2. A female rheumatic patient experiences diastolic thoracic wall tremor (diastolic thrill), accentuated S1 at apex, there is diastolic murmur with presystolic intensification, opening snap, S2 accent at pulmonary artery. What kind of heart disorder is observed?

- A. Pulmonary artery stenosis
- B. Aortic valve insufficiency
- C. Mitral stenosis
- D. Mitral valve insufficiency
- E. Opened arterial duct

3. A patient, aged 49, complains of fever of  $37,5^{\circ}\text{C}$ , heart pain, dyspnea. S1 is clapping; S2 is accentuated in the aortic area; opening snap, presystolic murmur can be auscultated. What is the most efficient examination for valvular disorder assessment?

- A. Echocardiography+Doppler-Echocardiography
- B. Phonocardiography
- C. Ballistocardiogram
- D. Chest X-ray
- E. ECG

4. A 42 year old woman complains of dyspnea, edema of the legs and tachycardia during minor physical exertion. Heart borders are displaced to the left and S1 is accentuated, there is diastolic murmur on apex. The liver is enlarged by 5 cm. What is the cause of heart failure?

- A. Tricuspid regurgitation
- B. Mitral regurgitation
- C. Tricuspid stenosis
- D. Mitral stenosis
- E. Aortic stenosis

5. A 33-year-old man with a history of rheumatic fever complains of fever up to  $38 - 39^{\circ}\text{C}$ , abdominal pain,

dyspnea, tachycardia. Heart borders are displaced to the left by 2 cm, systolic and diastolic murmurs above aorta, BP of 160/30 mm Hg. Petechial rash occurs after measurement of blood pressure. Liver is enlarged by 3 cm, spleen is palpable. Urine is brown-yellow. What is the most likely diagnosis?

- A. Rheumatic fever
- B. Infectious endocarditis
- C. Acute hepatitis
- D. Acute nephritis
- E. Aortic regurgitation

6. Examination of a 35-year-old patient with rheumatism revealed that the right heart border was 1 cm displaced outwards from the right parasternal line, the upper border was on the level with inferior margin of the 1st rib, the left border was 1 cm in from the left midclavicular line. Auscultation revealed atrial fibrillation, loud apical first sound, diastolic shock above the pulmonary artery. Echocardiography revealed abnormal pattern of the mitral valvemotion. What heart disease is characterized by these symptoms?

- A. Mitral stenosis
- B. Mitral valve prolapse
- C. Mitral valve insufficiency
- D. Aortic stenosis

E. Tricuspid valve insufficiency

7. Six months ago, a 5-year-old child was operated for CHD. For the last 3 weeks he has complained of fever, heart pain, aching muscles and bones. Examination results: "whitecoffee" skin colour, auscultation revealed systolic murmur in the region of heart along with a noise in the III-IV intercostal space. Examination of fingertips revealed Janeway lesions. What is your provisional diagnosis?

- A. Nonrheumatic carditis
- B. Sepsis
- C. Infectious endocarditis
- D. Acute rheumatic fever
- E. Typhoid fever

8. A 67-year-old male complains of dyspnea on exertion, attacks of retrosternal pain, dizziness. He has no history of rheumatism. Objectively: pale skin, acrocyanosis. There are rales in the lower parts of lungs. There is systolic thrill in the II intercostal space on the right, coarse systolic murmur conducted to the vessels of neck. AP- 130/90 mm Hg, heart rate - 90/min, regular rhythm. The liver extends 5 cm under the edge of costal arch, shin edemata are



present. Specify the assumed valvular defect:

- A. Tricuspid regurgitation
- B. Pulmonary artery stenosis
- C. Mitral insufficiency
- D. Ventricular septal defect
- E. Aortic stenosis

9. A 17 y.o. patient complains of acute pain in the knee joint and  $t_{0-38}^{\circ}\text{C}$ . He was ill with angina 3 weeks ago. Objectively: deformation and swelling of the knee joints with skin hyperemia. Small movement causes an acute pain in the joints. Which diagnose is the most correct?

- A. Systemic lupus eritematodes
- B. Rheumatic fever, polyarthritis
- C. Reactive polyarthritis
- D. Infectious-allergic polyarthritis
- E. Rheumarthrititis

10. A 18 y.o. male patient complains of pain in knee and ankle joints, temperature elevation to  $39,5^{\circ}\text{C}$ . He had a respiratory disease 1,5 week ago. On examination: temperature-  $38,5^{\circ}\text{C}$ , swollen knee and ankle joints, pulse- 106 bpm, rhythmic, AP- 90/60 mm Hg, heart borders without changes, sounds are weakened, soft systolic apical murmur. What

indicator is connected with possible etiology of the process?

- A. Rheumatic factor
- B. 1-antitrypsine
- C. Creatinkinase
- D. Antistreptolysine-0
- E. Seromuroid

11. A 40 y.o. woman is ill with rheumatic disease with composite mitral disease with prevalence of the stenosis of left venous foramen. Complains of palpitation, fatigability, progressing dyspnea, attacks of dyspnea and hemoptysis. Now she cannot be engaged even in the easy activities. What tactics is the most expedient?

- A. Mitral commissurotomy
- B. Conduction of current bicilinoprofilaxis
- C. Prescription of anticoagulants
- D. Prescription of venous vasodilators
- E. All answer is correct

12. A 19 y.o. girl admitted to the hospital complained of pain in the knee and fever of  $38,6^{\circ}\text{C}$ . She is ill for 2 weeks after acute tonsillitis. On exam, hyperemia and swelling of both knees, temperature is  $37,4^{\circ}\text{C}$ , HR- 94/min, BP- 120/80 mm Hg, and heart

border is displaced to the left; S1 is weak, systolic murmur is present. Total blood count shows the following: Hb- 120 g/L, WBC-  $9,8 \cdot 10^9/L$ , ESR of 30 mm/L. ECG findings: the rhythm is regular, PQ = 0,24 sec. What is a causative agent of the disease?

- A. Viral-bacterial association
- B. Beta-hemolytic streptococci
- C. Autoimmune disorder
- D. Staphylococci
- E. Ricchetsia

13. A 25 year old patient had pharyngitis 2 weeks ago. Now he complains about body temperature rise up to 38°C, general weakness, dyspnea during walking, swelling and shifting pain in the articulations. Objectively: cyanosis of lips, rhythmic pulse of poor volume - 100 bpm. Left cardiac border deviates outwards from the medioclavicular line by 1 cm. The first heart sound is weakened on the apex, auscultation revealed systolic souffle. What is the most probable aetiological factor that caused this pathological process?

- A. Staphylococcus
- B.  $\beta$ -haemolytic streptococcus
- C. Pneumococcus
- D. Virus
- E. Fungi

14. An 11-year-old boy complains of general weakness, fever up to 38,2°C, pain and swelling of the knee joints, feeling of irregular heartbeat. 3 weeks ago, the child had quinsy. Knee joints are swollen, the overlying skin and skin of the knee region is reddened, local temperature is increased, movements are limited. Heart sounds are muffled, extrasystole is present, auscultation reveals apical systolic murmur that is not conducted to the left inguinal region. ESR is 38 mm/h. CRP is 2+, antistreptolysin O titre - 400. What is the most likely diagnosis?

- A. Reactive arthritis
- B. Vegetative dysfunction
- C. Non-rheumatic carditis
- D. Juvenile rheumatoid arthritis
- E. Acute rheumatic fever

15. A 37 y.o. woman is suffering from squeezing substernal pain on physical exertion. On examination: AP- 130/80 mm Hg, heart rate=pulse rate 72 bpm, heart borders are dilated to the left side, aortic systolic murmur. ECG-signs of the left venticle hypertrophy. What method of examination is the most informative in this case?

- A. Coronarography
- B. Phonocardiography

- C. Echocardiography
- D. Sphygmography
- E. X-ray

16. Aortic stenosis (AS) occurs when the aortic valve narrows, obstructing blood flow from the left ventricle to the ascending aorta during systole. There are several different causes of AS, and the causes differ among age groups. However, in low and middle income countries, which of the following is the most common cause of AS in all age groups?

- A. Congenital bicuspid valve
- B. Idopathic degenerative sclerosis with calcification
- C. Psoriasis
- D. Rheumatic fever
- E. There is no right answer

17. In all forms of progressive untreated aortic stenosis (AS), exertional syncope, angina, and dyspnea eventually develop. There are no visible signs of AS, although there are palpable signs such as carotid and peripheral pulses that are reduced in amplitude and slow rising. On auscultation, which of the following audible findings is most characteristic of AS?

- A. Crescendo-decrescendo ejection murmur

- B. Ejection click early after S1
- C. S4
- D. Splitting of S2
- E. All answer is correct

18. Which of the following heart valve disorders causes blood to flow from the left ventricle into the left atrium during ventricular systole?

- A. Aortic regurgitation
- B. Mitral regurgitation
- C. Pulmonic stenosis
- D. Tricuspid stenosis
- E. There is no right answer

19. If a valvular lesion causes no symptoms or cardiac dysfunction, management commonly requires which of the following?

- A. Diet modification
- B. Drug therapy
- C. Exercise regimen
- D. Periodic monitoring
- E. All answer is correct

20. A 72-year-old woman has had no major illnesses throughout her life. She has had 3 syncopal episodes during the past 2 weeks. Over the past 2 days she has developed shortness of breath and a cough with production of frothy white sputum. On physical examination she is afebrile. Her blood pressure is 135/90 mm Hg. She has no

peripheral edema. A chest radiograph reveals a prominent left heart border in the region of the left ventricle, but the other chambers do not appear to be prominent. There is marked pulmonary edema. Laboratory studies show a total serum cholesterol of 170 mg/dL. Which of the following is the most likely diagnosis?

- A. Acute rheumatic fever
- B. Mitral valve insufficiency
- C. Atherosclerotic aortic aneurysm
- D. Calcific aortic stenosis
- E. Infective endocarditis

21. A 49-year-old woman had atrial fibrillation that was poorly controlled, even with amiodarone therapy. She suffered a 'stroke' and died. At autopsy, her 600 gm heart is noted to have a mitral valve with partial fusion of the leaflets along with thickening and shortening of the chordae tendineae. There is an enlarged left atrium filled with mural thrombus. Which of the following underlying causes of death is she most likely to have?

- A. Systemic lupus erythematosus
- B. Coronary atherosclerosis
- C. Rheumatic heart disease
- D. Marantic endocarditis

#### E. Cardiac amyloidosis

22. A patient is receiving treatment for infective endocarditis. The patient has a history of intravenous drug use and underwent mitral valve replacement a year ago. The patient is scheduled for a transesophageal echocardiogram tomorrow. On assessment, you find tender, red lesions on the patient's hands and feet. You know that this is a common finding in patients with infective endocarditis and is known as?

- A. Janeway Lesions
- B. Roth Spots
- C. Osler's Nodes
- D. Trousseau's Sign
- E. There is no right answer

23. A 30 year old female is being treated for infective endocarditis with IV antibiotics. At the beginning of the hospitalization, the patient's symptoms were severe and sudden with a high fever but are now controlled. She has no significant health history other than 2 cesarean sections in the past. She is being prepped for a central line placement so she can be discharged home with home health to continue the 4 week antibiotic regime. What is type of

infective endocarditis this classified as based on the information listed?

- A. Acute Infective Endocarditis
- B. Subacute Infective Endocarditis
- C. Non-infective Endocarditis
- D. Pericarditis
- E. There is no right answer

24. Which instrumental examination is a method of choice to make diagnosis and specify valvular heart disease?

- A. ECG
- B. Holter monitoring
- C. Doppler ultrasound test
- D. Coronarography
- E. Cardiac catheterization

25. A 23-year-old man complains of facial edemas, headache, dizziness, low urinary output, and urine discoloration (dark red). These complaints arose after a case of acute tonsillitis. On examination there are facial edemas, the skin is pale, temperature is 37.4oC; heart rate is 86/min., blood pressure is 170/110 mm Hg. Heart sounds are muffled, the II heart sound is accentuated over the aorta. What etiological factor is the most likely in this case?

- A. Beta-hemolytic streptococcus

B. Staphylococcus aureus

C. Streptococcus viridans

D. Streptococcus pyogenes

E. Staphylococcus saprophyticus

26. A 39-year-old man suffers from chronic rheumatic heart disease. He complains of dyspnea during physical exertion, cough with expectoration, and palpitations. Auscultation detects intensified I heart sound and diastolic murmur; the sound of opening mitral valve can be auscultated at the cardiac apex. The II heart sound is accentuated over the pulmonary artery. The patient is cyanotic. X-ray shows dilated pulmonary root and enlargement of the right ventricle and left atrium. What is the most likely diagnosis?

A. Aortic stenosis

B. Mitral stenosis

C. Pulmonary artery stenosis

D. Coarctation of the aorta

E. Patent ductus arteriosus

27. Rheumatic fever is inflammation of the joints, heart, skin, and nervous system that occurs in children as a complication of untreated streptococcal infection of the throat. While most people with rheumatic fever recover, which part of the body

may be permanently damaged in a small percentage of people?

- A. Digestive tract
- B. Ears
- C. Heart
- D. Lungs
- E. All answer is correct

28. Which of the following is usually the first symptom of rheumatic fever?

- A. Chest pain or palpitations
- B. Jerky, uncontrollable movements
- C. Joint pain and fever
- D. Rash
- E. All answer is correct

29. \_\_\_\_\_ is effective in diagnosing infective endocarditis in patients with congenital heart disease.

- A. Duke criteria
- B. Presence of Janeway lesions
- C. Electocardiography
- D. All answer is correct
- E. EEG

30. Most commonly affected in IE is

- A. Valve leaflets
- B. Chordae
- C. Chamber walls
- D. Periprosthetic tissue
- E. All answer is correct

31. The clinical manifestations of IE result from

- A. Cytokines
- B. Intracardiac infection
- C. Embolization
- D. Immunological phenomenon
- E. All of the above

32. Which species of bacteria typically causes infective endocarditis?

- A. Staphylococcus
- B. Helicobacter
- C. Bacillus
- D. None of the above
- E. All of the above

33. Which of the following Duke criteria is a major criterium for infective endocarditis?

- A. Immunologic findings such as glomerulonephritis
- B. Predisposing heart condition or intravenous drug use
- C. Blood cultures positive for typical infective endocarditis organisms
- D. All of the above
- E. All of the above

34. Which of the following is a CORRECT diagnostic test to confirm mitral stenosis?

- A. CT Scan

- B. MRI
- C. Echocardiogram
- D. Spirometry
- E. ECG

35. A 10-year-old girl was admitted to a hospital with carditis presentations. It is known from the anamnesis that two weeks ago she had exacerbation of chronic tonsillitis. What is the most likely etiological factor in this case?

- A. Streptococcus
- B. Staphylococcus
- C. Pneumococcus
- D. Klebsiella
- E. Proteus

36. A 12-year-old child had three attacks of acute rheumatic fever accompanied by carditis. Examination revealed the symptoms of chronic tonsillitis, mitral insufficiency, carious teeth. What is the optimal method of secondary prophylaxis?

- A. Course of cardiotrophic drugs twice a year
- B. Year-round bicillin prophylaxis till the age of 25
- C. Year-round bicillin prophylaxis for 3 years
- D. Tonsillectomy
- E. Oral cavity sanitation

37. A 72-year-old man comes to the office because he has had frequent episodes of chest pain and tightness, dizziness, and shortness of breath over the past month. He says the episodes occur most often when he is walking up the stairs to his bedroom. On physical examination, findings on auscultation of the chest are indicative of aortic stenosis (AS). Echocardiography shows a peak aortic jet velocity of 3 m/sec, mean gradient of 30 mm Hg, and valve area of 1.5 cm<sup>2</sup>. Based on these findings, this patient's AS is characterized as which of the following?

- A. Mild
- B. Moderate
- C. Severe
- D. Very severe
- E. ----

38. Auscultation of the heart requires excellent hearing to be able to distinguish subtle differences in pitch and timing of heart sounds, murmurs, and rubs. Systolic heart sounds include the first heart sound (S1) and clicks. Which of the following conditions is most likely indicated when S1 is soft or absent?

- A. Mitral regurgitation
- B. Mitral stenosis

- C. Pulmonary hypertension
  - D. Pulmonic stenosis
  - E. There is no right answer
39. Which of the following is the most common clinical feature at presentation in acute rheumatic fever (ARF)?
- A. Erythema marginatum.
  - B. Carditis.
  - C. Arthritis.
  - D. Subcutaneous nodules.
  - E. There is no right answer
40. Name three diagnostic tests used to diagnose rheumatoid heart disease.
- A. Cardiac MRI, bronchoscopy, and abdominal x-ray
  - B. Throat culture, EKG, and cardiac catheterization
  - C. Percutaneous coronary intervention, head CT, and thoracentesis
  - D. Chest x-ray, echocardiogram, and blood tests
  - E. There is no right answer



**TOPIC 7**  
**CONNECTIVE TISSUE DISEASES. SYSTEMIC VASCULITIS. DENTAL ASPECTS**

1. A 31 y.o. patient has been suffering from systemic scleroderma for 14 years. She has been treated in hospital many times. She complains of occasional dull pain in the heart region, palpitation, dyspnea, headache, eye-lid edemata, weight loss and deformation of extremities joints. What organ affection worsens the disease prognosis?

- A. Gastrointestinal tract
- B. Heart
- C. Lungs
- D. Kidneys
- E. Skin and joints

2. A 41 y.o. woman complains of weakness, fatigue, fever up to 38°C, rash on the face skin, pain in the wrists and the elbows. On physical examination: erythematous rash on the cheeks with "butterfly" look, the wrists and elbow joints are involved symmetrically, swollen, sensitive, friction rub over the lungs, the heart sounds are weak, regular, HR 88/min, BP- 160/95 mm Hg. Hematology shows anemia, leucopenia, lymphopenia; on urinalysis: proteinuria, leukocyturia, casts. What

is the main mechanism of disease development?

- A. Production of antibodies to double stranded DNA
- B. Production of myocytes antibodies
- C. Production of antibodies to endothelial cells
- D. Production of myosin antibodies
- E. Production of antimitochondrial antibodies

3. A 32 year old patient complains about pain in small joints of her hands, paresthesia at the tips of fingers, weakness, difficult deglutition. She has been suffering from this for 13 years. Objectively: face amimia, shortening of nail bones, skin indurations in the area of shoulder girdle are present. Roentgenological examination of lungs revealed basal pneumosclerosis. Fibrogastroscopy revealed esophagus constriction in its cardial part. Blood count: leukocytes -  $9,8 \cdot 10^9/l$ , ESR – 22 mm/h,  $\gamma$ -globulin - 22%. What is the most probable diagnosis?

- A. Systemic lupus erythematosus
- B. Systemic scleroderma
- C. Rheumatoid arthritis
- D. Dermatomyositis
- E. Myxedema

4. A 13 year old girl was admitted to the cardiological department because of pain in the muscles and joints. Examination of her face revealed an edematous erythema in form of butterfly in the region of nose bridge and cheeks. What is the most probable diagnosis?

- A. Periarteritis nodosa
- B. Rheumatism
- C. Dermatomyositis
- D. Rheumatoid arthritis

E. Systemic lupus erythematosus

5. A 30-year-old patient presented with body temperature rise up to 38,5°C, pain in the small articulations of hands; face edemata and erythema. In blood: RBCs -  $2,6 \cdot 10^{12}/l$ ; Hb - 98 g/l; WBCs -  $2 \cdot 10^9/l$ ; ESR - 58 mm/h. In the urine: protein - 3,1 g/l; RBCs - 10-15 in the vision field. What disease can be suspected in this case?

A. Systemic lupus erythematosus

- B. Sepsis
- C. Systemic scleroderma
- D. Periarteritis nodosa
- E. Acute glomerulonephritis

6. A 58-year-old patient complains about sensation of numbness, sudden paleness of II-IV fingers, muscle rigidity, intermittent pulse. The patient presents also with polyarthralgia, dysphagia, constipations. The patient's face is masklike, solid edema of hands is present. The heart is enlarged; auscultation revealed dry rales in lungs. In blood: ESR - 20 mm/h, crude protein - 85/l,  $\gamma$ -globulines - 25%. What is the most likely diagnosis?

- A. Rheumatoid arthritis
- B. Dermatomyositis
- C. Systemic scleroderma
- D. Systemic lupus erythematosus

E. Raynaud's disease

7. A 32-year-old patient has a 3-year history of asthma attacks, that can be hardly stopped with berotec. Over a few last months he has experienced pain in the joints and sensitivity disorder of legs and feet skin. Ps - 80/min, AP - 210/100 mm Hg. In blood: eosinophilia at the rate of 15%.

What disease can be suspected in this case?

- A. Dermatomyositis
- B. Systemic lupus erythematosus
- C. Systemic scleroderma
- D. Periarteritis nodosa
- E. Wegener's disease

8. A 58-year-old patient complains about sensation of numbness, sudden paleness of II-IV fingers, muscle rigidity, intermittent pulse. The patient presents also with polyarthralgia, dysphagia, constipations. The patient's face is masklike, solid edema of hands is present. The heart is enlarged; auscultation revealed dry rales in lungs. In blood: ESR - 20 mm/h, crude protein - 85/l,  $\gamma$ - globulines - 25%. What is the most likely diagnosis?

- A. Dermatomyositis
- B. Systemic scleroderma
- C. Rheumatoid arthritis
- D. Systemic lupus erythematosus
- E. Raynaud's disease

9. A 28-year-old female patient with a six-year history of Raynaud's syndrome has recently developed pain in the small joints of hands, difficult

movement of food down the esophagus. What kind of disease can you think of in this case?

- A. Systemic scleroderma
- B. Periarteritis nodosa
- C. Rheumatoid arthritis
- D. Systemic lupus erythematosus
- E. Pseudotrachiniasis

10. After a holiday in the Crimea, a 36-year-old female patient presents with severe pain in the elbow joints, dyspnea and weakness. The body temperature is of 37, 6°C, the skin is pale, there is erythema of cheeks and nose, lower lip ulceration. Visual inspection reveals no changes in the joints, the right elbow movement is limited. There is murmur and pleural friction in the lungs below the right angle of the scapula. Cardiac sounds are muffled, there is tachycardia, gallop rhythm, Ps- 114/min. AP- 100/60. What is the most likely diagnosis?

- A. Rheumatoid arthritis
- B. Rheumatic heart disease
- C. SLE
- D. Infectious allergic myocarditis
- E. Dry pleurisy

11. Results of which of the following tests may support the diagnosis of granulomatosis with polyangiitis, eosinophilic granulomatosis with polyangiitis, or microscopic polyangiitis?

- A. Antineutrophil cytoplasmic antibody (ANCA) testing
- B. Tests for serum C-reactive protein (CRP)
- C. Erythrocyte sedimentation rate (ESR)
- D. Measurement of serum albumin
- E. There is no right answer

12. Polyarteritis nodosa (PAN) is a rare, systemic necrotizing vasculitis that typically affects medium-sized muscular arteries, resulting in secondary tissue ischemia. Most cases are idiopathic, but about 20% of patients with PAN have which of the following conditions?

- A. Hepatitis B or C
- B. Leukemia
- C. Rheumatoid arthritis
- D. Sjögren syndrome
- E. All answer is correct

13. PAN most commonly affects which of the following parts of the body?

- A. Heart

- B. Kidneys
- C. Liver
- D. Long bones
- E. All answer is correct

14. Which of the following is the best screening test to evaluate a patient for possible SLE?

- A. Anti-Ro antibody test
- B. Antiphospholipid antibody test
- C. Serum complement levels
- D. Fluorescent test for ANA
- E. All answer is correct

15. Most deaths from systemic sclerosis are due to involvement of the heart, lungs, and which of the following?

- A. Skin
- B. Esophagus
- C. Kidneys
- D. Lower GI tract
- E. There is no right answer

16. Systemic sclerosis is most common among which of the following age groups?

- A. Age 6 mo to 3 yr
- B. Age 10 to 16 yr
- C. Age 20 to 50 yr
- D. Age 60 to 75 yr
- E. All answer is correct

17. The most common initial symptoms and signs of systemic sclerosis include which of the following?

- A. Dysphagia
- B. Heartburn
- C. Dyspnea
- D. Raynaud syndrome
- E. All answer is correct

18. A 23-year-old woman has had worsening malaise along with a malar skin rash persisting for 3 weeks. On physical examination, she has an audible friction rub on auscultation of the chest, along with a faint systolic murmur. An echocardiogram reveals small vegetations on the mitral valve and adjacent ventricular endocardium. Laboratory studies show a positive serologic test for anti-Smith antibody, with a titer of 1:2048. Which of the following is the most likely diagnosis?

- A. Polyarteritis nodosa
- B. Scleroderma, diffuse
- C. Systemic lupus erythematosus
- D. ANCA-associated granulomatous vasculitis
- E. Adenocarcinoma of the pancreas

19. A 24-year-old woman with rheumatic heart disease becomes febrile. On physical examination she has a systolic murmur. An echocardiogram shows vegetations of the aortic valve cusps. A blood culture is positive for *Staphylococcus epidermidis*. She receives a porcine bioprosthesis because of her desire to have children and not to take anticoagulant medication. After ten years, she must have this prosthetic valve replaced. Which of the following pathologic findings in the bioprosthesis has most likely led to the need for replacement?

- A. Calcification
- B. Endocarditis
- C. Strut failure
- D. Dehiscence
- E. Thrombosis

20. A 40-year-old man is undergoing treatment for a proliferative glomerulonephritis. Laboratory studies show an elevated antinuclear antibody and anti-ds-DNA titer. Which of the following cardiac abnormalities is most likely to be present in this man?

- A. Pancarditis
- B. Libman-Sacks endocarditis
- C. Hemorrhagic pericarditis
- D. Lipofuscin deposition

## E. Coronary artery vasculitis

21. A 38-year-old woman has severe systemic lupus erythematosus with renal complications. She is treated with long-term corticosteroid therapy. Which of the following bone diseases is she most likely to develop?

- A. Paget disease of bone
- B. Rickets
- C. Osteochondritis
- D. Osteoporosis
- E. Osteomalacia

22. A 26-year-old woman is suspected to suffer from systemic lupus erythematosus due to systemic lesions of skin, vessels, joints, serous tunics, and heart that developed after photosensitization. The following is detected: LE cells, antibodies to native DNA, isolated anti-centromere antibodies, rheumatoid factor is 1:100, Wassermann reaction is positive, circulating immune complex is 120 units. What immunological indicators are considered to be specific to this disease?

- A. DNA antibodies
- B. Rheumatoid factor
- C. Anti-centromere antibodies
- D. Immunoglobulin A
- E. Increased circulating immune complex

23. Which statements below are INCORRECT about Systemic Lupus Erythematosus? Select all that apply:

- A. Lupus mainly affects Black, Asian, and Hispanic men.
- B. Lupus is a chronic condition that has periods of flare-ups and remission.
- C. The joints and skin are rarely affected in lupus.
- D. Systemic Lupus Erythematosus (SLE) is the most common form of lupus.
- E. The answers are A and C

24. A patient is diagnosed with Systemic Lupus Erythematosus (SLE). You note the patient has a red rash that starts on the nose and expands onto the cheeks of the face. This is known as what type of rash?

- A. Discoid
- B. Malar
- C. Miliaria
- D. Eczema
- E. All answer is correct

25. A majority of individuals develop Sjögren syndrome as a complication from which other autoimmune disease?

- A. Lupus
- B. Gout

- C. Ankylosing Spondylitis
- D. All answer is correct
- E. There is no right answer

26. Which drugs are not used to treat mild cases of mixed connective tissue disease?

- A. Nonsteroidal anti-inflammatory drugs (NSAIDs)
- B. Corticosteroids
- C. Immunosuppressive drugs
- D. Antimalarial drugs (such as hydroxychloroquine)
- E. There is no right answer

27. An early symptom of mixed connective tissue disease is Raynaud phenomenon. Which of the following describes the effects of Raynaud phenomenon?

- A. Muscle weakness
- B. Tingling or numb fingers
- C. Tightening of the skin on the fingers
- D. Aching joints
- E. All answer is correct

28. Mixed connective tissue disease is a term used by some doctors to describe a disorder characterized by Raynaud phenomenon, joint pains, skin abnormalities, and which of the following?

- A. Muscle weakness

- B. Itching all over
- C. Diarrhea
- D. Dizziness

- E. There is no right answer

29. A 47-year-old woman with a history of chronic asthma presents with numbness and tingling in her hands and feet, with right foot "weakness". She has recently noted increased dyspnea without wheezes, as well as PND, orthopnea and ankle swelling. On physical exam, she has palpable purpura and papular lesions over her elbow. HEENT exam reveals nasal polyps. On lung exam, she is noted to have bibasilar crackles without wheezes, and an S3 gallop is noted on cardiac auscultation. Lower extremity exam reveals 1+ pitting edema. Neurologic exam reveals decreased sensation in both feet, and reduced dorsi-flexion of right foot.

Laboratory studies:

Hemoglobin 12.9 g/dL

Leukocyte count 12,400 /uL (46% neutrophils, 29% eosinophils, 16% lymphocytes, 9% monocytes)

Serum creatinine 1.0 mg/dL

Creatinine kinase normal

p-ANCA negative

Urinalysis trace protein; 0-3 RBC's/hpf

Chest radiograph reveals scattered bilateral nodular infiltrates, cardiac enlargement and vascular congestion  
Echocardiogram reveals global hypokinesis with ejection fraction of 4

The most likely diagnosis is:

- A. Churg-Strauss syndrome (eosinophilic granulomatosis with polyangiitis-EGPA)
- B. Microscopic polyangiitis (MPA)
- C. Henoch-Schonlein purpura (HSP)
- D. Giant cell arteritis
- E. There is no right answer

30. A 57-year-old woman with unilateral headache, vision loss, and "morning joint stiffness" has a biopsy of her temporal artery done in your office. What are the histologic findings you would expect to see in the biopsy?

- A. Large vessel giant cell vasculitis with fragmentation of elastic lamina
- B. Small vessel eosinophilic vasculitis
- C. Medium vessel vasculitis with fibrinoid necrosis
- D. Large vessel granulomatous vasculitis with massive intimal fibrosis

E. Medium vessel transmural vasculitis

31. Histologic examination of a renal biopsy reveals necrotic changes of glomerular capillaries and proliferation of the epithelium of the Bowman capsule. Which of the following diseases does the patient most likely have?

- A. Polyarteritis nodosa
- B. Henoch Shonlein purpura
- C. Microscopic polyangiitis
- D. Churg-Strauss syndrome
- E. Lupus

32. A 56-year-old Hispanic male presents to the outpatient clinic with reddish-blue lesions on his lower extremities, fever, muscle pain, and weight loss. He reports a history of acute viral hepatitis B three months ago. Physical examination reveals multiple red-purple nodules on the skin of both legs. Laboratory results for P- and C-ANCA are negative. Urinalysis reveals hematuria and proteinuria. Abdominal ultrasound reveals few 1 – 2 cm fluid-filled cavities in both kidneys. Which of the following is the most likely diagnosis?

- A. Polyarteritis nodosa
- B. Microscopic polyangiitis



- C. Churg-Strauss syndrome
- D. Henoch-Schonlein purpura
- E. Lupus

33. A 47-year-old Caucasian male seeks medical care because of transient hematuria and hemoptysis of one week duration. He had an acute bacterial pneumonia five weeks ago and from that time he has not felt well. Two weeks ago the patient noticed some bloody nasal discharge. He also complains that his left knee has been hurting and that red spots have appeared on his arms and legs. Physical examination reveals lower leg pitting edema, and many small, red, raised lesions on the skin of his extremities that are painless. BP is 150/95 mm Hg. Lab Findings:

Moderate leukocytosis with ordinary WBC differential count

UA: hematuria and proteinuria

Elevated serum P-ANCA level

Normal serum IgA level

What is the most likely diagnosis?

- A. Polyarteritis nodosa
- B. Microscopic polyangiitis
- C. Rheumatic fever
- D. Subacute bacterial endocarditis
- E. Churg-Strauss syndrome

34. What histological changes are most likely seen within the wall of affected vessels?

- A. Transmural inflammation with fibrinoid necrosis
- B. Necrotizing granuloma
- C. Eosinophilic granuloma
- D. Granuloma with intimal proliferation and elastic fiber destruction
- E. There is no right answer

35. A 34-year old Caucasian female presents with malaise, fever, arm pain, loss of appetite, and blurred vision. Physical examination reveals a diminished pulsation and low BP on the upper extremities; pulses and BP pressure on the lower extremities are WNL. Which of the following are the most likely morphologic changes within the affected arteries?

- A. Segmental necrotizing inflammation
- B. Necrotizing inflammation with thrombosis and abscess formation
- C. Necrotizing inflammation with eosinophilia
- D. Granulomatous inflammation and AFBs
- E. Granulomatous inflammation

36. Henoch-Schonlein purpura frequently follows a respiratory tract

infection. What is the reason for the purpuric rash?

- A. IgM immune complexes that induce vasculitis
- B. Macrophage activation that triggers cytokine secretion with subsequent vascular leakage
- C. Histamine release by mast cells in the skin
- D. IgA immune complexes that induce vasculitis
- E. There is no right answer

37. Which immunoglobulin is prominently involved with the lesions of Henoch-Schonlein purpura?

- A. IgA.
- B. IgG
- C. IgM
- D. IgD
- E. IgE

38. A 48-year-old man presents with a 4-month history of a recurring, painful, erythematous papular rash on the upper and lower extremities. A skin biopsy reveals leukocytoclastic vasculitis (LCV). He is otherwise healthy and on no medications.

Laboratory studies:

Complete blood count Normal

Urinalysis Normal

C3, C4 complement Normal

ANCA Negative

Serum protein electrophoresis Normal  
Cryoglobulins positive for Type II cryoglobulins

ANA Titer of 1:80

The laboratory testing which would be the most appropriate in this patient's evaluation is:

- A. Anti-DNA
- B. Hepatitis serologies
- C. Anti-phospholipid antibodies
- D. Anti-SSA, SSB antibodies
- E. IgE

39. A 76-year-old man presents with a 6-week history of fevers, fatigue, a new temporal headache, and morning stiffness involving the shoulder and hip girdle. Two days prior to his visit, he experienced an episode of transient diplopia. On physical examination, he has mild scalp tenderness diffusely, with normal pulses. There is no lymphadenopathy. Musculoskeletal examination reveals mild pain and restricted motion of his hips and shoulders bilaterally. Neurologic examination is unremarkable.

Laboratory studies:

Hematocrit 31%

Leukocyte count 10,500/uL

Platelet count 401,000/uL

Erythrocyte sedimentation rate 68 mm/hr

The next best step in management of this patient is:

A. Refer the patient to an ophthalmologist for a dilated fundoscopic examination

B. Start prednisone 15mg daily for polymyalgia rheumatica and ask him to return in 7-10 days for a repeat examination

C. Refer the patient for a temporal artery biopsy with a return appointment after the biopsy to discuss treatment options

D. Start prednisone 60mg daily and arrange for an urgent temporal artery biopsy

E. There is no right answer

40. A 68-year-old man with a history of diffuse atherosclerotic vascular disease presents with purplish discoloration of the toes of his right foot. He has noted a low-grade fever and diffuse myalgias. Ten days ago he underwent an arterial catheterization procedure. On physical examination

he has normal blood pressure, reduced pulses in his lower extremities, and a blotchy rash on both lower legs (livedo reticularis).

Laboratory studies:

Leukocyte count 11,500 /uL with 18% eosinophils

Erythrocyte sedimentation rate 68 mm/h

C3 decreased

C4 decreased

Rheumatoid factor negative

Anti-nuclear antibodies Titer of 1:80

Creatinine 1.8 mg/dL

Urinalysis trace protein, 0-3 RBCs/hpf

Anti-cardiolipin antibodies negative

Hepatitis serologies negative

The most likely diagnosis is:

A. Thromboangiitis obliterans (Buerger's disease)

B. Cholesterol emboli syndrome

C. Polyarteritis nodosa

D. Cryoglobulinemia

E. There is no right answer

## TOPIC 8

### GASTRITIS. GASTRIC AND DUODENAL ULCER. INTESTINAL DISEASES (CHRONIC COLITIS, COLITIS, NONSPECIFIC ULCERATIVE COLITIS). DENTAL ASPECTS

1. Etiology of chronic gastritis type A:
  - A. *H. pylori*
  - B. NSAIDs
  - C. autoimmune
  - D. chemical damage
  - E. all answers are correct
  
2. H<sub>2</sub>-blockers include:
  - A. Famotidine
  - B. Itoprid
  - C. Pantoprazole
  - D. Clarithromycine
  - E. L-Carnitine
  
3. Prokinetics include:
  - A. Famotidine
  - B. Itopride
  - C. Pantoprazole
  - D. Clarithromycine
  - E. L-Carnitine
  
4. IPP include:
  - A. Famotidine
  - B. Itoprid
  - C. Pantoprazole
  - D. Clarithromycine
  - E. L-Carnitine
  
5. The most common etiological factor of peptic ulcer disease:
  - A. long-term NSAIDs intake
  - B. duodenogastral reflux
  - C. *H. pylori* infection
  - D. stress
  - E. smoking
  
6. The 48 years old patient complains of periodic pain in epigastrium, without irradiation, heartburn, which amplify after meals, migraine and sleeplessness. After reception of 20 mg of rabeprazole during first two days these symptoms disappeared. For what disease this clinical picture is typical?
  - A. Type A chronic gastritis
  - B. Duodenal ulcer
  - C. Functional dyspepsia
  - D. Chronic pancreatitis
  - E. Chronic hepatitis
  
7. Patient P., 35 years old, complains of pressing epigastric pain in 1 hour after eating, heartburn, sour belch. He is considered to be ill during last 2 years. A pain in pyloroduodenal

area presents upon the abdominal palpation. Upper endoscopy found an antral gastritis. What is the preliminary diagnosis?

- A. Chronic gastritis
- B. Duodenal ulcer
- C. Functional dyspepsia
- D. Chronic pancreatitis
- E. Chronic hepatitis

8. A 33 y.o. male patient was admitted to a hospital. A patient is pale, at an attempt to stand up he complains of strong dizziness. There was vomiting like coffee-grounds approximately hour ago. BP- 90/60 mm Hg., pulse- 120 b/min. In anamnesis, a patient has suffered from ulcer of the stomach, painless form during 4 years. An ulcer was exposed at gastrofibroscopy. Your diagnosis:

- A. Ulcer of duodenum, complicated with bleeding
- B. Ulcer of stomach, complicated with bleeding
- C. Erosive gastritis
- D. Acute pleurisy
- E. Acute myocardial infarction, abdominal

9. A 27 y.o. man complains of pain in epigastrium which is relieved by food intake. EGDF shows antral erosive gastritis, biopsy of antral mucous

presents *Helicobacter Pylori*. What can be diagnosed in this case?

- A. Rigid antral gastritis
- B. Gastritis of A type
- C. Reflux - gastritis
- D. Menetrier's disease
- E. Gastritis of type B

10. A 35 y.o. woman consulted a doctor about occasional pains in paraumbilical and iliac region that reduce after defecation or passage of gases. Defecation takes place up to 6 times a day, stool is not solid, with some mucus in it. Appetite is normal, she has not put off weight. First such symptoms appeared 1,5 year ago, but colonoscopy data reveals no organic changes. Objectively: abdomen is soft, a little bit painful in the left iliac region. Blood and urine are normal. What is the preliminary diagnosis?

- A. Irritable bowels syndrome
- B. Celiac disease
- C. Crohn's disease
- D. Pseudomembranous colitis
- E. Dispancreatism

11. A 27 y.o. man complained of aching epigastric pain right after meal, heartburn and nausea. Stomach endoscopy revealed a large amount of mucus, hyperemia and edema of mucous membrane in gastric fundus

with areas of atrophy. Make a diagnosis.

- A. Chronic gastritis of type C
- B. Chronic gastritis of type B
- C. Peptic ulcer of stomach
- D. Chronic gastritis of type A
- E. Menetrier's disease

12. A 39 y.o. woman complains of squeezed epigastric pain 1 hour after meal and heartburn. She had been ill for 2 years. On palpation, there was moderate tenderness in pyloroduodenal area. Antral gastritis was revealed on gastroscopy. What study can establish genesis of the disease?

- A. Examination of stomach motor function
- B. Detection of autoantibodies in the serum
- C. Gastrin level in blood
- D. Examination of stomach secretion
- E. Revealing of Helicobacter infection in gastric mucosa

13. A 45 y.o. man complains of having intensive pain in the epigastric region 1,5- 2 hours later after food intake. He has been suffering from ulcer for 11 years. Objectively: t 0-36, 50, RR16/min, Ps- 70 bpm, AP-120/80 mm Hg. On palpation: local

painfulness in the right epigastric region. What parameters of intragastric Ph-meter in the region of stomach body are the most typical for this patient's disease?

- A. pH = 1,0-2,0
- B. pH = 3,0-4,0
- C. pH = 4,0-5,0
- D. pH = 5,0-6,0
- E. pH = 6,0-7,0

14. A 32 year old patient complains about heartburn and dull pain in the epigastrium that appear 2-3 hours after meal. Exacerbations happen in spring and in autumn. The patient has food intolerance of eggs and fish. Objectively: stomach palpation reveals painfulness in the gastroduodenal area. Electrophasoduodenoscopy revealed a 5 mm ulcer on the anterior wall of duodenum. Urease test is positive. What is the most probable leading mechanism of disease development?

- A. Dietary allergy
- B. Helicobacterial infection
- C. Autoantibody production
- D. Reduced prostaglandin synthesis
- E. Disorder of gastric motor activity

15. A 20-year-old woman has a 3-4 month history of bloody diarrhoea; stool examination proved negative for ova and parasites; stool cultures negative for clostridium, campylobacter and yersinia; normal small bowel series; edema, hyperemia and ulceration of the rectum and sigmoid colon seen on sigmoidoscopic examination. Select the most likely diagnosis:

- A. Zollinger-Ellison syndrome
- B. Gastroenteritis
- C. Carcinoid syndrome
- D. Ulcerative colitis
- E. Granulomatous colitis

16. In autumn a 25-year-old patient developed stomach ache that arose 1,5-2 hours after having meals and at night. He complains about pyrosis and constipation. The pain is getting worse after consuming spicy, salty and sour food, it can be relieved by means of soda and hotwater bag. The patient has been suffering from this disease for a year. Objectively: furred moist tongue. Abdomen palpation reveals epigastric pain on the right, resistance of abdominal muscles in the same region. What is the most likely diagnosis?

- A. Duodenal ulcer
- B. Chronic cholecystitis

- C. Diaphragmatic hernia
- D. Stomach ulcer
- E. Chronic pancreatitis

17. A 23-year-old patient complains of a dull ache, sensation of heaviness and distention in the epigastrium immediately after meals, foul-smelling eructation; dry mouth, empty stomach nausea, diarrhea. Objectively: the skin is pale, the patient is of thin build. Abdomen is soft on palpation, there is epigastric pain. The liver does not extend beyond the costal arch. In blood: Hb - 110 g/l, RBCs -  $3,4 \cdot 10^{12}/l$ , WBC count is normal. ESR - 16 mm/h. What is the most informative study that will allow make a diagnosis?

- A. Duodenal probing
- B. X-ray of digestion organs
- C. Study of gastric juice
- D. pH-metry
- E. Esophageal gastroduodenoscopy

18. A 51-year-old female patient complains of frequent defecation and liquid blood-streaked stools with mucus admixtures, diffuse pain in the inferolateral abdomen, 6 kg weight loss over the previous month. Objectively: body temperature - 37,4°C, malnutrition, skin is pale and

dry. Abdomen is soft, sigmoid is painful and spasmodic, makes a rumbling sound. Liver is dense, painful, extends 3 cm below the costal margin. What is the most likely diagnosis?

- A. Sprue
- B. Bacillary dysentery
- C. Non-specific ulcerative colitis
- D. Intestinal enzymopathy
- E. Helminthic invasion

19. A 26-year-old female patient has duodenal ulcer. What antibacterial drug should be coadministered together with metronidazole and De-Nol in order to eradicate *Helicobacter pylori* infection?

- A. Amoxicillin
- B. Tetracycline
- C. Oleandomycin
- D. Biseptol
- E. Sulfadimethoxinum

20. A 46-year-old male patient complains of periodic epigastric pain that occurs at night. Objectively: HR-70/min, AP- 125/75 mm Hg, tenderness in the epigastric region is present. EGD confirms duodenal ulcer of 0,6 cm in diameter. Test for *H. Pylori* is positive. Which of the given antisecretory drugs will be a

compulsory element of the treatment regimen?

- A. Famotidine
- B. Omeprazole
- C. Pirenzepine
- D. Atropine
- E. Maalox

21. Which of the following tests are preferred for initial diagnosis of *H. pylori* infection?

- A. Endoscopy to obtain mucosal biopsy samples
- B. Serologic antibody assays
- C. Stool antibody assays
- D. Urea breath testing
- E. All answers is correct

22. A peptic ulcer is an erosion in the stomach or the first few centimeters of the duodenum. Nearly all ulcers are caused by *Helicobacter pylori* infection or use of nonsteroidal anti-inflammatory drugs. Several risk factors exist for the development of ulcers and their complications. Which of the following risk factors impairs healing and increases the incidence of recurrence?

- A. Alcohol use
- B. Cigarette smoking
- C. Family history of ulcers
- D. History of gastrinoma
- E. There is no right answer



23. A 32-year-old woman comes to the office because she has had abdominal pain for the past 2 months. She describes the pain as a burning or gnawing sensation in her stomach. Which of the following additional characteristics of this patient's pain is most likely to suggest duodenal ulcer as the diagnosis?

- A. Awakens the patient at night
- B. Intermittent throughout the day
- C. Is not relieved by food
- D. Is present immediately upon awakening
- E. There is no right answer

24. Which of the following is the most common complication of peptic ulcer disease?

- A. Confined perforation
- B. Gastric outlet obstruction
- C. Gastrointestinal hemorrhage
- D. Stomach cancer
- E. There is no right answer

25. The toxic inflammatory state and its complications can occur without the transverse colon becoming  $> 6$  cm diameter during an exacerbation. Therefore, which of the following terms is discouraged?

- A. Toxic colitis

- B. Fulminant colitis
- C. Toxic megacolon
- D. Pseudopolypoid
- E. There is no right answer

26. A 43 y.o. woman complains of severe pain in the right abdominal side irradiating in the right supraclavicular area, fever, dryness and bitterness in the mouth. There were multiple vomitings without relief. Patient relates the onset of pain to the taking of fat and fried food. Physical examination: the patient lies on the right side, pale, dry tongue, tachycardia. Right side of abdomen is painful during palpation and somewhat tense in right hypochondrium. What is the most likely diagnosis?

- A. Perforative ulcer
- B. Acute cholecystitis
- C. Acute bowel obstruction
- D. Acute appendicitis
- E. Right-sided renal colic

27. A patient, aged 25, suffering from stomach ulcer. Had a course of treatment in the gastroenterological unit. 2 weeks later developed constant pain, increasing and resistant to medication. The abdomen is painful in epigastric area, moderate defence in pyloroduodenal area. Which

complication development aggravated the patient's state?

- A. Penetration
- B. Malignisation
- C. Perforation
- D. Haemorrhage
- E. Stenosis

28. The family doctor examined a patient and diagnosed an acute bleeding of an intestine. What is professional tactics of the doctor in this situation?

- A. The urgent hospitalization in therapeutic department
- B. To inject intravenously the aminocapronic acid
- C. The urgent hospitalization in surgical department
- D. Treatment at a day time hospital
- E. Treatment at home

29. A 42 y.o. man who has been ill with duodenal ulcer for 20 years complains of getting a sense of heaviness in stomach after meal, foul-smelling eructation, vomiting, weight loss. Objectively: his state is relatively satisfactory, tissue turgor is diminished. On palpation the belly is soft, there are no symptoms of peritenium irritation, "splashing sounds" in epigastrium. Defecation -

once in 3 days. What complication corresponds with the patient's state and described clinical presentations?

- A. Ulcerative pyloric stenosis
- B. Concealed ulcer perforation
- C. Stomach cancer
- D. Ulcer penetration
- E. Chronic pancreatitis

30. A 41 y.o. woman has suffered from nonspecific ulcerative colitis for 5 years. On rectoromanoscopy: evident inflammatory process of lower intestinal parts, pseudopolyposive changes of mucous membrane. In blood: WBC-  $9,8 \times 10^9/L$ , RBC-  $3,0 \times 10^{12}/L$ , sedimentation rate - 52 mm/hour. What medication provides pathogenetic treatment of this patient?

- A. Linex
- B. Motilium
- C. Vikasolum
- D. Sulfasalazine
- E. Kreon

31. A 40-year-old male patient has had heaviness in the epigastric region for the last 6 months. He has not undergone any examinations. The night before, he abused vodka. In the morning there was vomiting, and 30 minutes after physical activity the patient experienced dizziness and

profuse hematemesis. What pathology should be suspected in the first place?

- A. Menetrier's disease
- B. Mallory-Weiss's syndrome
- C. Gastric ulcer
- D. Perforated ulcer
- E. Zollinger-Ellison syndrome

32. A 60-year-old patient complains of nearly permanent sensation of heaviness and fullness in the epigastrium, that increases after eating, foul-smelling eructation, occasional vomiting with food consumed 1-2 days ago, weight loss. 12 years ago he was found to have an ulcer of pyloric channel. The patient has taken ranitidine for periodic hunger pain. The patient's condition has been deteriorating over the last 3 months. Objectively: splashing sound in the epigastrium is present. What kind of complication is it?

- A. Functional pyloric spasm
- B. Penetration of gastric ulcer
- C. Pyloric stenosis
- D. Foreign body in the stomach (bezoar)
- E. Malignization of gastric ulcer

33. A 47-year-old female patient has an 8-year history of ulcerative colitis,

has been treated with glucocorticoids. She complains of cramping pain in the umbilical region and left iliac region which has significantly increased during the past 2 weeks, diarrhea with mucus and blood 4-6 times a day, elevated body temperature up to 38 – 39 °C, headache and pain in the knee joints. Objectively: the patient is in moderate condition, Ps- 108/min, AP- 90/60 mm Hg; heart and lungs are unremarkable; the tongue is moist; abdominal muscle tone is significantly decreased; peristaltic noises are absent. What complication developed in the patient?

- A. Colon carcinoma
- B. Perforation of the colon
- C. Enterorrhagia
- D. Stricture of the colon
- E. Toxic dilatation of the colon

34. A 28-year-old patient has been hospitalized for the pain in the epigastric region. He has a 10-year history of duodenal ulcer (DU). Recently, the pain character has changed: it became permanent, persistent, irradiating to the back. There are general weakness, dizziness, fatigue. The patient has put off weight. Objectively: HR68/min,

AP – 120/80 mm Hg. What is most likely cause of deterioration?

- A. Penetration
- B. Haemorrhage
- C. Perforation of duodenal wall
- D. Exacerbation of duodenal ulcer
- E. Stenosis development

35. Persons with celiac disease cannot tolerate:

- A. Lactose
- B. Gluten
- C. Peanuts
- D. Eggs
- E. Apple

36. All the following are consistent with chronic gastritis except

- A. Sharp gnawing epigastric pain
- B. Upper abdominal discomfort
- C. Loss of appetite
- D. Heaviness and bloating
- E. All answer is correct

37. A 48-year-old woman presents with several months of hoarseness, unresponsive to over-the-counter antacids. The symptoms appear worse in the morning, but can occur all day. She has minimal heartburn and no regurgitation. She denies dysphagia

and has never had an upper endoscopy. Which of the following would be the next step?

- A. 24-hour pH with impedance
- B. Upper endoscopy
- C. Trial of high dose PPI for 8 weeks
- D. Barium esophagram
- E. There is no right answer

38. H pylori is a risk factor for all the following conditions except?

- A. Gastric adenocarcinoma
- B. Gastroesophageal reflux disorder (GERD)
- C. Mucosa-associated lymphoid tissue (MALT) lymphoma
- D. Duodenal ulcers
- E. All answer is correct

39. Which of the following medication is most commonly associated with gastrointestinal disorders such as acute gastritis and peptic ulcer disease?

- A. Antibody therapy
- B. Non-steroidal anti-inflammatory drugs
- C. Opiates
- D. Steroids
- E. Beta blockers

40. Which of the following lower gastrointestinal disorders presents with diarrhoea often with blood and mucous that can persist for a period of time; and then resolve with no symptoms for a period of time without reoccurring?

- A. Ulcerative colitis
- B. Coeliac disease
- C. lactose intolerance
- D. Crohn's disease
- E. There is no right answer

**TOPIC 9**  
**PANCREATITIS. CHOLECYSTITIS. GALLSTONES DISEASE. DENTAL ASPECTS**

1. Patient complains on nausea, pain in right hypochondrium, diarrhea, and frequent abdominal distension. In anamnesis: systematic alcohol consumption. Objective data: subnutrition, tongue covered with white film, belly is soft, sensitive to palpation in paraumbilical area. Liver and spleen are not enlarged. Feces analysis: steatorrhea, creatorrhea. What diagnosis of the listed below is the most probable one?
  - A. Chronic hepatitis
  - B. Helminthiasis
  - C. Chronic recurrent alcoholic pancreatitis
  - D. Chronic enterocolitis
  - E. Chronic cholecystitis
  
2. Patient complains on the pain in the epigastrium and left subcostal area; repeated vomiting which doesn't bring relief, abdominal distention, diarrhea, weight loss. Objective data: tongue is wet, covered with white film near the root. During profound belly palpation an insufficient painfulness is found in epigastrium and Mayo-Robson's point. What disease should you think of in the first turn?
  - A. Ulcer
  - B. Chronic atrophic gastritis
  - C. Chronic pancreatitis
  - D. Chronic cholecystitis
  - E. Chronic enteritis
  
3. A female patient has been suffering from chronic pancreatitis during previous 5 years. She complains on frequent watery excrements, loss of 12 kg during 2 months. What syndrome does the patient have?
  - A. Astheno-neurotic
  - B. Malabsorption
  - C. Dyspeptic
  - D. Pain
  - E. Epigastric
  
4. A woman, 32 years old, complains on the pain in the left hypochondrium emerging in 2 hours after meal, nausea, abdominal distention, tendency to diarrhea. Objective data: subicteric sclera, painful belly during palpation in Gubergrits-Skulsky's point. The level

of which enzymes should be determined?

- A. Amylase
- B. Lactate dehydrogenase
- C. Creatine phosphokinase
- D. Gammaglutamattanspeptidase
- E. Aspartaaminotransferase

5. A patient complains on the pain in the upper right area of belly emerging in an hours after meal and irradiating to lumbus on the right side. During belly palpation there is painfulness in Chauffard's zone. What part of pancreas is damaged in this patient?

- A. Head of pancreas
- B. Body of pancreas
- C. Tail of pancreas
- D. Total pancreas damage
- E. Focal damage

6. A patient with chronic pancreatitis has an increased level of blood serum glucose. What pancreatic function disorder does the patient have?

- A. Exocrine
- B. Endocrine
- C. Absorption disorder
- D. Acid-forming
- E. Pepsinogenous

7. What hormones stimulate pancreatic activity?

- A. Cholecystokinin-pancreozymin
- B. Insulin
- C. Thyrotropic
- D. Counterinsular
- E. Adrenalin

8. Which type of pancreatic juice secretion is the most typical for chronic pancreatitis?

- A. Hyposecretory
- B. Ductular
- C. Upper obturative
- D. Lower obturative
- E. Hypersecretory

9. Which changes are typical for endocrine pancreatic insufficiency?

- A. Jaundice
- B. Nausea, vomiting
- C. Hypoglycemic state, pancreatic diabetes development
- D. Dyspeptic
- E. Vitamin deficiency

10. Which clinic syndrome is associated with exocrine pancreatic disorder?

- A. Pain
- B. Maldigestion
- C. Allergic

- D. Epigastric
- E. Right reactive vegetative

11. Which of these etiologic factors prevail in formation of primary chronic pancreatitis?

- A. Alimentary factors
- B. Alcoholism
- C. Heredity
- D. Medication
- E. Allergy

12. Which pathogenetic mechanisms are responsible for the development of chronic pancreatitis of alcoholic genesis?

- A. Pancreatic juice composition change with deposition of protein lumps in ducts
- B. Production of antibodies to the gland tissue
- C. Reflux of duodenal content to Wirsung's ducts
- D. Reflux of bile to Wirsung's ducts
- E. Inflammatory changes in gland

13. What causes pain syndrome in case of chronic pancreatitis?

- A. Fibrosis formation in the gland
- B. Necrotic changes

- C. Rise of pressure in ducts
- D. Gland edema
- E. Duct blocking

14. Which food products can cause pain syndrome in case pancreatitis?

- A. Salty food
- B. Alcohol, sweets, cakes
- C. Solid protein food
- D. Acrid and fried food
- E. Milk products

15. What evidences of dyspeptic syndrome are typical for chronic pancreatitis?

- A. Bitter taste, heartburn
- B. Nausea, vomiting without relief, gaseous eructation
- C. One time vomiting with relief
- D. Heartburn, sour eructation, nausea
- E. Food eructation, bitter taste

16. Which clinical evidences are typical for exocrine pancreatic function disorder?

- A. Constipation
- B. Diarrhea with blood in feces
- C. Imperative urge to defecate
- D. Abdominal distention, constipation
- E. Meteorism, rumbling, more frequent defecation



17. Which irritators are used for generation of pancreatic juice?

- A. Histamine B. Insulin
- C. Aminophylline
- D. Cholecystokinin-pancreozymin
- E. Sulfurous magnesia

18. Which pancreatic enzyme is determined in blood of patients with chronic pancreatitis during the first hours?

- A. Lipase
- B. Tripsin
- C. Chymotripsin
- D. Nuclease
- E. Amylase

19. Which pancreatic ferment stays increased during a long time when chronic pancreatitis exacerbates?

- A. Tripsin
- B. Lipase
- C. Amylase
- D. Nuclease
- E. Chymotripsin

20. Which treatment method should be used during the first 2-3 days of chronic pancreatitis exacerbation?

- A. Diet, spasmolytics, enzymes

- B. Diet, M-cholinolytics, antienzymatic agents

- C. Hunger, antienzymatic agents, H<sub>2</sub>-histamine receptor blockers

- D. Diet, alkali, spasmolytics

- E. Diet, spasmolytics, enzymes, vitamins

21. The 19-year-old men was diagnosed with acute epidemic parotitis. He was complained of acute stabbing pain in the epigastric area radiated to the back. Upon the physical examination: his general condition was of moderate severity, his body temperature was 38,6°C. What is the probable complication in this case?

- A. pancreatitis

- B. orchitis

- C. epididymis

- D. mediastinitis

- E. gastritis

22. Characterize the tongue in the case of acute pancreatitis:

- A. "lacquered"

- B. "geographical"

- C. dry, red

- D. moist, covered

- E. dry, covered, with teeth marks

23. The 50-year-old woman had been suffering for one year from right upper abdominal pain paroxysms, which were caused by fatty meal consumption. During the last week she had been experiencing more severe paroxysms. On the third day after her admission to the hospital the icterus, light faeces and dark urine were observed. The laboratory tests: haemoglobin Hb - 128 g/l, reticulocytes - 2%, neutrophils -  $13,1 \times 10^9/l$ , SR - 28 mm/h. What is the probable cause of the icterus?

- A. Chronic pancreatitis
- B. Chronic hepatitis
- C. Haemolytic anaemia
- D. Gallbladder disease
- E. Acute viral hepatitis

24. The 36-year-old man complained of constant dull pain in the left subcostal area, mostly after eating fatty and smoked food, vomiting, which did not alleviate his condition. His faeces were glossy and unpleasant smell. He had been ill for 8 years, he smoked a lot and he drank too much alcohol. Upon the physical examination: malnourished, dry and pale skin, his tongue was white coated, the moderate abdominal tenderness, positive Chauffard, Gubergrits-Skulsky, Desjardins and Mayo-Robson signs. What was the preliminary diagnosis?

- A. Chronic cholecystitis

- B. Ulcer disease
- C. Chronic pancreatitis
- D. Chronic gastroduodenitis
- E. Chronic enterocolitis

25. The 44-year-old woman complained of intense upper abdominal pain irradiating to the left subcostal area, loss of appetite and belch. Her medical history is remarkable with the cholecystectomy 4 years ago. Upon the physical examination: icteric sclera, painful palpation in the epigastric and left subcostal area. The laboratory tests: leucocytes -  $9,7 \times 10^9/l$ , SR - 18 mm/h, amylase - 42. What was the preliminary diagnosis?

- A. Chronic hepatitis
- B. Chronic pancreatitis
- C. Chronic cholangitis
- D. Chronic colitis
- E. Chronic gastritis

26. The 56-year-old man complained of burning pain in the epigastric region, radiated to the back, nausea, abdominal distension, loose bulky stools 2-3 times per day. He had a history of binge alcohol consumption. The pain appeared after fatty and fried meal and alleviated after a fasting. He had lost 6 kg weight over 6 months. Which is a leading clinical symptom?

- A. nausea

- B. meteorism
- C. bulky faeces
- D. weight loss
- E. pain

27. The 56-year-old man complained of burning pain in the epigastric region, radiated to the back, nausea, abdominal distension, loose bulky stools 2-3 times per day. He had a history of binge alcohol consumption. The pain appeared after fatty and fried meal and alleviated after a fasting. He had lost 6 kg weight over 6 months. A stool test: steatorrhea. What was the preliminary diagnosis?

- A. Chronic gastritis
- B. Ulcer disease
- C. Chronic cholecystitis
- D. Chronic pancreatitis
- E. Gallbladder disease

28. The 32-year-old man with chronic alcoholism was diagnosed with chronic pancreatitis. The monthly control blood test showed a glucose level in the reference range of 3,6-5,8 mmol/l. During last week the signs of excretory pancreatic failure were revealed. Which is the sign of excretory pancreatic failure?

- A. hyperglycemia
- B. thirsting
- C. jaundice
- D. steatorrhea

- E. anorexia

29. The 32-year-old man was diagnosed with chronic viral hepatitis C (replication phase, high inflammatory activity). Which of medications would you recommend for suppression of viral replication?

- A. Essentiale Forte
- B. Carsil
- C. allochol
- D. interferon
- E. legalon

30. Which from listed below is a marker of excretory liver function?

- A. albumin
- B. cholesterol
- C. Christmas factor
- D. alkaline phosphatase
- E. bilirubin

31. Which from listed below is secreted by the pancreas in the inactive form (the form of precursors)?

- A. cholesterase
- B. phospholipase A
- C. lipase
- D. amylase
- E. ribonuclease

32. The 36-year-old man had been suffering for years from chronic viral hepatitis C with benign clinical course.

Without an obvious reason his condition had been deteriorating with the progressive anorexia, weight loss, right upper abdominal pain, fever, ascites, signs of hepatic failure and the liver enlargement. What was the preliminary diagnosis?

- A. Exacerbation of chronic viral hepatitis C
- B. Transformation of chronic viral hepatitis C to cirrhosis
- C. Transformation of chronic viral hepatitis C to cancer
- D. combination with viral hepatitis B
- E. the comorbidity of chronic viral hepatitis C with HIV infection

33. The 39-year-old woman complained of pain paroxysms in right upper abdomen with the radiation to the right shoulder. These paroxysms were caused by fried food intake. She reported episodic body temperature increase to subfebrile level. She was unwell for 5 years. Which should be the first-test to be done?

- A. fibrogastroscopy
- B. cholecystography
- C. duodenal sounding
- D. x-ray
- E. ultrasonography

34. The 32-year-old woman complained of pain paroxysms in left upper abdomen, occurred after meals 2-3 hours afterward, nausea, abdominal distension, loose stools. Upon the physical examination: icteric sclera, painful abdomen on palpation, positive Gubergritsa-Skulsky signs, the liver was at the rib edge. The laboratory tests: the amylase was 288 mmol/l, bilirubin was 20  $\mu$ mol/l. What was the preliminary diagnosis?

- A. Chronic cholecystitis
- B. Chronic hepatitis
- C. Chronic enterocolitis
- D. Chronic pancreatitis
- E. Chronic gastritis

35. The 53-year-old man complained of a pain in the upper abdomen radiated to the right scapula, body temperature increase to 37,8<sup>0</sup>C, and shivering. He was unwell after the diet disruption. The next day he noticed a jaundice and colourless faces. Upon the physical examination: positive Murphy's sign, Kehr's sign, and Orthner sign. What was the preliminary diagnosis?

- A. acute cholangitis
- B. acute cholecystitis with mechanical jaundice
- C. acute viral hepatitis A
- D. acute alcohol hepatitis
- E. liver abscess

36. The 47-year-old men complained of an intense pain in the upper abdomen and epigastric region, radiated to the chest, nausea, vomiting, which did not alleviate his suffering. The day before he consumed a lot of fatty, fried meal and drank 500 ml of vodka. Upon the physical examination: his general condition was of moderate severity, positioning with flexing the spine and drawing the knees up toward the chest, pale cyanotic skin, his heart rate was 110 beats/min, BP was 100/60 mmHg, positive Gray Turner, Kullen and Kerte, the tongue was with white coated, dry, the abdomen was soft, distended, with mild epigastric guarding. The general blood count revealed the leucocytosis. What was the preliminary diagnosis?

- A. acute pancreatitis
- B. acute cholecystitis
- C. myocardial infarction
- D. acute appendicitis
- E. Intestinal obstruction

37. For one year the 50-year-old women had been complaining of pain paroxysms in the right upper abdomen after a fatty meal consumption. During the last week these episodes became more often (nearly every day) and intense. On the 3<sup>rd</sup> day of her hospital admission to the hospital she had a jaundice, icteric sclera,

colourless faces, and dark urine. The general blood count showed the leucocytosis of  $13,1 \times 10^9/l$ , SR of 28 mm/h. What was the preliminary diagnosis?

- A. Chronic calculous cholecystitis
- B. Chronic pancreatitis
- C. Chronic cholangitis, exacerbation
- D. hypertonic biliary dyskinesia
- E. biliary fatty liver disease

38. In the autumn the 25-year-old men complained of a pain in the epigastric region, occurred 1.5-2 hours afterward the meals and during the nights. He reported heartburn and constipations. The pain was exacerbated after the consumption of species, salty and acidic food, and was alleviated after warming up and baking soda intake. He had been suffering for one year. Upon the physical examination: his tongue was moist, white coated, the painful palpation and the rebound tenderness in the right epigastric region. What was the preliminary diagnosis?

- A. chronic pancreatitis
- B. duodenum ulcer
- C. gastric ulcer
- D. diaphragm hernia
- E. chronic cholecystitis

39. The 36-year-old men complained of a pain in the upper abdomen  
 скаржитья на постійний тупий біль у лівому підребер'ї, після прийому жирної та копченої їжі, блювоту, яка не приносить полегшення. Калові маси блискучі, з неприємним запахом. Хворіє протягом 8 років; зловживає алкоголем, багато курить. Upon the physical examination: знижено харчування. Шкіра бліда і суха. Язик з білим нашаруванням. Живіт помірно здутий, відзначається біль в зоні Шоффара, Губергриця-Скульського, точках Дежардена, Мейо-Робсона. What was the preliminary diagnosis?

- A. Chronic cholecystitis
- B. Ulcer disease
- C. Chronic pancreatitis
- D. Chronic gastroduodenitis
- E. Chronic enterocolitis

40. The 44-year-old women complained of an intense pain in the left upper abdomen, loss of appetite and belch. His medical history was remarkable for the cholecystectomy 4 years earlier. Upon the physical examination: icteric sclera, the epigastric palpation was painful and left subcostal region. The laboratory tests: leucocytes were of  $9,7 \times 10^9/l$ , SR was of 18 mm/h, amylase was of 42. The exacerbation of which condition did take a place?

- A. Chronic hepatitis
- B. Chronic pancreatitis
- C. Chronic cholangitis
- D. Chronic colitis
- E. Chronic gastritis

## TOPIC 10

### CHRONIC HEPATITIS. CIRRHOSIS. DENTAL ASPECTS

1. A 24-year-old female patient complains of pain in the right hypochondrium that is getting worse after taking meals; nausea, fever up to 37,7°C, icteric skin, pain in the large joints. These presentations have been observed for 8 months. Objectively: hepatosplenomegaly. Blood test results: ESR- 47 mm/h, total bilirubin - 86,1 mmol/l, direct bilirubin - 42,3 mmol/l. Total protein - 62 g/l, albumins - 40%, globulins - 60%, gamma globulins - 38%. Viral hepatitis markers were not detected. The antibodies to smooth muscle cells are present. On ultrasound the portal vein diameter was of 1 cm. What is the most likely diagnosis?

- A. Primary biliary cirrhosis
- B. Autoimmune hepatitis
- C. Gilbert's syndrome
- D. Cholangiogenic hepatitis
- E. Hemachromatosis

2. A 40 y. o. patient was admitted to the gastroenterology department with skin itching, jaundice, discomfort in the right subcostal area, generalized weakness. On examination: skin is jaundice, traces of scratches, liver is

+5 cm, spleen is 6x8 cm. In blood: alkaline phosphatase - 2,0 mmol/(hour\*L), general bilirubin - 60 mkmol/L, cholesterol - 8,0 mmol/L. What is the leading syndrome in the patient?

- A. Cytolytic
- B. Cholestatic
- C. Mesenchymal inflammatory
- D. Asthenic
- E. Liver-cells insufficiency

3. 23 years old patient has complaints on pain in the right subcostal area, periodic bitter belch, nausea, appetite loss. From the anamnesis: appendectomy had been conducted three years ago. In 2 months icterus appeared and patient was treated in infectious hospital. At the examination liver is enlarged on 2 cm. In blood: general bilirubin - 76 mkmol/l, direct bilirubin - 14,9 mkmol/, ALT - 1,35. What disease are you thinking of?

- A. Cirrhosis of liver
- B. Chronic cholangitis
- C. Chronic cholecystitis
- D. Benign Gilbert's icterus
- E. Chronic hepatitis B

4. Patient K., 24 years old, complains of pain in the right subcostum and joints, icteric skin, weight loss - 10 kg for a year, temperature 38°C. A disease began after childbirth half a year ago. Objectively: icteric skin and scleras, there are xanthomas on eyelids. Liver +4 cm, dense, painful, edge is sharp. Spleen +2 cm. Blood tests: AST - 2,8, ALT - 3,4, general bilirubin - 97,6, free - 54,6, HbsAg was not determined. Name the basic mechanism of pathogenesis:

- A. Viral infection
- B. Toxic damage of hepatocytes
- C. Fatty dystrophy of liver
- D. Violation of bile outflow
- E. Autoimmune

5. 20 years old patient was diagnosed chronic viral hepatitis in gastroenterologic unit. What group of preparations can be included to the base therapy?

- A. Hepatoprotector
- B. Antibacterial
- C. Anabolic steroid hormones
- D. Vitamins
- E. Glucocorticoids and cytostatic

6. Patient, 28 years old, has been contacting with toxic chemicals for

6 years. His complaints are headache, increased fatigue, heavy feeling in the right subcostum, decreased

appetite, icterus. Objectively: skin and scleras are subicteric. Abdomen is bloated, liver +5 cm, surface is even. In blood: Hb - 110 g/l, L -  $8,1 \times 10^9/l$ , blood sedimentation - 30 mm/h, general bilirubin - 65  $\mu\text{mol/l}$ , sugar - 6,3 mmol/l. What diagnosis is the most credible?

- A. Hemochromatosis
- B. Chronic toxic hepatitis
- C. Chronic pancreatitis
- D. Viral hepatitis
- E. Benign hyperbilirubinemia

7. Woman, 37 years old, saw her doctor owing to the exacerbation of chronic hepatitis. Increased indirect bilirubin, AST, ALT levels and decreased protein and prothrombin levels were found in blood. What pathological process can stipulate these changes?

- A. Cholestasis
- B. Cytolysis
- C. Portal hypertension
- D. Hypersplenism
- E. Violation of hemostasis

8. 39 years old patient complains of icterus, skin itching, nausea,



pain in the right subcostum, especially after rich, fried food, increased body temperature in the evening, general weakness, hemorrhage of gums. He is ill for nearly two years. Skin and scleras are icteric, there are scratch tracks on the skin and xanthelasmas on eyelids. Liver is increased on 4 cm. In the analyses there are hyperbilirubinemia at the expense of conjugated bilirubin, hypercholesterinemia, increased activity of alkaline phosphatase. What is the most reliable diagnosis?

- A. Chronic cholestatic hepatitis
- B. Chronic cholecystitis
- C. Hemolytic anemia
- D. Cholecystolithiasis
- E. Cancer of pancreas head

9. The 28 y.o. woman applied to doctor because of limited loss of the hair. In the anamnesis - she had frequent headache indisposition, arthromyalgia, fever, irregular casual sexual life, drug user. RW is negative. What examination must be done first?

- A. Examination for HIV
- B. Examination for neuropathology
- C. Examination for gonorrhoea
- D. Examination for fungi

E. Examination for trichomoniasis

10. 47 y.o. patient complains of intensive skin itching, jaundice, bone pain. The skin is hyperpigmentated. There are multiple xanthelasma palpebrae. The liver is +6 cm enlarged, solid with acute edge. The blood analysis revealed total bilirubin - 160  $\mu\text{mol/L}$ , direct - 110  $\mu\text{mol/L}$ , AST- 2,1  $\text{mmol/L}$ , ALT- 1,8  $\text{mmol/L}$ , alkaline phosphatase - 4,6  $\text{mmol/L}$ , cholesterol 9,2  $\text{mmol/L}$ , antimitochondrial antibodies M2 in a high titer. What is the probable diagnosis?

- A. Acute viral hepatitis B
- B. Primary liver cancer
- C. Chronic viral hepatitis B
- D. Primary biliary liver cirrhosis
- E. Alcoholic liver cirrhosis

11. A 22 year old woman complained of right subcostal aching pain, nausea, and decreased appetite. She fell ill 2 months after appendectomy when jaundice appeared. She was treated in an infectious hospital. 1 year later above mentioned symptoms developed. On exam: the subicteric sclerae, enlarged firm liver. Your preliminary diagnosis:

- A. Gilbert's disease
- B. Calculous cholecystitis
- C. Chronic viral hepatitis
- D. Acute viral hepatitis
- E. Chronic cholangitis

12. A 24-year-old female patient complains of pain in the right hypochondrium that is getting worse after taking meals; nausea, fever up to 37.7°C, icteric skin, pain in the large joints. These presentations have been observed for 8 months. Objectively: hepatosplenomegaly. Blood test results: ESR- 47 mm/h, total bilirubin - 86,1 mmol/l, direct bilirubin - 42,3 mmol/l. Total protein - 62 g/l, albumins - 40%, globulins - 60%, gamma globulins - 38%. Viral hepatitis markers were not detected. The antibodies to smooth muscle cells are present. On ultrasound the portal vein diameter was of 1 cm. What is the most likely diagnosis?

- A. Primary biliary cirrhosis
- B. Autoimmune hepatitis
- C. Gilbert's syndrome
- D. Cholangiogenic hepatitis
- E. Hemochromatosis

13. A 51-year-old man complains of vomiting with blood. He has been drinking alcohol excessively. Health disorder has been observed since he

was 40, when he first developed jaundice. On examination the skin and visible mucosa are icteric, with a stellate vascular pattern. The patient is malnourished and presents with abdominal distension, umbilical hernia, and ascites. The edge of the liver is tapered and painless, +3 cm, the spleen is +2 cm. Blood test: Hb- 80 g/L, leukocytes -  $3 \cdot 10^9/L$ , platelets -  $85 \cdot 10^9/L$ . What is the cause of portal hypertension in this patient?

- A. Hepatic cirrhosis
- B. Thrombosis of the splenic vein
- C. Hemochromatosis
- D. Constrictive pericarditis
- E. Budd-Chiari syndrome

14. A woman undergoing in-patient treatment for viral hepatitis type B developed headache, nausea, recurrent vomiting, memory lapses, flapping tremor of her hands, and rapid pulse. Sweet smell from her mouth is detected. Body temperature is 37.6°C, heart rate is 89/min. What complication developed in the patient?

- A. Meningoencephalitis
- B. Ischemic stroke
- C. Gastrointestinal hemorrhage
- D. Hypoglycemic shock
- E. Acute liver failure

15. Acute viral hepatitis is diffuse liver inflammation caused by specific hepatotropic viruses that have diverse modes of transmission and epidemiologies. Which of the following is the outcome of most cases of acute viral hepatitis?

- A. Chronic hepatitis
- B. Spontaneous resolution
- C. Acute liver failure
- D. Teratogenesis in pregnancy
- E. Meningoencephalitis

16. Which of the following is the most common serious complications of cirrhosis?

- A. Coagulopathy
- B. Portal hypertension
- C. Hepatopulmonary syndrome
- D. Hepatic encephalopathy
- E. Hypoglycemic shock

17. Determining the specific cause of cirrhosis requires key clinical information from the history and physical examination, as well as selective diagnostic testing. Which of the following laboratory findings suggests autoimmune hepatitis?

- A. High antinuclear antibody titers
- B. Increased serum Fe and transferrin saturation

C. Low serum  $\alpha$  1 -antitrypsin level and genotyping

D. Presence of antimitochondrial antibodies

E. Low antinuclear antibody titers

18. In elderly patients with painless jaundice and weight loss, which of the following should be suspected?

A. Hepatocellular dysfunction due to acetaminophen poisoning

B. Intrahepatic cholestasis due to viral hepatitis

C. Decreased hepatic conjugation due to Gilbert syndrome

D. Biliary obstruction due to cancer

E. All answers are correct

19. Which of the following signs of conjugated hyperbilirubinemia precedes jaundice?

A. Dark urine

B. Nausea

C. Weight loss

D. Bloody stools

E. All answers are correct

20. In patients with autoimmune or viral hepatitis, jaundice may be accompanied by which of the following symptoms?

A. Easy bruising or bleeding

- B. Tarry or bloody stools
- C. Joint pain and swelling
- D. Steatorrhea and abdominal pain
- E. There is no right answer

21. Which of the following cases of chronic hepatitis often regresses completely?

- A. HBV hepatitis
- B. HBV hepatitis with HDV coinfection
- C. Drug-induced hepatitis when drug is withdrawn
- D. Autoimmune hepatitis
- E. There is no right answer

22. The diagnosis of nonalcoholic steatohepatitis (NASH) should be suspected in patients with risk factors such as obesity, type 2 diabetes mellitus, or which of the following?

- A. AST/ALT ratio >1
- B. Dyslipidemia
- C. Excess alcohol intake
- D. Hyperbilirubinemia
- E. There is no right answer

23. What is the role of imaging tests, particularly MRI of the abdomen, in the diagnosis of nonalcoholic steatohepatitis (NASH)?

- A. To differentiate NASH from alcoholic liver disease

- B. To differentiate NASH from liver damage caused by hepatitis C

- C. To identify hepatic steatosis
- D. To identify the inflammation typical of NASH

- E. All answers are correct

24. Portal hypertension is elevated pressure in the portal vein. Which of the following is the most common cause of the disorder in developed countries?

- A. Vascular abnormalities
- B. Cirrhosis
- C. Constrictive pericarditis
- D. Impaired hepatic venous outflow
- E. All answers are correct

25. Esophagogastric varices and portal hypertensive gastropathy are best diagnosed by which of the following?

- A. CT
- B. Ultrasonography
- C. Doppler ultrasonography
- D. Endoscopy
- E. MRI

26. A 48-year-old patient complains of heaviness in the right hypochondrium, itching of the skin. He had been treated in infectious diseases hospital repeatedly due to

icterus and itch. On physical exam: meteorism, ascitis, dilation of abdominal wall veins, protruded umbilicus, spleen enlargement. What can be diagnosed in this case?

- A. Liver cirrhosis
- B. Cancer of the liver
- C. Cancer of the head of pancreas
- D. Gallstones
- E. Viral hepatitis B

27. Which of the following is NOT a liver function?

- A. Conversion of excess glucose into glycogen for storage
- B. Conversion of conjugated bili to unconjugated bili
- C. regulation blood coagulation
- D. Production of bile salts
- E. Conversion of ammonia to urea

28. Nurse Cynthia is providing a discharge teaching to a client with chronic cirrhosis. His wife asks her to explain why there is so much emphasis on bleeding precautions. Which of the following provides the most appropriate response?

- A. "The low protein diet will result in reduced clotting."
- B. "The increased production of bile decreases clotting factors."

C. "The liver affected by cirrhosis is unable to produce clotting factors."

D. "The required medications reduce clotting factors."

E. All answers are correct

29. Mr. Gonzales develops hepatic encephalopathy. Which clinical manifestation is most common with this condition?

- A. Increased urine output
- B. Altered level of consciousness
- C. Decreased tendon reflex
- D. Hypotension
- E. All answers are correct

30. Which diagnostic test is best to evaluate liver enlargement and ascites?

- A. Ultrasound
- B. X-Ray
- C. CT scan
- D. Nuclear Medicine
- E. Endoscopy

31. Mr. Gonzales was admitted to the hospital with ascites and jaundice. To rule out cirrhosis of the liver: Which laboratory test indicates liver cirrhosis?

A. Decreased red blood cell count

- B. Decreased serum acid phosphate level
- C. Elevated white blood cell count
- D. Elevated serum aminotransferase
- E. There is no right answer
32. A client with cirrhosis is at risk for developing complications. Which condition is the most serious and potentially life-threatening?
- A. Esophageal varices
- B. Ascites
- C. Peripheral edema
- D. Asterixis (liver flap)
- E. Hypotension
33. Which condition is NOT a known cause of cirrhosis?
- A. Hepatitis B
- B. Alcohol consumption
- C. Blockage of the bile duct
- D. Hepatitis C
- E. All are known causes of cirrhosis
34. The best liver function test is:
- A. AST/ALT
- B. Alkaline phosphatase
- C. Bilirubin
- D. INR
- E. There is no right answer
35. The two main patterns of liver injury are:
- A. Hepatocellular and cholestatic
- B. Cholestatic and obstructive
- C. Necrotic and hepatocellular
- D. Neoplastic and cholestatic
- E. There is no right answer
36. All of the following are causes of acute hepatocellular injury, except:
- A. Acetaminophen
- B. Hepatic vein thrombosis
- C. Ischemic hepatitis
- D. Hemochromatosis
- E. All answers are correct
37. All of the following are causes of chronic hepatocellular injury, except:
- A. Viral hepatitis
- B. Autoimmune hepatitis
- C. Ischemic hepatitis
- D. Nitrofurantoin
- E. All answers are correct
38. Standard workup for acute hepatitis includes all of the following, except:
- A. Liver biopsy
- B. Antinuclear antibodies
- C. IgM-anti-HAV
- D. HBsAg
- E. MRI

39. In a patient with chronic liver disease, all of the following suggest the presence of chronic liver insufficiency, except:

- A. Low albumin
- B. Prolonged prothrombin time
- C. Elevated bilirubin
- D. Elevated aminotransferases
- E. Thrombocytopenia

40. What diagnoses hepatitis by analyzing liver function and detecting infected organisms?

- A. X-ray
- B. Liver sample
- C. Blood Test
- D. Treatment
- E. Urine sample

## ANSWER TABLES

## TOPIC 1

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

## TOPIC 2

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
B	A	D	A	E	A	C	A	E	C
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
A	D	B	A	C	E	B	A	A	C
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
C	A	B	A	C	B	D	B	B	A
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
B	D	A	C	A	B	D	A	E	A
<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
B	A	D	B	A	A	B	A	D	A

## TOPIC 3

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
A	E	C	B	C	C	D	C	D	C
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
A	D	B	A	C	A	D	C	A	B
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
B	C	B	A	C	A	B	A	B	A
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
D	B	D	B	A	C	B	A	D	B
<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
A	C	C	B	D	C	B	B	A	E

## TOPIC 4

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



B	D	C	A	C	B	C	D	C	D
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>19</b>	<b>30</b>
B	C	D	A	B	C	D	C	D	A
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
B	C	B	B	C	B	A	A	A	A
<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
A	A	E	E	D	C	E	C	D	C

**TOPIC 5**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
A	B	D	B	E	C	B	A	D	B
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
D	D	B	B	C	D	D	D	B	A
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
C	A	B	D	C	E	B	D	B	A
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
D	C	D	E	D	C	B	A	E	E

**TOPIC 6**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
A	C	A	D	B	A	C	E	D	D
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
A	B	B	E	C	D	A	B	D	D
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
C	C	A	C	A	B	C	C	A	A
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
E	A	C	C	A	B	B	A	C	B

**TOPIC 7**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
D	A	B	E	A	C	D	B	A	C
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
A	A	B	D	C	C	D	C	A	B
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>

D	A	E	B	A	C	B	A	A	A
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
C	A	B	A	E	D	A	B	D	B

**TOPIC 8**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
C	A	B	B	C	C	A	B	E	A
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
D	E	A	B	D	A	E	C	A	B
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
D	B	A	C	C	A	B	C	A	D
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
A	C	E	A	B	A	C	B	B	A

**TOPIC 9**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
C	C	B	A	A	B	A	A	C	B
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
B	A	D	B	B	E	D	E	A	C
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
A	E	D	C	E	E	D	D	D	E
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
B	C	E	D	B	A	A	B	C	B

**TOPIC 10**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
B	B	E	E	A	B	B	A	A	D
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
C	B	A	E	B	B	A	D	A	C
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
C	B	C	B	D	A	B	C	B	A
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
D	A	E	D	A	D	C	A	D	C

## RECOMMENDED LITERATURE

### Basic

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