

MCQs
Faculty of General Medicine
VI year

1. Mitral valve according to its structure also is called:
 - A. Bicuspid
 - B. Tricuspid
 - C. Aortic
 - D. Pulmonary
 - E. No correct answer
2. How many cusps does the right atrioventricular valve have?
 - A. 2
 - B. 3
 - C. 4
 - D. 5
 - E. 6
3. Mitral stenosis in 99% of all cases is caused by:
 - A. Infective endocarditis
 - B. Congenital mitral stenosis
 - C. Myxoma
 - D. Rheumatic heart disease
 - E. Mitral annular calcification
4. After suffering a streptococcal throat infection, a 12-year-old boy develops cardiac symptoms that are attributed to rheumatic fever. Years later, at the age of 34 he is admitted to the hospital with pulmonary edema. Further examination reveals a diastolic murmur at the apex and mitral stenosis is diagnosed. Before surgical evaluation, which of the following findings can be attributed to mitral stenosis?
 - A. Large left ventricle
 - B. Indentation of the middle third of the esophagus by an enlarged left atrium
 - C. Notching of the ribs
 - D. Bounding, full pulse
 - E. Angina pectoris
5. Which arrhythmia develops most often in patient with mitral stenosis?
 - A. Atrial fibrillation
 - B. Atrioventricular block
 - C. Supraventricular tachycardia
 - D. Ventricular fibrillation
 - E. Wolff-Parkinson-White syndrome
6. Choose ECG signs typical for atrial fibrillation: 1. Negative T wave; 2. Absence of P wave; 3. S-T elevation; 4. f waves; 5. Different R-R distance.
 - A. 1, 2, 3
 - B. 2, 3, 4
 - C. 2, 4, 5
 - D. 1, 3, 5
 - E. All are correct
7. Choose chest x-ray findings typical for mitral stenosis: 1. Convexity from enlarged left atrial appendage 2. Straightening of left heart border 3. Left ventricular hypertrophy 4. Large aorta 5. Small aorta
 - A. 1, 2, 3
 - B. 2, 3, 4
 - C. All are correct
 - D. 1, 2, 4
 - E. 1, 2, 5

8. Clinical signs and symptoms of mitral stenosis develops with the reduction of the area of mitral valve orifice less than:
- 2 cm²
 - 3 cm²
 - 4 cm²
 - 5 cm²
 - 7 cm²
9. Which instrumental examination is a method of choice to make diagnosis and specify valvular heart disease?
- ECG
 - Holter monitoring
 - Doppler ultrasound test
 - Coronarography
 - Cardiac catheterization
10. Indications for surgical treatment of patients with mitral stenosis are:
- Critical mitral stenosis (mitral valve orifice area less than 1 cm²);
 - Symptomatic patients;
 - Systemic embolism;
 - Mitral valve gradient 12-15 mmHg;
 - End-diastolic gradient 8-10 mmHg.
- 1, 2, 3
 - 2, 3, 4
 - 1, 2, 5
 - 2, 3, 5
 - All are correct
11. Which statement is wrong concerning surgical treatment of patients with mitral stenosis?
- Percutaneous balloon valvuloplasty is a new technique used for minimally invasive treatment of patients with mitral stenosis;
 - Percutaneous aortic balloon valvuloplasty suffers from a relatively high complication and recurrence rate
 - Percutaneous aortic balloon valvuloplasty has a relatively low complication and recurrence rate
 - Open mitral commissurotomy can be successfully performed if there is limited calcification, leaflet stiffness, chordal fusion
 - Commissurotomy carries up to a 20% chance of reoperation within 5 years and a 60% chance at 10 years
12. Which signs are typical for patients with aortic stenosis? Choose correct combination: 1. Dyspnea; 2. Orthopnea; 3. Angina pectoris; 4. Syncope; 5. Congestive heart failure.
- 1, 2, 3
 - 2, 3, 4
 - 1, 2, 4
 - 3, 4, 5
 - All are correct
13. On auscultation "Austin Flint murmur" is associated with:
- Mitral stenosis
 - Aortic regurgitation
 - Aortic stenosis
 - Mitral regurgitation
 - Tricuspid regurgitation
14. A 63-year-old woman fell while crossing the street after her Thursday afternoon bridge game. Attempts at resuscitation for cardiac arrest by the emergency medical service (EMS) team were unsuccessful. The woman had previously been diagnosed as

having aortic stenosis and left ventricular hypertrophy. In addition to these factors, which of the following predisposes to sudden cardiac death?

- A. Split first heart sound
- B. Hypokalemia
- C. Soft murmur at left of sternum that varies with inspiration
- D. Failure of the central venous pressure (CVP) to rise more than 1 cm H₂O with 30-second pressure on the liver (hepatojugular reflux)
- E. CVP of -1 cm H₂O

15. While lying on the examining table before colonoscopy, a 68-year-old electrician notes palpitations. The colonoscopy was scheduled as a routine procedure following removal of a benign polyp 1 year earlier. He had rheumatic fever in infancy. His atrial rate on ECG is 450 bpm, and his ventricular rate is 160 bpm. His pulse rate is 88 bpm. The left atrium is enlarged. Similar findings were noted 1 year ago, but he declined to take any medication. Make the diagnosis?

- A. Mitral stenosis, atrial fibrillation
- B. Mitral stenosis, AV block
- C. Mitral regurgitation, paroxysmal tachycardia
- D. Tricuspid regurgitation, atrial fibrillation
- E. Aortic stenosis

16. While lying on the examining table before colonoscopy, a 68-year-old electrician notes palpitations. The colonoscopy was scheduled as a routine procedure following removal of a benign polyp 1 year earlier. He had rheumatic fever in

infancy. His atrial rate on ECG is 450 bpm, and his ventricular rate is 160 bpm. His pulse rate is 88 bpm. The left atrium is enlarged. Similar findings were noted 1 year ago, but he declined to take any medication. Treatment should entail which of the following?

- A. Continue with colonoscopy
- B. Continue with colonoscopy after administration of parenteral antibiotics
- C. Immediate administration of antibiotics and follow-up colonoscopy at a later date
- D. Immediate administration of anticoagulation and digoxin and follow-up colonoscopy at a later date
- E. Immediate electrocardioversion with a current of 300–400 J

17. After experiencing progressive chest pain for 2 months, a surgical-supply store owner undergoes a CT scan that reveals a space-occupying lesion of the wall of the left atrium, which was confirmed to be myxoma. There is no evidence of disease elsewhere. What would the next line of treatment be?

- A. Excision of a myxoma performed with a bypass procedure
- B. Excision of a myxoma performed without a bypass procedure
- C. Insertion of a pacemaker
- D. Chemotherapy
- E. Radiotherapy

18. Following a car accident, a 52-year-old lawyer complains of pain in the left abdomen and back. After arrival of the EMS team, her pulse rate is

- 84 bpm, but of small volume. She states that she has some cardiac condition but is uncertain of its nature. Which is the most likely cause of the small pulse volume?
- Aortic regurgitation
 - Mitral regurgitation
 - Aortic stenosis
 - Tricuspid regurgitation
 - Hyperthyroidism
19. On auscultation "Opening snap sound" is associated with:
- Mitral stenosis
 - Aortic regurgitation
 - Aortic stenosis
 - Mitral regurgitation
 - Tricuspid regurgitation
20. Choose ECG signs typical for mitral stenosis: 1. Atrial fibrillation; 2. Left atrium enlargement; 3. Right atrium enlargement; 4. Right ventricle hypertrophy.
- 1, 2, 3
 - 2, 3, 4
 - 1, 2, 4
 - 1, 2
 - All are correct
21. The mechanisms that compensate hemodynamics derangements associated with valvular heart disease include all, EXCEPT:
- Atrial chamber enlargement
 - Ventricular chamber enlargement
 - Myocardial hypertrophy
 - Increased adrenergic stimulation
 - Hypovolemia
22. The routine posteroanterior and lateral chest roentgenogram may provide nonspecific information in patients with valvular heart diseases: 1. Valvular calcification, 2. Cardiac chamber enlargement, 3. Low ejection fraction, 4. Diastolic filling disorder, 5. Pulmonary congestion.
- 1, 2, 5
 - 1, 3, 4
 - 1, 4, 5
 - 2, 3, 5
 - 2, 3, 4
23. Echocardiography allow real-time assessment of all, EXCEPT:
- Chamber size
 - Wall thickness
 - Valve appearance
 - Valve motion
 - Extrasystole presence
24. Cardiac catheterization is used to measure (choose correct answer):
- Valve structure
 - Valve motion
 - Valve gradients
 - Valve vegetations
 - Chamber size
25. *Afterload* reduction with vasodilator agents is applied to enhance pressure gradients in patients with valvular heart disease. Choose the right combination of disorders, in which *afterload* reduction can improve circulation. 1. Mitral regurgitation, 2. Aortic insufficiency, 3. Aortic stenosis, 4. Mitral stenosis.
- 1,2
 - 1,3
 - 1,4
 - 2,3
 - 2,4

26. Operation for aortic stenosis is indicated for all symptoms, EXCEPT:
- LV hypertrophy
 - Congestive heart failure
 - Calculated valve area less than 0.8 cm²
 - Angina pectoris
 - Syncope
27. Mitral stenosis can cause all following conditions, EXCEPT:
- Atrial fibrillation
 - Pulmonary hypertension
 - Right ventricular dilation
 - LV hypertrophy
 - Hemoptysis
28. For acute occlusion of main arteries of the extremities are typical: 1. Paleness; 2. Pain; 3. Edema; 4. Paresthesia; 5. No pulse. Choose the correct configuration of answers:
- 1,2,4,5;
 - 4,5;
 - 2,3;
 - 1,2,3;
 - All correct.
29. In the absence, in patients with embolism of femoral artery, of a heart disease as the cause of embolism should be suspected: 1. Aortic aneurysm 2. Iliac artery aneurysm, 3. Aorta atheromatosis with wall surface blood clot 4. Thrombosis of superior mesenteric vein 5. Additional cervical rib, which compresses the subclavian artery. Select the correct combination of answers:
- 1,2,5;
 - 3,4,5;
 - 1,2,3;
 - 4,5;
 - All correct.
30. In deciding the tactics of treatment of patients with severe limb ischemia of unknown origin, the optimal combination of the following instrumental methods of investigation are: 1. Sphygmography 2. Aortoarteriography 3. Thermography; 4. Ultrasound dopplerography 5. Occlusive plethysmography. Select the correct combination:
- 1,2,3;
 - 2,3;
 - 4,5;
 - 2,4;
 - 1,3,5.
31. In case of femoral artery embolism, ischemia III-B degree (last stage – limb contractures) the method of choice of treatment is:
- Emergency embolectomy;
 - Thrombolysis;
 - Anticoagulant therapy;
 - Symptomatic therapy;
 - Primary amputation of limb.
32. Cause of brachial artery embolism may be any disease, except:
- Mitral stenosis;
 - MI;
 - Heart aneurism;
 - Abdominal aorta aneurism;
 - Compression of subclavian artery with additional cervical rib.
33. What changes of coagulation are typical for patients with acute ischemia of the lower extremity due to arterial embolism: 1. Hypercoagulation 2. Hypocoagulation 3. Inhibition of fibrinolysis, 4. Platelets aggregation

5. Activation of fibrinolysis. Select the correct combination of answers:
- 1,4;
 - 2,3,5;
 - 1,3,4;
 - 2,3;
 - 3,4.
34. The best instrument for embolectomy from big arteries is:
- Vessel ring;
 - Vacuum aspirator;
 - Fogarty catheter;
 - Dormia catheter;
 - Kelly forceps.
35. In the topical diagnosis of acute arterial occlusion the most informative method of examination is:
- Sphygmography;
 - Thermography;
 - Aorto-arteriography;
 - Ultrasound dopplerography;
 - Plethysmography.
36. A 63-year-old man has had a cyanotic painful left foot fourth toe for 2 days. The dorsalis pedis and posterior tibial arteries are palpable on both sides. There is no history of cardiac or vascular disease. What is the most likely diagnosis?
- Cardiac embolus
 - Atheroembolism
 - Lupus vasculitis
 - Digital atherosclerosis
 - Raynaud's syndrome
37. A 45-year-old woman undergoes cardiac catheterization through a right femoral approach. Two months later, she complains of right lower extremity swelling and notes the appearance of multiple varicosities. On examination, a bruit is heard over the right groin. What is the most likely diagnosis?
- Femoral artery thrombosis
 - Superficial venous insufficiency
 - Arteriovenous (AV) fistula
 - Pseudoaneurysm
 - Deep vein insufficiency
38. A 60-year-old man with a history of atrial fibrillation is found to have a cyanotic, cold right lower extremity. The embolus is most probably originating from which of the following?
- An atherosclerotic plaque
 - An abdominal aortic aneurysm
 - Heart
 - Lungs
 - Paradoxical embolus
39. A 60-year-old man with a history of atrial fibrillation is found to have a cyanotic, cold right lower extremity. Which is the most common site at which an arterial embolus lodges?
- Aortic bifurcation
 - Dorsalis pedis artery
 - Tibial arteries
 - Popliteal artery
 - Iliac artery
40. A 60-year-old man with a history of atrial fibrillation is found to have a cyanotic, cold right lower extremity. What is the most appropriate management?
- Embolectomy
 - Lumbar sympathectomy
 - Bypass surgery
 - Amputation
 - Arteriography

41. A young patient sustains blunt trauma to his right knee that results in acute thrombosis of his popliteal artery. Which tissue is most sensitive to ischemia?
- A. Muscle
 - B. Nerve
 - C. Skin
 - D. Fat
 - E. Bone
42. A young college student injures his left knee while playing football and is unable to bear weight. The provisional x-ray report indicates that there are no fractures seen. He is discharged home but presents the next morning to the emergency department with a severely swollen, painful left knee and severe pain in the foot. On examination, the foot is pale, cold, and pulseless. What is the most likely diagnosis?
- A. Traumatic deep vein thrombosis
 - B. Gastrocnemius muscle tear
 - C. Traumatic arteriovenous fistula
 - D. Posterior knee dislocation with thrombosed popliteal artery
 - E. Traumatic sciatic neuropathy
43. Name the earliest sign in case of acute extremity ischemia caused by thromboembolism?
- A. Pain
 - B. Pallor
 - C. Edema
 - D. Paralysis
 - E. Muscle contracture
44. Symptoms of acute arterial occlusion are all except:
- A. Muscle pain
 - B. Skin pallor
 - C. Increased pulse on peripheral arteries
 - D. Skin paresthesias
 - E. Muscle contracture
45. Which clinical sign suggests necrosis of the muscles in patients with acute extremity ischemia?
- A. Pain
 - B. Pallor
 - C. Edema
 - D. Paralysis
 - E. Muscle contracture
46. Which location IS NOT usual source for emboli in case of acute extremity ischemia?
- A. Mitral valve
 - B. Left atrium
 - C. Aorta
 - D. Left ventricle
 - E. Right ventricle
47. Thrombosis may occur in the following settings: 1) atherosclerosis, 2) hypercoagulable states, 3) hyperhydration states, 4) vascular grafts, 5) systemic anticoagulants use.
- A. 1,3,5
 - B. 1,2,4
 - C. 3,4,5
 - D. 1,2,5
 - E. 2,3,4
48. Which metabolic derangements are related to reperfusion in patient with acute lower-extremity ischemia after revascularization? 1) acidosis, 2) hyperkalemia, 3) alkalosis, 4) hypernatremia, 5) myoglobinuria.
- A. 1,2,5
 - B. 2,3,5,
 - C. 1,4,5
 - D. 2,3,5

- E. 1,3,4
49. The embolic occlusion should be suspected in patients with all following features, EXCEPT:
- acute onset of the disease
 - prior history of embolism
 - atrial fibrillation
 - history of intermittent claudication
 - MI
50. In case of acute limb ischemia so-called "5 Ps" have been used as a mnemonic to remember the clinical presentation of the disease. What are they?
- palpable cord, painlessness, pallor, pulselessness, paralysis
 - paresthesia, painlessness, pallor, pulselessness, palpabile cord
 - paresthesia, pain, palpable cord, pulse paradoxus, paralysis
 - palpable cord, pain, pallor, pulse paradoxus, painlessness
 - paresthesia, pain, pallor, pulselessness, paralysis
51. What is the "gold standard" in evaluation of patient with acute limb ischemia?
- Aorto-arteriography
 - Doppler ultrasonography
 - CT
 - MRI
 - Coagulogram
52. The goal of systemic anticoagulation, in case of embolization, are: 1) decrease the risk of thrombus propagation, 2) prevent recurrent embolization, 3) resolve thrombotic formation, 4) increase collateral perfusion, 5) decrease severity of the pain.
- 1,2
 - 2,5
 - 1,4
 - 2,3
 - 1,4
53. Which statement concerning acute limb ischemia is wrong?
- Thrombosis of peripheral arteries is most often associated with atherosclerotic plaque
 - The extent of collateral flow across the site of occlusion determines the severity of symptoms.
 - Patients with long-standing atherosclerotic lesions very quickly develop dramatic symptoms
 - Emboli originate from the heart in more than 90% of cases and normally lodge at the site of an arterial bifurcation
 - In case of thrombosis symptoms may be less dramatic than embolic occlusion
54. Which of the following is NOT a classic risk factor for PE?
- Recent surgery
 - Pregnancy
 - Oral contraceptives
 - Hypertension
 - Malignancy
55. Predominant source of PE is:
- Deep lower extremity veins
 - Left atrium
 - Portal vein
 - Upper extremity veins
 - Mitral valve

56. Rare sources of PE are: 1. Portal vein; 2. Right atrium; 3. Left atrium; 4. Upper extremity veins; 5. Superficial varicose lower extremity veins.
- 1, 3, 4
 - 1, 4, 5
 - 2, 4, 5
 - 2, 3, 4
 - 3, 4, 5
57. Pathogenetically for PE is typical:
- Decrease of central venous pressure
 - Increase of arterial blood pressure
 - Bradycardia
 - Splenomegaly
 - Increase of central venous pressure
58. What are the most common signs and symptoms of PE?
- Back pain, hypotension, and a pulsatile abdominal mass
 - Dyspnea, pleuritic chest pain, and tachypnea
 - Productive cough, wheezing, and bilateral pedal edema
 - Chest pain, syncope, arterial hypertension
 - Arterial hypertension, pain in the thigh
59. Choose the combination of tests, which are performed in case of suspicion for PE to make preliminary diagnosis (baseline tests): 1. Chest x-ray; 2. Leg doppler; 3. ECG; 4. Arterial blood gases; 5. D-dimer.
- 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - 1, 3, 4
 - 2, 3, 5
60. Which statement is wrong concerning test for D-dimer?
- D-dimer is fibrin degradation product
 - Positive D-dimer test confirms with high probability the diagnosis of PE
 - D-dimer can be falsely elevated postoperatively and in the setting of sepsis, ARDS, MI
 - Negative D-dimer with 98% probability exclude the diagnosis of PE in patients with low PE probability
 - D-dimer is indicative of any thrombosis
61. Which statement is wrong concerning the V/Q scan?
- Radiolabelled marker is injected IV
 - Patient inhale aerosolized radiolabelled marker
 - For PE is typical – perfusion defect and normal ventilation scan
 - For pneumonia is typical – perfusion and ventilation defect
 - For PE is typical – normal perfusion scan and ventilation defect
62. Which test is a gold standard in diagnosing PE?
- D-dimer
 - Angiopulmonography
 - Leg doppler
 - CT-pulmonary angiography
 - Echocardiography
63. 72 year-old patient, with obesity and superficial varicose veins, was admitted to the surgical department with strangulated large incisional

hernia. On the next day after operation patient was complaining for pain in the left thigh. On 3 day after operation during attempt to stand up appeared: inspiratory dyspnea, dull chest pain, systolic BP 60 mm Hg, heart rate – 130 per minute. Make the diagnosis?

- A. Massive PE
- B. Acute myocardial infarction
- C. Minor PE
- D. Septic shock
- E. Pneumonia

64. 72 year-old patient, with obesity and superficial varicose veins, was admitted to the surgical department with strangulated large incisional hernia. On the next day after operation patient was complaining for pain in the left thigh. On 3 day after operation during attempt to stand up appeared: inspiratory dyspnea, dull chest pain, systolic BP 60 mm Hg, heart rate – 130 per minute. Which diagnostic test should be performed to confirm the diagnosis?

- A. Chest x-ray
- B. V/Q scan
- C. Leg doppler
- D. Transesophageal echocardiography
- E. D-dimers

65. 72 year-old patient, with obesity and superficial varicose veins, was admitted to the surgical department with strangulated large incisional hernia. On the next day after operation patient was complaining for pain in the left thigh. On 3 day after operation during attempt to stand up appeared: inspiratory dyspnea, dull chest pain, systolic BP

60 mm Hg, heart rate – 130 per minute. Choose the first step in the treatment of this patient?

- A. Antibiotics + stabilization of hemodynamic
- B. Thrombolysis + stabilization of hemodynamic
- C. Heparin + stabilization of hemodynamic
- D. Warfarine + stabilization of hemodynamic
- E. LMWH + stabilization of hemodynamic

66. 72 year-old patient, with obesity and superficial varicose veins, was admitted to the surgical department with strangulated large incisional hernia. On the next day after operation patient was complaining for pain in the left thigh. On 3 day after operation during attempt to stand up appeared: inspiratory dyspnea, dull chest pain, systolic BP 60 mm Hg, heart rate – 130 per minute. Which method of treatment would be most effective in this case?

- A. Medical treatment
- B. Surgical embolectomy
- C. Thrombolysis
- D. Therapy of pulmonary edema
- E. Heparin

67. Which of the following management options may be used in the treatment of a PE?

- A. Anticoagulation
- B. Thrombolysis
- C. Inferior vena cava (IVC) filter
- D. Surgical or catheter embolectomy
- E. All of the above

68. Choose the drug which is used for pathogenetical treatment of PE:
- t-PA
 - Heparin
 - Pentoxifyllin
 - Warfarin
 - Aspirin
69. A 30-year-old male is admitted to the hospital after a motorcycle accident that resulted in a fracture of the right femur. The fracture is managed with traction. Three days later the patient becomes confused and tachypneic. A petechial rash is noted over the chest. Lungs are clear to auscultation. Arterial blood gases show PO₂ of 50, PCO₂ of 28, and pH of 7.49. The most likely diagnosis is?
- Unilateral pulmonary edema
 - Hematoma of the chest
 - Fat embolism
 - Pulmonary thromboembolism
 - Early Staphylococcus aureus pneumonia
70. 28 years old man who is in an army, presented with sudden onset of shortness of breath and localised pleuritic chest pain. He also has non-productive cough, with an episode of haemoptysis, low grade fever without chills and rigors and rashes. He had previous history of trauma to the knee and [anterior cruciate ligament](#) repair done 1 months ago. No history of pneumonia, recent air travel or long journey drive. No other medical illness. According to examination 20% occlusion of pulmonary vasculature was found. Make the diagnosis?
- Massive PE
 - Acute myocardial infarction
 - Major (submassive) PE
 - Minor PE
 - Pneumonia
71. 28 years old man who is in an army, presented with sudden onset of shortness of breath and localised pleuritic chest pain. He also has non-productive cough, with an episode of haemoptysis, low grade fever without chills and rigors and rashes. He had previous history of trauma to the knee and [anterior cruciate ligament](#) repair done 1 months ago. No history of pneumonia, recent air travel or long journey drive. No other medical illness. According to examination 20% occlusion of pulmonary vasculature was found. Which diagnostic test is most suitable to confirm the diagnosis?
- CT-pulmonary angiogram
 - ECG
 - Chest x-ray
 - Leg doppler
 - D-dimers
72. 28 years old man who is in an army, presented with sudden onset of shortness of breath and localised pleuritic chest pain. He also has non-productive cough, with an episode of haemoptysis, low grade fever without chills and rigors and rashes. He had previous history of trauma to the knee and [anterior cruciate ligament](#) repair done 1 months ago. No history of pneumonia, recent air travel or long journey drive. No other medical illness. According to examination 20% occlusion of pulmonary vasculature was found. Which method

- of treatment would be most effective in this case?
- Antibioticotherapy
 - Surgical embolectomy
 - Thrombolysis
 - Therapy of pulmonary edema
 - Heparin + Warfarine
73. Which of the following are contraindications for thrombolysis?
- Significant trauma (< 2 months);
 - Recent major surgery (< 2 months);
 - Prolonged cardio-pulmonary resuscitation (> 10 minutes);
 - Recent puncture of a non-compressible vessel (< 10 days);
 - Bleeding diathesis.
- All of them
 - 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 5
74. The "classic" clinical presentation of pulmonary embolism includes all, EXCEPT:
- abrupt onset
 - acute pleuritic chest pain
 - shortness of breath
 - hypoxia
 - dehydration
75. Pulmonary embolism can cause such pathological processes:
- Reduces the cross-sectional area of the pulmonary vasculature;
 - Increases the cross-sectional area of the pulmonary vasculature;
 - Reduces pulmonary vascular resistance;
 - Increases pulmonary vascular resistance;
 - Increases the right ventricular afterload;
 - Reduces the right ventricular afterload.
- Choose the correct combination.
- 1,3,5
 - 2,4,6
 - 1,4,5
 - 1,4,6
 - 2,3,6
76. Virchow's triad, consists of three components, which predispose a patient to thrombosis. Name them:
- Hypoventilation;
 - Endothelial injury;
 - Stasis of blood flow;
 - Hyperthrombolysis;
 - Blood hypercoagulability
- 1,3,5
 - 1,4,5
 - 2,3,5
 - 1,2,4
 - 2,3,4
77. Which statement, concerning Pulmonary Embolism, is NOT TRUE?
- Embolism is acute if it occludes a vessel
 - An embolism is chronic if it is eccentric and contiguous with the vessel wall
 - A pulmonary embolism is called massive when it involves both pulmonary arteries
 - Routine laboratory findings are nonspecific
 - US dopplerography remains the gold standard examination for the diagnosis of pulmonary embolism
78. For massive pulmonary embolism is typical systolic arterial pressure less than
- less than 90 mm Hg
 - less than 100 mm Hg
 - less than 110 mm Hg
 - more than 120 mm Hg
 - more than 200 mm Hg

79. What is NOT a risk factor for pulmonary embolism:
- Immobilization
 - Surgery and trauma
 - Pregnancy
 - Bone fracture
 - Alcohol abusing
80. The onset of pulmonary embolism may include all symptoms, EXCEPT:
- Syncope
 - Arterial hypertention
 - Productive cough
 - Wheezing
 - Decreasing level of consciousness
81. Patients with massive pulmonary embolism may develop all symptoms, EXCEPT
- Arterial hypotension
 - Tachycardia
 - Polyuria
 - Pleuritic chest pain
 - Tachypnea
82. Minor pulmonary embolism is caused by occlusion of pulmonary vasculature:
- 50-70%
 - 70-90%
 - < 30%
 - 30-50%
 - >90%
83. Major pulmonary embolism is caused by occlusion of pulmonary vasculature:
- 50-70%
 - 70-90%
 - < 30%
 - 30-50%
 - > 50%
84. Massive pulmonary embolism is caused by occlusion of pulmonary vasculature:
- 10-30%
 - < 10%
 - < 30%
 - 30-50%
 - > 50%
85. All problems that compromise blood flow listed below can cause acute visceral ischemia, except?
- Acute embolic occlusion
 - Acute thrombotic occlusion
 - Nonocclusive mesenteric ischemia
 - Splanchnic artery aneurysm
 - Mesenteric veins thrombosis
86. Which clinical signs are typical for early stages of acute visceral ischemia?
- Severe abdominal pain, vomiting, diarrhea, leukocytosis
 - Mild abdominal pain, constipation
 - Pulsating abdominal mass
 - No typical clinical signs
 - Bloody stool, signs of peritonitis
87. Name later manifestations of acute visceral ischemia?
- Severe abdominal pain, vomiting, diarrhea, leukocytosis
 - Mild abdominal pain, constipation
 - Pulsating abdominal mass
 - No typical clinical signs
 - Bloody stool, signs of peritonitis
88. Which examination is considered to be a gold standard for diagnosis of acute visceral ischemia?

- A. Ultrasound
B. CT
C. Selective mesenteric angiography
D. Duplex ultrasonography
E. MRI
89. Which examination is considered to be the best for screening of acute visceral ischemia caused by thrombotic ischemia or venous thrombosis?
A. Ultrasound
B. CT
C. Selective mesenteric angiography
D. Duplex ultrasonography
E. MRI
90. A 60-year-old man with a history of atrial fibrillation is found to severe abdominal pain, vomiting, diarrhea, $WBC=23 \times 10^9/l$. The embolus is most probably originating from which of the following?
A. An atherosclerotic plaque
B. An abdominal aortic aneurysm
C. Heart
D. Lungs
E. Paradoxical embolus
91. A 60-year-old man with a history of atrial fibrillation is found to severe abdominal pain, vomiting, diarrhea, $WBC=23 \times 10^9/l$. What is the most appropriate surgical treatment for this patient?
A. Embolectomy
B. Lumbar sympathectomy
C. Bypass surgery
D. Intestine resection
E. Heparinization
92. Name the most often cause for mesenteric thrombosis?
A. Blunt abdominal trauma
B. Arteriosclerotic plaque
C. Mesenteric artery aneurysm
D. Embolus
E. Vasospasm
93. A 66-year-old woman is admitted for hyperalimentation due to malnutrition consequent to massive small-bowel resection. What is the most likely condition that leads to the need to perform a massive resection?
A. Autoimmune disease
B. Mesenteric ischemia
C. Mesenteric adenitis
D. Cancer
E. Pseudomyxoma peritonei
94. Name the form of acute mesenteric ischemia which has the highest mortality rate?
A. Acute embolic occlusion
B. Acute thrombotic occlusion
C. Nonocclusive mesenteric ischemia
D. Splanchnic artery aneurysm
E. Mesenteric vein thrombosis
95. The intestine is viable in over 90% of patients if the duration of mesenteric ischemia symptoms lasts:
A. 12 hours or less
B. 24 hours or less
C. 36 hours or less
D. 48 hours or less
E. 72 hours or less
96. Superior mesenteric artery embolism can be caused by: 1. Aneurysm of the left ventricle after myocardial infarction; 2. Atrial fibrillation; 3. Bacterial endocarditis; 4. Right ventricle hypertrophy; 5. Pulmonary artery

stenosis. Choose correct combination:

- A. 1, 3, 4;
- B. 1, 2, 3;
- C. 2, 3, 4;
- D. 2, 3, 5;
- E. All are correct.

97. What can cause infarction of the intestine: 1. Superior mesenteric artery embolism; 2. Superior and inferior mesenteric artery embolism; 3. Superior mesenteric artery thrombosis; 4. Superior mesenteric vein thrombosis; 5. Prolonged spasm of small intestine arteries. Choose the BEST combination.

- A. 1, 2, 3
- B. 2, 3, 4
- C. 3, 4, 5
- D. All diseases can cause intestine infarction
- E. None of these diseases can cause intestine infarction

98. In a patient with superior mesenteric artery embolism in stage of bowel infarction (part of small intestine necrotised) should be performed the following operation:

- F. Thrombectomy
- G. Isolated embolectomy
- H. Embolectomy and resection of necrotised intestine
- I. Total colectomy
- J. Periarterial sympathectomy

99. A 42-years-old patient, who suffers from mitral stenosis and atrial fibrillation, 6 hours ago appeared severe abdominal pain, vomiting, diarrhea. On examination: tenderness in mesogastrium, negative Blumberg sign. CBC: Leukocytes – $21 \cdot 10^9/l$.

What causes acute mesenteric ischemia in this case?

- A. Acute embolic occlusion of superior mesenteric artery
- B. Acute thrombotic occlusion of superior mesenteric artery
- C. Nonocclusive mesenteric ischemia
- D. Portal vein thrombosis
- E. Mesenteric vein thrombosis

100. Which parts of the GI tract will be ischemic in case of thrombosis of the orifice of superior mesenteric artery?

- K. Stomach and duodenum
- L. Stomach, duodenum and ileum
- M. Small intestine, cecum, colon ascendans
- N. Colon and rectum
- O. All parts of small and large intestine

101. Which operations we can perform in case of embolic occlusion of superior mesenteric artery (choose the best combination): 1. Embolectomy; 2. Embolectomy and resection of part of small intestine; 3. Embolectomy and left hemicolectomy; 4. Embolectomy and right hemicolectomy; 5. Total excision of ileum, jejunum and right hemicolectomy.

- P. 1, 2, 3
- Q. 2, 3, 4
- R. 1, 4, 5
- S. 1, 2, 4
- T. All operations can be performed

102. Most often cause of acute mesenteric ischemia is:

- A. Embolisation to the superior mesenteric artery

- B. Thrombosis of superior mesenteric artery
 C. Nonocclusive mesenteric ischemia
 D. Portal vein thrombosis
 E. Mesenteric vein thrombosis
103. What can cause nonocclusive mesenteric ischemia (NOMI)? 1. Severe mesenteric vasoconstriction; 2. Myocardial infarction; 3. Septic shock; 4. Hemorrhagic shock; 5. Cardiac decompensation.
 U. 1, 2, 3
 V. 2, 3, 5
 W. 2, 3, 4
 X. None of these diseases cause NOMI
 Y. All these diseases cause NOMI
104. In patients with acute mesenteric ischemia due to mesenteric embolism, which of the following statements is correct?
 A. Most oftenly embolization to inferior mesenteric artery is observed
 B. Embolus most oftenly origins from right heart
 C. Thrombolytic therapy may be attempted in patients without signs of bowel infarction or gastrointestinal bleeding
 D. Arteriography usually reveals the embolus lodged at the orifice of the superior mesenteric artery
 E. At the time of exploration in case of superior mesenteric artery embolism, ischemia is most severe in the left colon
105. A 68-year-old man is admitted to the coronary care unit with an acute myocardial infarction. His postinfarction course is marked by congestive heart failure and intermittent hypotension. On the fourth hospital day, he develops severe midabdominal pain. On physical examination, blood pressure is 90/60 mm Hg and pulse is 110 beats/min and regular; the abdomen is soft with mild generalized tenderness and distention. Bowel sounds are hypoactive; stool hematest is positive. The next step in this patient's management should be which of the following?
 A. Barium enema
 B. Upper gastrointestinal endoscopy
 C. Angiography
 D. Ultrasonography
 E. Celiotomy
106. Most oftenly chronic lower extremities ischemia is caused by:
 A. Buerger's disease
 B. Atherosclerosis
 C. Popliteal artery entrapment
 D. Mucinous cystic degeneration
 E. Fibrodysplasia
107. All statements concerning atherosclerosis are true EXCEPT:
 A. Atherosclerosis results in lipid accumulation within the intimal layer of blood vessels
 B. Is the basis of most peripheral vascular disease
 C. Atherosclerosis affects most oftenly young patients
 D. Is the major degenerative disease of arteries

- E. Oftenly occurs as a result of the aging process
108. Major risk factors for atherosclerosis are all EXCEPT:
- Cigarette smoking
 - Hypertension
 - Diabetes mellitus
 - Hyperlipidemia
 - Alcohol consumption
109. According to the traditional Fontaine classification system for lower extremity arterial occlusive disease II stage means:
- Asymptomatic
 - Claudication
 - Ischemic rest pain
 - Ischemic ulceration
 - Ischemic necrosis
110. According to the traditional Fontaine classification system for lower extremity arterial occlusive disease III stage means:
- Asymptomatic
 - Claudication
 - Ischemic rest pain
 - Ischemic ulceration
 - Ischemic necrosis
111. Choose not correct statement concerning intermittent claudication:
- Is clinically diagnosed as rest pain
 - Is relieved with short periods of rest
 - Pain is located in the calves (less frequently in the buttocks or thighs)
 - Is caused by arterial obstruction proximal to affected muscle beds, which limits the normal exercise-induced increase in blood flow
- E. Is lower extremity muscular pain induced by exercise
112. Asymptomatic clinical stage of chronic lower extremity ischemia can be diagnosed by signs: 1. Ulcers; 2. Muscles atrophy; 3. Hyperkeratosis; 4. Diminished hair and nail growth on affected limb and digits; 5. Claudication. Choose correct combination.
- 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - 1, 3, 5
 - 2, 4, 5
113. Critical limb ischemia is characterized by: 1. Rest pain; 2. Fontaine stage II; 3. Pedal necrosis; 4. Intermittent claudication; 5. Fontaine stages III and IV:
- 1, 2, 3
 - 1, 2, 4
 - 2, 3, 4
 - 1, 3, 5
 - 2, 3, 5
114. Which examination or test is used as the most common tool to diagnose peripheral vascular disease and stratify objectively the extent of occlusive disease?
- Phlebography
 - Duplex ultrasound
 - Angiography
 - Echocardiography
 - Ankle-brachial pressure index
115. Initial nonoperative treatment of patients with peripheral artery disease in the I-II stage according to Fontaine classification consists of

- such components: 1. Adequate antiplatelet therapy; 2. Anticoagulant therapy; 3. Antibiotics; 4. Hypertension control; 5. Treatment of hyperlipidemia. Choose best combination:
- A. 1, 2, 3
 - B. 1, 3, 4
 - C. 1, 4, 5
 - D. 2, 3, 4
 - E. 3, 4, 5
116. Which antiplatelet agent is used most often?
- A. Aspirin
 - B. Clopidogrel
 - C. Ticlopidine
 - D. Heparin
 - E. Pentoxifyllin
117. A 27-year-old chronic smoker presents with ulceration of the tip of the right second, third, and fourth toes. He gives a history of recurrent pain in both lower and upper extremities, migratory superficial phlebitis of the feet occurring a few years ago. Physical examination findings are remarkable for absent bilateral posterior tibial and dorsalis pedis pulses with palpable popliteal pulses. Make the diagnosis?
- A. Thromboangiitis obliterans (Buerger's disease)
 - B. Lupus vasculitis
 - C. Atheroembolism
 - D. Raynaud's syndrome
 - E. Atherosclerosis obliterans
118. A 27-year-old chronic smoker presents with ulceration of the tip of the right second, third, and fourth toes. He gives a history of recurrent pain in both lower and upper extremities, migratory superficial phlebitis of the feet occurring a few years ago. Physical examination findings are remarkable for absent bilateral posterior tibial and dorsalis pedis pulses with palpable popliteal pulses. What is the single most important step in management?
- A. Multiple toe amputations
 - B. Long-term anticoagulant therapy
 - C. Immediate operative intervention
 - D. Angiography followed by bypass surgery
 - E. Cessation of smoking
119. A middle-aged man undergoes a left below-knee amputation for left-foot gangrene secondary to arterial occlusive disease. Which of the following statements is true after the below-knee amputation?
- A. There is less efficient function than after above-knee amputation
 - B. Stump prognosis can be judged by transcutaneous oxygen monitoring
 - C. Poor prognosis is inevitable if Doppler fails to record a pulse at that level
 - D. Is performed in patients with occlusion of femoral artery
 - E. The level of transection is 5 cm above the medial malleolus
120. A 70-year-old man with a long-standing history of diabetes develops gangrene of the right second toe. What is true of his diabetic foot?
- A. Dorsalis pedis and posterior tibial arteries pulses are always absent

- B. Gangrene of the toe always requires urgent below-knee amputation
- C. Arterial reconstruction is invariably required
- D. His right common femoral artery is most probably occluded or stenosed
- E In pathogenesis of diabetic foot development big role play stenosis of lower extremity arteries and progression of peripheral neuropathy
121. An elderly patient with ischemic rest pain is found to have combined aortoiliac and femoropopliteal occlusive disease. What is the treatment of choice in this case?
- A. Lumbar sympathectomy
- B. Femoropopliteal bypass
- C. Aortofemoral and femoropopliteal bypass
- D. Aortofemoral bypass
- E. Vasodilator therapy
122. A 72-year-old man complains of bilateral thigh and buttock claudication of several months duration. He was told by his physician that the angiogram revealed findings indicating that he has Leriche syndrome. What does this patient have?
- A. Abdominal aortic aneurysm
- B. Aortoiliac occlusive disease
- C. Iliac artery aneurysm
- D. Femoropopliteal occlusive disease
- E. Tibial occlusive disease
123. Conservative management rather than reconstructive arterial surgery is generally recommended for patients with which of the following symptoms or signs of arterial insufficiency?
- A. Ischemic ulceration
- B. Ischemic neuropathy (not diabetic neuropathy)
- C. Claudication
- D. Nocturnal foot pain
- E. Toe gangrene
124. Symptoms or signs of atherosclerotic occlusive disease of the bifurcation of the abdominal aorta (Leriche syndrome) include?
- A. Claudication of the buttock and thigh, impotence
- B. Causalgia of the lower leg
- C. Retrograde ejaculation
- D. Gangrene of the feet
- E. Dependent rubor of the feet
125. On which artery we measure pulse below the middle of inguinal ligament?
- A. A. iliaca interna
- B. A. femoralis communis
- C. A. poplitea
- D. A. profunda femoris
- E. A. iliaca externa
126. Choose all pathological processes which are responsible for the development of varicosae veins: 1. Venous valvular incompetence; 2. Venous hypertension; 3. High intraabdominal pressure; 4. Endothelial function impairment; 5. Smooth muscle function impairment.
- A. 1, 2, 3;
- B. 2, 3, 5;
- C. 1, 3, 5;
- D. 2, 4, 5;
- E. All are correct.
127. The greater saphenous vein arises:

- A. Anterior to the medial malleolus;
 B. Posterior to the medial malleolus;
 C. Anterior to the lateral malleolus;
 D. Posterior to the lateral malleolus;
 E. Below the knee joint.
128. Most oftenly the greater saphenous vein join:
 A. External iliac vein;
 B. Common femoral vein;
 C. Popliteal vein;
 D. Posterior tibial vein;
 E. Deep femoral vein.
129. The lesser saphenous vein arises:
 A. Anterior to the medial malleolus;
 B. Posterior to the medial malleolus;
 C. Anterior to the lateral malleolus;
 D. Posterior to the lateral malleolus;
 E. Below the knee joint.
130. Most oftenly the lesser saphenous vein join:
 A. External iliac vein;
 B. Common femoral vein;
 C. Popliteal vein;
 D. Posterior tibial vein;
 E. Anterior tibial vein.
131. All statements about veins of lower extremities are true except:
 A. 90% of blood is returning to the heart by deep vein system;
 B. The leg muscles act like a heart for veins;
 C. Backward flow of the blood in veins is prevented by valves;
 D. Blood flows from superficial to deep venous system by perforator veins;
 E. Superficial vein system consists most oftenly from 3 veins.
132. Choose all etiological factors which can cause varicose veins: 1. Pregnancy; 2. Chronic straining; 3. Prolonged standing; 4. Pelvic veins obstruction; 5. Obesity.
 A. 1, 2, 3;
 B. 2, 3, 5;
 C. 1, 3, 5;
 D. 2, 4, 5;
 E. All are correct.
133. Choose symptoms which are typical for early stages of varicose veins: 1. Ankle swelling; 2. Leg heaviness; 3. Cutaneous pigmentation; 4. Ulceration; 5. Cosmetically displeasing dilated superficial veins.
 A. 1, 2, 3;
 B. 2, 3, 4;
 C. 1, 2, 5;
 D. 2, 3, 4;
 E. All are correct.
134. All statements about pain in patients with varicose veins are true except:
 A. The most frequent type is limb heaviness;
 B. Ache that occurs after prolonged standing;
 C. The pain is usually felt over the calf area;
 D. Walking may increase the calf ache associated with varicose veins;
 E. Lying down, particularly with elevation of the limb, relieves limb heaviness within a short period of time.
135. Varicose veins are defined as dilated palpable subcutaneous veins larger than:
 A. 4 mm;

- B. 7 mm;
C. 10 mm;
D. 2 mm;
E. 1 mm.
136. Which statement is wrong concerning venous imaging studies?
A. Duplex scanning is screening method for patients with varicose veins;
B. For all patients with varicose veins phlebography is indicated;
C. Phlebography and duplex scanning provide detailed anatomic information;
D. Phlebography is indicated in complex cases (vein valve transplantation or multiple re-do procedures);
E. Duplex scanning allows vein mapping, perforator mapping.
137. Venous disease of the legs can be classified according to the severity, cause, site and specific abnormality using the CEAP classification. What C1 means according to this classification?
A. No visible or palpable signs of venous disease;
B. Telangiectases, reticular veins, malleolar flare;
C. Varicose veins;
D. Edema without skin changes;
E. Skin changes ascribed to venous disease
138. Specify most efficient and noninvasive examinations, which helps to identify the perforator incompetence: 1. Torniquet test. 2. Duplex scanning. 3. Phlebography. 4. Arteriography. 5. March test. Choose best combination:
A. 2,5;
- B. 2,3;
C. 3,4;
D. 1, 2;
E. All are correct.
139. Name main principles of nonsurgical treatment of not complicated varicose veins: 1. Rest; 2. Exercises; 3. Leg elevation; 4. Elastic compression; 5. Lower leg. Choose best combination:
A. 2, 3, 5;
B. 1, 2, 5;
C. 1, 3, 4;
D. 2, 4, 5;
E. 1, 2, 4.
140. A 21-year-old woman is referred to your office because of multiple lower extremity varicose veins. She has large varicosities in the distribution of the long saphenous vein, she was never examined for varicose veins. What is the next step in management?
A. A ligation and stripping operation;
B. Ligation of both the long and short saphenous system;
C. Sclerotherapy;
D. Duplex evaluation along with clinical correlation as an essential initial step;
E. Compression stockings and anticoagulation therapy.
141. A middle-age woman has right foot nonpitting edema, leg heaviness. The diagnosis of chronic venous insufficiency is made, stage C1. What is the treatment of choice?
A. Vein stripping;
B. Pressure-gradient stockings;

- C. Skin grafting;
 D. Perforator vein ligation;
 E. Valvuloplasty.
142. A patient complains of an ulceration on the inner surface of the lower third of the right shin. On examination: the ulcer is round-shaped, up to 5 cm in diameter, with sloping edges. On the inner surface of this shin there are varicose veins. What complication appeared in this patient?
- A. Elephantiasis
 B. Erysipelatous inflammation
 C. Deep venous thrombosis
 D. Varicose veins with trophic ulceration
 E. Popliteal artery thrombosis
143. A 61-year-old woman comes to the office complaining of "spidery veins". Occasionally, she has a dull, achy feeling in her legs that usually occurs at the end of the day. Recently her shoes have begun to feel tight at the end of the day. She used to work as a bank teller, spending many hours on her feet each day. She denies any shortness of breath or difficulty walking up stairs. There is no history of deep vein thrombosis. On physical examination her legs are symmetric in size, without evidence of trauma or skin breakdown. On the inner aspect of her upper and lower thigh are dilated superficial veins. There are good dorsal pedalis pulses bilaterally, and motor and sensory examination is normal. The most accurate statement regarding her condition is:
- A. Compression stockings may provide relief
- B. Sclerotherapy is not a reasonable treatment option
 C. There is no association with deep venous insufficiency
 D. These veins will never bleed
 E. Walking will likely improve her symptoms
144. Development of chronic venous insufficiency of lower extremities depends from the functional condition of so-called "muscle pump". In relation to which muscle group is used this term?
- A. Buttocks
 B. Abdominal wall
 C. Foot
 D. Hip
 E. Shin
145. Operation for varicose veins of lower extremities allows to: 1. To overcome abnormal dump of blood from deep veins to superficial; 2. Remove varicose veins; 3. Restore patency of deep veins; 4. Adjust femoral vein valve failure; 5. Remove trophically changed tissues. Select best combination of answers:
- A. 3,4,5
 B. 1,2,4
 C. All are correct
 D. 1,2,3
 E. 2,3,4
146. Reticular veins are defined as dilated nonpalpable subcutaneous veins:
- A. 1-4 mm;
 B. 5-10 mm;
 C. 10-15 mm;
 D. > 15 mm;
 E. < 1 mm.

147. Teleangiectases are defined as dilated nonpalpable subcutaneous veins:
- 1-4 mm;
 - 5-10 mm;
 - 10-15 mm;
 - > 15 mm;
 - < 1 mm.
148. Specify factors, which plays important role in the pathogenesis of deep vein thrombosis: 1. Stasis; 2. Hypocoagulability; 3. Hypercoagulability; 4. Vein wall (endothelial) injury; 5. Allergic reaction.
- 1, 2, 3;
 - 1, 3, 4;
 - 1, 2, 4;
 - 2, 3, 5;
 - All are correct.
149. Where deep vein thrombosis most oftenly begins:
- Foot;
 - Ankle;
 - Calf;
 - Knee;
 - Thigh
150. Choose the risk factors for the development of deep vein thrombosis: 1. Advanced age; 2. Immobilization; 3. Active cancer; 4. Orthopedic procedures; 5. **Primary hypercoagulable states.**
- 1, 2, 3;
 - 2, 3, 4;
 - 1, 3, 5;
 - 2, 3, 5;
 - All are correct.
151. What cancers are most suspicious for the development of deep vein thrombosis: 1. Thyroid cancer; 2. Lung cancer; 3. Genitourinary cancer; 4. CNS cancer; 5. Gastrointestinal cancer.
- 2, 3, 4;
 - 2, 3, 5;
 - 1, 2, 3;
 - 3, 4, 5;
 - All are correct
152. In women, especially in young age, deep vein thrombosis can be caused by: 1. Pregnancy; 2. Abortion; 3. Oral contraceptives; 4. Hormonal replacement therapy.
- All are correct;
 - 1, 2, 3;
 - 2, 3, 4;
 - 1, 2, 4;
 - 1, 3, 4.
153. Name the signs of acute deep vein thrombosis: 1. Thigh pain; 2. Massive leg swelling; 3. Pale colour of the thigh skin; 4. Early leg paralysis; 5. Leg cyanosis.
- 1, 2, 3;
 - 2, 3, 4;
 - 3, 4, 5;
 - 1, 2, 5;
 - 2, 3, 5
154. Homans' sign – is:
- Thigh swelling;
 - Leg cyanosis;
 - Pain with passive dorsiflexion of the foot;
 - Tenderness of the calf;
 - Prominent superficial veins in case of deep vein thrombosis
155. Which statement concerning D-dimer are not true?
- D-dimers are products of the degradation of cross-linked fibrin by plasmin;

- B. D-dimer blood levels reflect the presence of intravascular fibrin;
- C. D-dimer is sensitive for the diagnosis of venous thromboembolism
- D. D-dimer measurement is most valuable as an adjunct to other diagnostic modalities (duplex scanning etc)
- E. Increased level of D-dimer is highly specific for deep vein thrombosis
156. Four days after undergoing subtotal gastrectomy for stomach cancer, a 58-year-old woman complains of right leg and thigh pain, swelling and redness, and has tenderness on examination. The diagnosis of deep vein thrombosis is entertained. What is the initial screening test to establish the diagnosis?
- A. Venography
- B. Venous duplex ultrasound
- C. Impedance plethysmography
- D. Radio-labeled fibrinogen
- E. Assay of fibrin/fibrinogen products
157. Four days after undergoing subtotal gastrectomy for stomach cancer, a 58-year-old woman complains of right leg and thigh pain, swelling and redness, and has tenderness on examination. The diagnosis of deep vein thrombosis is entertained. What is the most efficient and sensitive (gold standard) test to establish the diagnosis?
- A. Venography
- B. Venous duplex ultrasound
- C. Impedance plethysmography
- D. Radio-labeled fibrinogen
- E. Assay of fibrin/fibrinogen products
158. Name the most dangerous complication of deep vein thrombosis:
- A. Venous ulcers;
- B. Pulmonary embolism;
- C. Phlebitis;
- D. Valvular incompetency;
- E. Obliteration of lower extremity deep veins.
159. A middle-aged man known to have peptic ulcer disease is admitted with upper gastrointestinal bleeding. During his hospital stay, he develops DVT of the left lower extremity. What is the most appropriate management?
- A. Anticoagulants
- B. Observation
- C. Thrombolytic therapy
- D. Inferior vena cava (IVC) filter
- E. Aspirin
160. An 18-year-old man develops a painful, swollen left leg while training for the Kiev Marathon. There is tenderness in the left calf and ecchymosis is present. No signs of varicose veins on both legs, active and passive movements in the left knee joint are not painful. What is the most likely diagnosis?
- A. Cellulitis;
- B. Deep vein thrombosis;
- C. Superficial thrombophlebitis;
- D. Tear of the plantaris muscle;
- E. Popliteal artery embolism
161. Choose the best combination of deep vein thrombosis prevention methods in the patient of high risk group: 1. Early activation of the

- patient after surgical procedure; 2. Low-molecular weight heparins; 3. Graduated-compression stockings; 4. Intermittent leg compression; 5. Regional anesthesia (intraspinal or epidural anesthesia).
- A. 1, 2, 3;
 B. 2, 3, 4;
 C. 3, 4, 5;
 D. 1, 2, 4;
 E. All are correct
162. Treatment of deep vein thrombosis is directed towards all factors except:
- A. To prevent death from pulmonary embolism;
 B. To prevent recurrent deep vein thrombosis;
 C. To prevent development of varicose veins;
 D. To prevent the post-thrombotic syndrome;
 E. To prevent proximal propagation of the thrombosis
163. Which thrombolytic agent is used for the treatment of deep vein thrombosis?
- A. Aspirin;
 B. Recombinant tissue plasminogen activator;
 C. Heparin
 D. Fondaparinux (Arixtra);
 E. Pentoxifyllin
164. Specify indications for inferior vena caval interruption: 1. Contraindications for thrombolytics in the low risk group patient; 2. Contraindications to anticoagulants; 3. Recurrent pulmonary embolism despite adequate anticoagulation; 4. Prophylactic placement in high-risk patients; 5. Young age of the patient with deep vein thrombosis.
- A. 2, 3, 4;
 B. 1, 2, 3;
 C. 3, 4, 5;
 D. 1, 2, 5;
 E. 1, 3, 5
165. Prophylactic regimens of documented benefit in decreasing the risk of POSToperative thromboembolism include:
- A. Early activation and ambulation
 B. External pneumatic compression devices placed on the upper extremities
 C. Long bedrest after operation
 D. Leg elevation for 24 h postoperatively
 E. Dipyridamole therapy for 48 h postoperatively
166. Patients with phlebographically confirmed deep vein thrombosis of the calf:
- A. Can expect asymptomatic recovery if treated promptly with anticoagulants
 B. May be effectively treated with low-dose heparin
 C. May be effectively treated with pneumatic compression stockings
 D. May be effectively treated with acetylsalicylic acid
 E. Are at risk for significant pulmonary embolism
167. Choose the indication for placement of inferior vena cava filter:
- A. Axillary vein thrombosis
 B. Recurrent pulmonary embolus despite adequate anticoagulation therapy

- C. Pulmonary embolism in a patient with a hypercoagulable condition
- D. Pulmonary embolus due to deep vein thrombosis of the lower extremity that occurs 2 weeks postoperatively
- E. Pulmonary embolus in a patient with metastatic pancreatic carcinoma
168. Choose ALL risk factors for development of superficial vein thrombophlebitis: 1. Varicose veins; 2. Age > 60; 3. Obesity; 4. Tobacco smoking; 5. History of deep vein thrombosis.
- A. 1, 2, 3
- B. 1, 3, 4
- C. 2, 3, 4
- D. 1, 3, 5
- E. All are risk factors for superficial vein thrombosis
169. The physical diagnosis of superficial thrombophlebitis is based on the presence of: 1. Erythema in distribution of the superficial veins; 2. Pale lower extremity; 3. Tenderness in the distribution of the superficial veins; 4. Palpable and painful cord in distribution of the superficial veins; 5. Pulsless lower extremity.
- A. 1, 3, 4
- B. 1, 2, 3
- C. 2, 3, 4
- D. 2, 3, 5
- E. All are clinical signs of superficial thrombophlebitis
170. Superficial vein thrombophlebitis is a relatively common disorder with a significant incidence of recurrence and has potential morbidity from extension and pulmonary embolism. Choose WRONG statement concerning superficial vein thrombophlebitis:
- A. Superficial vein thrombophlebitis is a life-threatening condition with high risk of pulmonary embolism
- B. The most common source of trauma associated with superficial vein thrombophlebitis is an intravenous cannula
- C. Migratory thrombophlebitis may be associated with occult malignancy
- D. Mondor's disease is a thrombophlebitis of thoracoepigastric vein of the breast and chest wall
- E. Lesser saphenous vein superficial vein thrombophlebitis may progress into popliteal deep vein thrombosis
171. Which condition is most prothrombotic among all inherited thrombophilias?
- A. Antithrombin III deficiency
- B. Protein C deficiency
- C. Protein S excess
- D. Antiphospholipid antibodies
- E. Hypocysteinemia
172. The factors, which propagate thrombosis during pregnancy are all except:
- A. Increased fibrinogen level
- B. Decreased fibrinolytic activity
- C. Reduction in protein S level
- D. Increased levels of factors VII, VIII, IX, X
- E. Increased level of protein C
173. Which statement concerning thrombotic predisposing factors, is wrong?

- A. Women have a slight predilection over men
 B. No racial predilection
 C. Age may be a predisposing factor in both SVT, DVT
 D. Oral contraceptive intake predispose for venous thrombosis
 E. Decreased total platelet count
174. Which statement is not correct?
 A. Superficial thrombophlebitis usually occurs over a previous varicose vein
 B. Pain associated with SVT is usually localized over the site of thrombosis.
 C. Pain associated with DVT is generally diffuse
 D. Recent surgery, immobilization are factors that can contribute to SVT or DVT
 E. Bilateral extremity swelling is suspicious for superficial thrombophlebitis
175. The classic findings of SVT are a firm(1), tender(2), erythematous fibrous cord(3), evidence of heart failure(4), positive Homan's sign(5):
 A. 1,2,3
 B. 1,3,5
 C. 2,3,5
 D. 3,4,5
 E. 1,4,5
176. The signs of DVT are painfull calf(1), swollen leg(2), erythematous fibrous cord(3), evidence of heart failure(4), positive Homan's sign(5):
 A. 1,2,3
 B. 1,2,5
 C. 2,3,5
 D. 3,4,5
 E. 1,4,5
177. The laboratory evaluation for factor-related hypercoagulability conditions includes measurement of all the following, except:
 A. Prothrombin time, activated partial thromboplastin time
 B. Protein C and protein S level
 C. Antithrombin level
 D. Homocysteine level
 E. D-dimers
178. All statements concerning heparin are true, except:
 A. Causes inhibition of thrombin
 B. Prevents formation and/or extension of thrombus
 C. Allows recanalization of the blood vessel over time
 D. Decrease the level of protein C
 E. Can be used IV
179. Oral anticoagulants are used: (1) to prevent recurrent thrombotic events, (2) for long-term outpatient therapy in patients, (3) to inhibit vitamin K metabolism, (4) to treat acute thromboflebitis, (5) for resolution of thrombi.
 A. 1,2,3
 B. 1,2,5
 C. 2,3,5
 D. 3,4,5
 E. 1,4,5
180. What medicines have no significant role for therapy of venous thrombosis?
 A. Antiplatelet agents
 B. Protein C concentrate
 C. Thrombolytic agents
 D. Heparin
 E. Oral anticoagulants (Coumadin)

181. A 24-year-old woman on oral contraceptive pills develops an episode of deep vein thrombosis that is adequately treated with anticoagulation. She is at increased risk of developing which of the following?

- A. Recurrent foot infections
- B. Claudication
- C. Pulmonary embolism
- D. Postphlebitic syndrome
- E. Superficial varicose veins

182. A 37 y.o. patient complains of pain in the right arm which increases during motion, raised body temperature up to 39⁰C. In the right cubital fossa there is a trace of injection, hyperemia and thickening along the vein. Your diagnosis?

- A. Inflammation of lymph
- B. Phlegmon
- C. Phlebit
- D. Erysipelas
- E. Abscess

183. A 28 y.o. woman comes to the Emergency Room with a slightly reddened, painful "knot", 8 cm above the medial malleolus. Examination in the standing position demonstrates a distended vein above and below the mass. There are no other abnormalities on physical examination. The most likely diagnosis is:

- A. Cellulitis
- B. Early deep vein thrombosis
- C. Subcutaneous hematoma
- D. Insect bite
- E. Superficial venous thrombosis

184. A 43 year old patient had right-sided deep vein thrombosis of iliofemoral segment 3 years ago. Now he is suffering from the sense of heaviness, edema of the lower right

extremity. Objectively: moderate edema of shin, brown induration of skin in the lower third of shin, varix dilatation of superficial shin veins are present. What is the most probable diagnosis?

- A. Parkes-Weber syndrome
- B. Lymphedema of lower right extremity
- C. Acute thrombophlebitis of superficial veins
- D. Postthrombophlebitic syndrome, varicose form
- E. Acute thrombosis of deep veins

185. Venous insufficiency in the deep or superficial system causes all except:

- A. pain
- B. swelling
- C. skin changes
- D. ulcerations
- E. intermittent claudication

186. Which statement is wrong?

- A. Patients with deep venous system insufficiency nearly always are symptomatic;
- B. Pain caused by venous insufficiency often is improved by walking or by elevating the legs;
- C. Warmth tends to aggravate the symptoms of venous insufficiency, and cold tends to relieve them;
- D. Compression stockings usually ameliorate or prevent the pain in patients with chronic arterial insufficiency;
- E. Leg aching, heaviness, and soreness are the most common subjective symptoms of venous insufficiency.

187. The most common signs of venous system insufficiency are: Pitting edema(1), Hyperpigmentation(2), Paresthesia(3), Ulceration(4), "Cold extremity"(5).
- 1,2,4
 - 1,3,4
 - 1,3,5
 - 2,3,5
 - 2,4,5
188. Skin ulcerations localized on the lateral aspect of the ankle are more likely to be related to: prior trauma (1), perforating veins valve failure (2), pure venous insufficiency (3), basal cell carcinoma (4), chronic arterial insufficiency (5).
- 1,2,4
 - 1,4,5
 - 1,3,5
 - 2,3,5
 - 2,3,4
189. Nonhealing ulcers on the medial part of the ankle are most likely due to underlying:
- venous stasis
 - previous trauma
 - arterial insufficiency
 - basal cell carcinoma
 - allergic reactions
190. What is the most sensitive and specific test for the assessment of deep and superficial venous disease in the lower extremity and pelvis, areas not accessible with other modalities.
- Magnetic resonance venography (MRV)
 - Doppler ultrasound
 - Duplex ultrasound
 - Trendelenburg test
 - D-dimmer
191. Which functional tests can physician provide to evaluate both deep and superficial venous system: (1) venous refilling time, (2) the maximum venous outflow, (3) calf muscle pump ejection fraction, (4) peak arterial velocity, (5) D-dimmers.
- 1,2,3
 - 1,4,5
 - 1,3,5
 - 2, 4,5
 - 2,3,4
192. What kind of prolonged activities are not allowed for patients with symptoms of venous insufficiency and intact functioning calf muscle pump.
- Walking
 - Running
 - Bicycling
 - Swimming
 - Standing
193. Patients with muscle pump failure are not allowed for such prolonged activities like:
- Walking
 - Running
 - Bicycling
 - Standing
 - Not allowed everything above
194. Name the contraindication for compression stockings wearing:
- arterial insufficiency
 - deep venous insufficiency
 - hypocoagulation states
 - bleeding varicosity in past
 - varicose veins

195. What are the contraindications for skin graft placement in patients with ulceration due to venous insufficiency: (1) Uncorrected leg venous hypertension, (2) Untreated arteriovenous malformation, (3) Congenital varicose veins, (4) Purulent ulcer bottom, (5) Abnormal protein C & S levels.
- 1,2,4
 - 1,4,5
 - 1,3,5
 - 2,3,5
 - 2,3,4
196. The most frequent cause of descending necrotizing mediastinitis is:
- Odontogenic infection
 - Retropharyngeal abscesses
 - Iatrogenic pharyngeal injuries
 - Cervical lymphadenitis
 - Parotitis
197. Name the organism which didn't cause descending necrotizing mediastinitis:
- Staphylococcus*
 - β -hemolytic *Streptococcus*
 - Pseudomonas*
 - Bacteroides*
 - E.coli*
198. What type of surgery is complicated most often by postoperative mediastinitis?
- Endocrine
 - Pulmonary
 - Cardiac
 - Esophageal
 - Vascular
199. The first step diagnostic test for esophageal diseases is:
- Endoscopy
 - Contrast esophagogram
 - Manometry
 - 24-hour pH-monitoring
 - Endoscopic US
200. A 69-year-old man is admitted to the emergency department with an acute UGI hemorrhage following a bout of repeated vomiting. Fiberoptic gastrosocopy reveals three linear mucosal tears at the GE junction. What is the diagnosis?
- Reflux esophagitis with ulceration
 - Barrett's esophagus
 - Carcinoma of the esophagus
 - Mallory-Weiss tear
 - Scleroderma
201. A 79-year-old retired opera singer presents with dysphagia, which has become progressively worse during the last 5 years. He states that he is sometimes aware of a lump on the left side of his neck and that he hears gurgling sounds during swallowing. He sometimes regurgitates food during eating. What is the likely diagnosis?
- Carcinoma of the esophagus
 - Foreign body in the esophagus
 - Plummer-Vinson (Kelly-Patterson) syndrome
 - Zenker's (pharyngoesophageal) diverticulum
 - Scleroderma
202. A symptomatic patient has a barium swallow that reveals a 3-cm Zenker's diverticulum. The next step in management is?
- H₂ blockers
 - Anticholinergic drugs
 - Elemental diet

- D. Bougienage
 E. Surgery (cricopharyngeal myotomy and diverticulectomy)
203. The gold standart test for making diagnosis achalasia is?
 A. Endoscopy
 B. Contrast esophagogram
 C. Manometry
 D. 24-hour pH-monitoring
 E. Endoscopic US
204. A 38-year-old man develops increasing dysphagia for solid food over many months. What is the most likely cause of his clinical presentation?
 A. Carcinoma of the esophagus
 B. Achalasia
 C. Sliding hiatal hernia
 D. Paraesophageal hernia
 E. Esophageal diverticulum
205. A 53-year-old moderately obese woman presents with heartburn aggravated mainly by eating and lying down in the horizontal position. Her symptoms are suggestive of gastroesophageal reflux disease (GERD). Which of the following statements is TRUE?
 A. It is best diagnosed by an anteroposterior (AP) and lateral film of the chest
 B. It may be alleviated by certain drugs, especially theophylline, diazepam, and calcium channel blockers
 C. It is not relieved by cessation of smoking
 D. If it is associated with dysphagia, it suggest a stricture or motility disorder
 E. It should be immediately treated with surgery
206. A 54-year-old clerk complains of having had dysphagia for 15 years. The clinical diagnosis of achalasia is confirmed by a barium study. What is TRUE in this condition?
 A. The most common symptom is dysphagia
 B. The dysphagia is not typical
 C. The incidence of sarcoma is increased
 D. Recurrent pulmonary infections are rare
 E. Endoscopic dilatation should be avoided
207. Name the most common condition/disease of esophagus:
 A. Achalasia
 B. Diverticulum
 C. Foreign bodies
 D. Mallory-Weiss syndrome
 E. Tumors
208. The esophagus is a muscular tube lined with nonkeratinizing squamous epithelium that starts as a continuation of the pharynx and ends as the cardia of the stomach. Which of the following is NOT TRUE concerning anatomy of esophagus?
 A. Significant mobility is a normal esophageal characteristics and pathological states can easily displace the esophagus;
 B. The esophagus is fixed only at its upper and lower ends, the upper end being firmly attached to the cricoid cartilage and the lower end to the diaphragm;
 C. The esophagus passes through three compartments: neck, thorax and abdomen;

- D. Ingested foreign bodies tend to lodge at the narrowest area - gastroesophageal sphincter;
E. The lower third of esophageus contains voluntary muscles.
209. In the adult male length of esophagus is from 22 to 28 cm and averages 2 cm shorter in the female Which statement, concerning esophageal size is wrong?
A. The thoracic part of the esophagus is approximately 20 cm long;
B. The abdominal portion of the esophagus is approximately 2 cm in length;
C. The anatomical length of the esophagus is the distance from the cricoid cartilage to the gastric orifice;
D. The length of the esophagus, according to endoscopic measure, is the distance from the incisors to the gastric inlet;
E. Esophageal length doesn't varies with individual height.
210. The esophagus receives blood from: 1. Superior thyroidal artery, 2. Both left and right pulmonary arteries, 3. Bronchial arteries, 4. Middle mediastinal artery, 5. Left gastric artery
A. 1,2,3
B. 1,3,5
C. 2,3,4
D. 2,4,5
E. 1,4,5
211. Nowadays assessment of esophageal function and structure includes such examinations: 1. Contrast esophagogram; 2. Endoscopy; 3. Manometry; 4. Irrigography; 5. Aortography.
- A. 1,2,3
B. 1,2,5
C. 1,3,4
D. 2,4,5
E. 1,2,4
212. Contrast esophagogram do NOT reveal (choose one option):
A. Diverticula
B. Narrowing or strictures
C. Achalasia
D. Diaphragmatic hernias
E. Gastroesophageal reflux disease
213. Esophageal manometry is essential to confirm the diagnosis of primary esophageal motility disorders: 1. Achalasia; 2. Diffuse esophageal spasm; 3. After-burnings esophageal strictures; 4. Hypertensive lower esophageal sphincter; 5. Gastroesophageal reflux disease.
A. 1,2,3
B. 1,3,5
C. 1,2,4
D. 2,4,5
E. 3,4,5
214. In cases of ACHALASIA, the majority of patients presenting between the ages:
A. 20-40 years
B. 10-20 years
C. 40-60 years
D. More than 60 years
E. No age predisposition
215. A 36-year-old male patient, with a 2 years history of dysphagia, underwent barium swallow, which reveals typical bird's-beak deformity in the distal esophagus with more proximal esophageal

- dilatation. What is the most likely diagnosis?
- Achalasia
 - Foreign body of the esophagus
 - Hiatal esophageal hernia
 - Diverticula
 - Distal esophagitis
216. The goal of medical treatment of achalasia is to relax smooth muscles. Which of the following drugs are useless in case of achalasia?
- Calcium channel blockers
 - Opioids
 - Nitrates
 - Anticholinergics
 - H₂ blockers
217. According to location esophageal diverticula are classified as: 1. Retropericardiac, 2. Pharyngoesophageal, 3. Retrosternal, 4. Midesophageal, 5. Epiphrenic. Choose the correct combination.
- 1,2,3
 - 1,3,5
 - 1,2,4
 - 2,4,5
 - 3,4,5
218. What symptom is NOT typical for pharyngoesophageal diverticulum
- Dysphagia
 - Regurgitation of undigested food
 - Enlarged cervical lymph nodes
 - Frequent aspiration
 - Voice changes
219. Gastroesophageal reflux (GERD) is a mechanical disorder that is caused by: 1. Defective lower esophageal sphincter; 2. Gastric emptying disorder; 3. Underlying epiphrenic diverticulum; 4. Underlying achalasia 5. Failed esophageal peristalsis.
- 1,2,3
 - 1,3,4
 - 1,2,5
 - 2,4,5
 - 3,4,5
220. Esophageal manifestations of GERD includes: 1. Heartburn; 2. Chest pain; 3. Dysphagia; 4. Weight loss, 5. Bronchospasm.
- 1,2,3
 - 1,3,4
 - 1,2,5
 - 2,4,5
 - 3,4,5
221. Extraesophageal manifestations of GERD include all of the following EXCEPT:
- Chronic cough
 - Laryngitis
 - Dental damage
 - Regurgitation of undigested food
 - Chronic sinusitis
222. The most common cause of esophageal injury or perforation is:
- Instrumental procedures
 - Penetrating chest trauma, especially height fall
 - Chest tube placement for tension pneumothorax
 - Caustic poisoning
 - Foreign body ingestion
223. "Pseudoachalasia", caused by a mediastinal tumor, may be distinguished from primary achalasia using?
- Esophageal manometry
 - Esophagogram
 - Upper GI endoscopy

- D. Physical examination
E. Auscultation during meal
224. Which statement, concerning esophageal diverticula, is WRONG?
- Midesophageal diverticula are rare and most commonly associated with mediastinal granulomatous disease (histoplasmosis or tuberculosis)
 - A midesophageal diverticulum is typically asymptomatic and diagnosed incidentally
 - Epiphrenic diverticulum most commonly associated with esophageal motor abnormalities (achalasia, hypertensive LES)
 - Epiphrenic diverticulum typically occurs within the distal 10 cm of the esophagus
 - Midesophageal diverticula are common conditions
225. All following conditions may cause descending necrotizing mediastinitis except:
- Retropharyngeal abscesses
 - Acute peritonitis
 - Iatrogenic pharyngeal injuries
 - Infections of the mandibular molars
 - Cervical lymphadenitis
226. Clinical findings suspicious for descending necrotizing mediastinitis include following: 1. recent stomach operation; 2. fever, 3. localized cervical or oropharyngeal pain, 4. purulent sputum, 5. respiratory distress.
- 1,2,3
 - 1,3,4
 - 2,3,5
 - 2,4,5
 - 1,4,5
227. Which of the following, concerning gastroesophageal reflux (GER) is WRONG?
- GER is an extremely common condition among esophageal pathology
 - Lower esophageal sphincter dysfunction is the most common cause of GER
 - H₂-receptor antagonists are more effective than PPIs in case of GER
 - Medical therapy is the first line of management for GER
 - Extraesophageal manifestations of GER are generally pulmonary
228. The initial step in therapy for patients with mild and intermittent symptoms of gastroesophageal reflux (GER) is:
- Lifestyle modifications
 - Nissen procedure
 - Exclude fats from meal
 - α -adreno blockers
 - BoTox injection
229. Assessment of thyroid gland functional condition is based on the level of:
- Thyroglobulin
 - Liver function tests
 - Hormones of hypophysis-adrenal system
 - Parathyroid hormone
 - Thyroid-stimulating hormone (TSH), thyroxine (T₄) and triiodothyronine (T₃)
230. Extent of surgical intervention on thyroid gland does NOT depend from:
- Thyroid tissue malignant transformation

- B. Hormones level of hypophysis-thyroid system
 C. Hormones level of hypophysis-adrenal system
 D. Character of process in thyroid gland
 E. Nodule localization in thyroid gland
231. "Cold" nodule on thyroid scinigram is typical for:
 A. Autoimmune thyroiditis
 B. Grave's disease
 C. Toxic nodular goiter
 D. Thyroid cancer
 E. Thyrotoxic adenoma
232. Inferior thyroid arteries are branches of:
 A. a. carotis communis
 B. a. thyroidea communis
 C. aortic arch
 D. tr.thyrocervicalis
 E. a. subclavia
233. Superior thyroid artery is the branch of:
 A. a. carotis communis
 B. aorta
 C. a. subclavia
 D. tr.thyrocervicalis
 E. a. carotis externa
234. Efficiency of levothyroxine therapy after thyroidectomy is controlled by:
 A. T3 level
 B. T4 level
 C. T4 excretion with urine
 D. Thyrotropin-releasing hormone concentration
 E. Thyroid-stimulating hormone
235. Standard operation for the thyrotoxic adenoma is:
 A. Thyroidectomy
 B. Subtotal thyroidectomy
 C. Hemithyroidectomy with pretracheal lymphatic node biopsy
 D. Hemithyroidectomy
 E. Lymphadenectomy
236. Choose the best method of nodular toxic goiter treatment:
 A. Methimazole treatment
 B. Radioactive iodine treatment
 C. Surgical treatment
 D. Methimazole + glucocorticoids
 E. Methimazole + β -adrenoblockers
237. Extent of operation on thyroid gland in patients with multinodular goiter is:
 A. Thyroidectomy
 B. Hemithyroidectomy
 C. Subtotal thyroidectomy
 D. Enucleation of nodes
 E. Isthmectomy
238. Thyrocalcitonin is produced by:
 A. Thyroid A-cells
 B. Thyroid B-cells
 C. Thyroid C-cells
 D. Thyroid D-cells
 E. Thyroid A, B-cells
239. In 6 hours after hemithyroidectomy the wound hematoma arised and is increasing. What is your further action?
 A. Continue hemostatic therapy
 B. Surgical exploration, ligation of the bleeding vessel and removing of hematoma
 C. Cold compress on wound area
 D. Antibiotic therapy
 E. Hot compress on neck area

240. Preparing the patient with thyrotoxic adenoma for surgical intervention we do NOT use:
- Thyrostatic drugs
 - β -blockers
 - Radioactive iodine
 - Sedative drugs
 - Steroid hormones
241. Ultrasonographic sign of malignant thyroid nodule is:
- Size of the nodule less than 1 cm
 - Fluid in the central area of the nodule
 - Peripheral vascularization of the nodule
 - Unclear circuit of the nodule
 - Multiple nodules
242. Thyrotoxic adenoma generally produces:
- Triiodothyronine
 - Thyroxin
 - Thyrocalcitonin
 - Thyrotropin-releasing hormone
 - Thyroid-stimulating hormone
243. The best surgical procedure for Grave's disease is:
- Resection of thyroid gland
 - Hemithyroidectomy
 - Subtotal thyroid resection
 - Isthmectomy
 - Total thyroidectomy
244. Ultrasonographic sign of colloid nodule is:
- Size of the nodule – 1 cm
 - Fluid in the central area of the nodule
 - Peripheral vascularization of the nodule
 - Unclear circuit of the nodule
 - Multiple nodules
245. Ultrasonographic sign of thyroid cyst is:
- Size of the nodule – 1 cm
 - Fluid inside the nodule
 - Peripheral vascularization of the nodule
 - Unclear circuit of the nodule
 - Multiple nodules
246. On second day after hemithyroidectomy the deep wound hematoma arised, but does not increase in size. What is your further action?
- No further intervention
 - Surgical exploration, removing wound hematoma and ligation of the bleeding vessel
 - Cold compress on wound area, antibiotic therapy, hemostatic drugs
 - Antibiotic therapy, aspirin
 - Hot compress on neck area
247. In patient with suspicion for postoperative hypothyroidism first of all we should check:
- Iodine excretion with urine
 - Radioiodine absorption
 - T4
 - T3
 - TSH
248. Levothyroxine therapy after thyroidectomy in patient with multinodular goiter is called:
- Suppressive
 - Replacing
 - Supportive
 - Stimulating
 - Adjuvant
249. For last three months young woman lost 8 kg of weight. She complains of heartbeats, neck

- thickening, sensation of foreign object during the swallowing, fingers tremor, exophthalmos, low grade body fever. On palpation diffusely enlarged thyroid gland. The most likely diagnosis is?
- Grave's disease
 - Hysteria
 - Brain tumour
 - Thyrotoxic adenoma
 - Endemic goiter (diffuse)
250. 42-year-old woman for the FIRST time was diagnosed severe thyrotoxicosis caused by Grave's disease. Choose the right sequence of treatment?
- Urgent operation
 - Medical therapy, then resection of thyroid gland
 - Medical therapy, then endocrinologist supervision
 - Medical therapy
 - Medical therapy, then perform subtotal resection of thyroid gland
251. 46-year-old patient, has been operated 12 years ago for diffuse thyrotoxic goiter. Now patient was diagnosed the recurrency of thyrotoxicosis. One more operation is offered. It is necessary to find out where the thyroid tissue is located, US examination was not effective. What diagnostic method we must use?
- Fine needle aspiration biopsy of the thyroid gland
 - CT
 - Thyroid radioactive iodine scintigraphy
 - X-ray examination of neck
 - Contrast esophagogram
252. 28-year-old male, has been operated because of thyrotoxic goiter. In 12 hours after operation body temperature increased to 39°C, Ps – 160/min., BP – 180/110 mm.Hg. What complication has been developed?
- Hypoparathyroidism
 - Severe arterial hypertension
 - Laryngeal recurrent nerve injury
 - Thyrotoxic crisis
 - Pneumonia
253. Patient M., 28-year-old male, has been operated because of thyrotoxic goiter. On 2 day after operation the patient's condition worsen: convulsions of hands, legs, face muscles, Chvostek and Trousseau signs are positive. Patient complains of chest pain. ECG: prolonged QT interval. What complication has been developed?
- Hyperparathyroidism
 - Hypoparathyroidism
 - Thyrotoxic crisis
 - Laryngeal recurrent nerve injury
 - Thyrotoxic myocardiodystrophy
254. A 26-year-old woman was diagnosed: diffuse thyrotoxic goiter. The conservative treatment under endocrinologist supervision was not effective during 12 month. She agreed for surgical intervention. What measures of preoperative preparation should be performed for prevention of thyrotoxic crisis in postoperative period?
- Use of antithyroid agents to achieve euthyroid condition
 - Minimally invasive surgery
 - Bed rest
 - Detoxication therapy
 - Application of a-blockers

255. Patient K., 29-year-old male, has been diagnosed: diffuse thyrotoxic goiter. The conservative treatment under endocrinologist supervision for last 3 years. Recently the tight nodule appeared in the right lobe of thyroid gland, which is increasing in size. What diagnostic method will help to exclude thyroid cancer preoperatively?
- US
 - Intraoperative lymphatic node biopsy
 - X-ray examination of the neck
 - Thyroid radioactive iodine scintigraphy
 - Fine needle aspiration biopsy
256. A 36-year-old patient complains of permanent hoarseness of voice and symptoms of respiratory insufficiency after physical exercises. These complaints appeared 2 years ago, after total thyroidectomy. Name the complication which develops in this case:
- Larynx cancer
 - Laryngeal recurrent nerve injury
 - Chronic laryngitis
 - Laryngophthisis
 - Scleroma of vocal cords
257. A 40-year-old woman presents with weight loss, palpitations, and exophthalmos. On physical examination, the thyroid gland is diffusely enlarged. Blood tests reveal hyperthyroidism. Which medication is not used for the treatment of thyrotoxicosis?
- Methimazole
 - Lugols iodine
 - I^{131}
 - Total thyroidectomy
 - NSAIDs
258. What laboratory test confirms the diagnosis of Graves disease?
- free T3
 - TSH-receptor's antibodies
 - Thyroglobulin antibodies
 - TSH
 - Thyroperoxidase antibodies
259. Levothyroxine therapy after thyroidectomy in patient with cancer of thyroid gland is called:
- Suppressive
 - Replacing
 - Supportive
 - Stimulating
 - Adjuvant
260. * A patient of 32 y.o. complains of severe weakness, tremor of extremities. Objective examination: body weight loss, wet and warm skin. The thyroid gland is enlarged up to the 2-nd degree, painless, elastic. Ps – 108 bpm, BP – 160/55 mm Hg. There are no other abnormalities. The diagnosis is:
- Chronic autoimmune thyroiditis, hypertrophic type
 - Toxiferous adenoma of the thyroid gland
 - Diffuse toxic goiter of the 2-nd degree, thyrotoxicosis of the average degree
 - Diffuse euthyroid goiter of the 2-nd degree
 - Chronic fibrous thyroiditis
261. * A 63 y.o. patient was operated on account of big multinodular euthyroid goiter. Despite of technical difficulties a forced subtotal resection of both parts of the thyroid

- gland was performed. On the 4-th day after the operation the woman had cramps of face muscles and upper extremities, stomach ache. Positive Chvostek's and Trousseau's signs. What is the most probable cause of such condition?
- Insufficiency of parathyroid glands
 - Thyrotoxic crisis
 - Injury of recurrent nerve
 - Postoperative hypothyroidism
 - Tracheomalacia
262. * Examination of a 26 year old female patient revealed a node in the right lobe of thyroid gland. The node appeared no earlier than 3 months ago. The patient associates this node with stress. She doesn't complain either about pain or enlargement of the node. Ultrasonic scanning revealed a 2x2,5 cm large node in the inferior part of the right lobe of thyroid gland. What treatment should be administered?
- Dynamic observation
 - No need for treatment
 - Radioactive iodine
 - Conservative therapy
 - Surgical intervention
263. What arrhythmia most oftenly develops in patients with toxic goiter?
- Atrial fibrillation
 - Ventricle fibrillation
 - AV block
 - Extrasystole
 - Thyroid hormones doesn't cause any heart problems
264. What is the most probable reason of autoimmune thyroid inflammation initiation?
- human body reaction to own thyroid proteins
 - human body reaction to foreign proteins which get to organism from environment
 - influence of light irradiation to human body
 - increased blood level of thyrostimulating hormone
 - increased blood level of thyrotropic hormone
265. *A 50 year old woman with a 2-year history of mild, diffuse, tender thyroid enlargement complains of 10 pound weight gain and fatigu E. What is the most probable diagnosis?
- Riedel's thyroiditis
 - Subacute thyroiditis
 - Papillary thyroid carcinoma
 - Suppurative thyroiditis
 - Hashimoto's thyroiditis
266. *Examination of a 12 year old child revealed diffuse thyroid enlargement of the II degree. Heart auscultation revealed dullness of heart sounds, heart rate was 64/min. The child has frequent constipations, anemia. Concentration of thyreoglobulin antibodies is increased. What disease might have caused such symptoms?
- Thyroid carcinoma
 - Autoimmune thyroiditis
 - Thyroid hyperplasia
 - Endemic goiter
 - Diffuse toxic goiter
267. Thyroiditis includes the following inflammatory diseases of the thyroid gland: 1. Acute suppurative thyroiditis; 2. Subacute thyroiditis;

3. Chronic thyroiditis; 4. Hashimoto's thyroiditis; 5. Riedel thyroiditis
 A. 1, 2, 3
 B. 1, 3, 4
 C. 1, 2, 4
 D. 2, 3, 4
 E. All are correct
268. What medicine may cause secondary thyroiditis?
 A. Amiodarone
 B. Cefuroxime
 C. Potassium iodine
 D. Digoxin
 E. All can cause
269. The history of acute thyroiditis include all of the following, EXCEPT:
 A. Fever
 B. Neck pain
 C. Hoarseness
 D. Dysphagia
 E. Viral infection
270. The history of subacute thyroiditis include: 1. Symptoms of hyperthyroidism; 2. Symptoms of hypothyroidism; 3. Previous viral infection; 4. Previous bacterial infection; 5. Low grade fever; 6. High grade fever
 A. 1,3,5
 B. 1,3,6
 C. 2,4,6
 D. 2,3,6
 E. 1,4,5
271. Chronic autoimmune thyroiditis is associated with which of the following?
 A. High fever
 B. Previous bacterial infection
 C. Thyroid gland enlargement
 D. Dysphagia
 E. With everything
272. What is the main complication of chronic autoimmune thyroiditis?
 A. Hypothyroidism
 B. Hyperthyroidism
 C. Hypoparathyroidism
 D. Abscess formation
 E. Descending necrotizing mediastinitis
273. Which statement, concerning acute thyroiditis is NOT TRUE?
 A. The usual microorganism responsible for acute thyroiditis is *Staphylococcus aureus*
 B. Patients with acute thyroiditis generally maintain normal thyroid function
 C. Radioactive iodine thyroid scanning is useless in patients with acute thyroiditis
 D. Thyroid ultrasonography is useful in patients with acute thyroiditis
 E. In acute thyroiditis, if diagnosis is confirmed on the stage of infiltration, immediate surgery is required
274. Which statement, concerning subacute thyroiditis, is NOT TRUE?
 A. Subacute thyroiditis is generally thought to be due to viral infection
 B. C-reactive protein levels are usually elevated in subacute thyroiditis
 C. Treatment of subacute thyroiditis is symptomatic
 D. The most common symptom, in case of subacute thyroiditis, is fever

- E. Signs of hyperthyroidism may be present
275. Which statement, concerning chronic autoimmune thyroiditis, is NOT TRUE?
- Chronic thyroiditis is associated with leukocytosis with a shift to the left and an increased ESR
 - Prevalence of autoimmune thyroiditis in adults has a 90%-female predominance
 - Patients with autoimmune thyroiditis frequently develop hypothyroidism
 - Autoimmune thyroiditis is also frequently part of the polyglandular autoimmune syndromes
 - Treatment for chronic autoimmune thyroiditis may require replacement therapy with Levothyroxin
276. Name hormones and vitamin which maintain calcium plasma homeostasis: 1. Parathyroid hormone; 2. Gastrin; 3. Calcitonin; 4. Vitamin K; 5. Vitamin D3.
- 1, 2, 3
 - 1, 3, 5
 - 1, 3, 4
 - 1, 2, 5
 - 2, 3, 5
277. Usually, parathyroid glands are situated posterior to the thyroid gland. How many parathyroid glands usually have human?
- 1
 - 2
 - 3
 - 4
 - 5
278. The main effects of parathyroid hormone are to increase the concentration of plasma calcium by (choose the WRONG answer):
- Increasing the release of calcium and phosphate from bone matrix
 - Increasing calcium reabsorption by the kidney
 - Increasing calcitonin concentration
 - Increasing renal production of 1,25-dihydroxyvitamin D-3 (calcitriol)
 - Increasing intestinal absorption of calcium
279. Name the most often cause of primary hyperparathyroidism:
- Single parathyroid adenoma
 - Multiple parathyroid adenoma
 - Parathyroid glands hyperplasia
 - Parathyroid carcinoma
 - Medullary thyroid carcinoma
280. Primary hyperparathyroidism is the unregulated overproduction of parathyroid hormone resulting in:
- Hypocalcemia
 - Hypercalcemia
 - Hypokalemia
 - Hyperkalemia
 - Vitamin D deficiency
281. A 22-year-old patient is scheduled to undergo parathyroidectomy for hyperparathyroidism associated with familial multiglandular syndrome. His sister developed peptic ulcer disease secondary to a Zollinger-Ellison (hypergastrinemia) tumor of the pancreas. On examination, a swelling was noted over the

- posterior aspect of the patient's fifth rib. What is the most likely finding?
- Metastasis from a parathyroid carcinoma
 - Osteitis fibrosa cystica (brown tumor) and subperiosteal resorption of the phalanges
 - Dermoid cyst
 - Eosinophilic granuloma
 - Chondroma
282. The clinical syndrome of primary hyperparathyroidism is presented by (choose the WRONG answer):
- Osteopenia -> osteoporosis
 - Renal stones
 - Peptic ulcer
 - Colon polyps
 - Acute pancreatitis
283. A 56-year-old woman complains for bone and joint pain, nausea, vomiting, abdominal pain, constipation, weakness and easy fatigability, depression, inability to concentrate, and memory problems. In past medical history she has suffered from renal stones in both kidneys, peptic ulcer disease. What changes in the biochemical analysis of blood will diagnose primary hyperparathyroidism? 1. Elevated ionized calcium; 2. Hypercalcemia; 3. Elevated intact parathyroid hormone level; 4. Hypophosphatemia; 5. Elevated 24-hour urine calcium.
- 1, 2, 3
 - 2, 3, 4
 - 1, 3, 5
 - 1, 2, 4
 - All changes diagnose primary hyperparathyroidism
284. Which one of the following is not part of the management of a patient with hyperparathyroidism
- Hydration with intravenous normal saline
 - Steroids
 - Exploration of the neck for parathyroidectomy
 - Parathyroid scan
 - Vitamin D
285. Each adrenal gland is supplied by small arterial branches that originate from three distinct sources. Name these sources: 1. Inferior phrenic artery; 2. Celiac trunk; 3. Aorta; 4. Renal artery; 5. Common hepatic artery.
- 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - 1, 3, 4
 - 1, 4, 5
286. Which statement is WRONG concerning the venous and lymphatic drainage of adrenal gland?
- The right adrenal gland usually drains by one short vein, which empties directly into the vena cava
 - Accessory adrenal veins are not infrequently present
 - The right adrenal vein drains into the right renal vein
 - Lymphatic drainage from the adrenal glands drains into periaortic and paracaval nodes
 - The left adrenal vein drains into the left renal vein
287. The adrenal gland is composed of two distinct organs, the adrenal cortex and the adrenal medulla.

- Choose the WRONG statement about adrenal physiology.
- The cortex is divided into three functional zones: the outer glomerulosa, the intermediate fasciculata, and the inner reticularis.
 - Zona glomerulosa produce mineralocorticoids
 - Zona fasciculata produce glucocorticoids
 - Zona reticularis produce sex steroids
 - Only mineralocorticoids are absolutely required for life
288. The adrenal medulla is embryologically analogous to a peripheral sympathetic ganglia and consists of:
- Chromaffin tissue
 - Connective tissue
 - Chromogranin tissue
 - Muscle tissue
 - Epithelial tissue
289. The adrenal medulla produces:
- Estrogen
 - Aldosteron
 - Cortisol
 - Epinephrine
 - Androsteron
290. Choose examinations which are used for localization of adrenal masses: 1. Ultrasound; 2. CT scan; 3. MRI; 4. Radioisotope scan; 5. Intraoperative ultrasound.
- 1, 2, 3
 - 1, 2, 4
 - 1, 2, 5
 - 1, 3, 4
 - All are used
291. Sudden death has been reported following biopsy of unsuspected pheochromocytoma. Which statement is WRONG concerning adrenal tumor biopsy?
- Percutaneous biopsy of the adrenal gland can be performed under either CT or ultrasound guidance
 - Biopsy should be performed in all cases of adrenal masses
 - The most common indication is suspicion of metastatic disease to the adrenal gland
 - A percutaneous biopsy cannot reliably distinguish between an adrenal adenoma and an adrenal carcinoma
 - Biopsy should never be performed in a patient until a biochemical workup has been completed to rule out a pheochromocytoma
292. A 26-year-old patient was performed CT scan to rule out pathology of pancreas. On CT scans 6 cm tumor of left adrenal gland was localized. What questions should be answered for appropriate management of incidentaloma: 1. Is it functional?; 2. Is it likely to be a malignant adrenal tumor? 3. Is it metastatic?
- 1, 2
 - 1, 3
 - 2, 3
 - All of them should be answered
 - There is no need to answer to any question
293. A 26-year-old patient was performed CT scan to rule out pathology of pancreas. On CT scans 6 cm tumor of left adrenal gland was localized. What size of

- incidentaloma is an indication for surgical treatment?
- 0,5 cm
 - 1,0 cm
 - 2,0 cm
 - 3,0 cm
 - 4,0 cm
294. *A 49 y.o. female patient was admitted to the hospital with acute attacks of headache accompanied by pulsation in temples, BP rised up to 280/140 mm Hg. Pheochromocytoma is suspected. What mechanism of hypertensive attack does this patient have?
- Increasing of thyroxine excretion
 - Increasing of catecholamines concentration
 - Increasing of plasma renin activity
 - Increasing of aldosterone level in blood
 - Increasing of vasopressin excretion
295. *A 40 y.o. patient was diagnosed: 1. Medular thyroid gland cancer. 2. Pheochromocytoma. What operation should be performed at first?
- Subtotal resection of thyroid gland and fascicular resection of lymphatic nodes
 - Krail's operation
 - Operation on account of pheochromocytoma
 - Vanach's operation
 - Operation on thyroid gland
296. *A 34 y.o. patient has been suffering from pulmonary tuberculosis for 7 years; he complains of muscle weakness, weight loss, diarrhea, frequent urination.
- Objectively:
hyperpigmentation of skin, gums, internal surface of cheeks. BP – 90/58 mm Hg. Blood count: RBC- $3,1 \cdot 10^{12}/L$, Hb - 95 g/L, C.I.- 0,92; leukocytes - $9,4 \cdot 10^9/L$, eosinophils - 7, segmentonuclear leukocytes - 45, stab neutrophils - 1, lymphocytes - 40, monocytes - 7, Na^+ - 115 mmol/L, K^+ - 7,3 mmol/L. What is the preliminary diagnosis?
- Congenital adrenocortical hyperplasia
 - Primary hyperaldosteronism
 - Pheochromocytoma
 - Primary adrenocortical insufficiency
 - Diabetes insipidus
297. *A 38 y.o. woman suffers from paroxysmal BP rises up to 240/120 mm Hg accompanied by nausea, vomiting, tachycardia, excessive sweating. During the onset blood is hyperglycemic. After the onset there is voluminous urination. Kidneys sonography revealed accessory mass bordering upon the upper pole of the right kidney, presumably it belongs to the adrenal gland. What laboratory test will allow to make a more precise diagnosis?
- Estimation of thyroxin and thyrotropic hormon in blood
 - Estimation of insulin and C-peptide content in blood
 - Estimation of catecholamine and vanillylmandelic acid excretion with urine
 - Estimation of renin content in blood
 - Estimation of glomerular filtration rate

298. A 57-year-old woman presents with vague abdominal pain. After a course of treatment with H₂-blockers failed and abdominal ultrasound was negative, she underwent a CAT scan of the abdomen. The scan was negative except for the presence of a 3-cm mass in the left adrenal gland. Her pain disappeared. Urine and serum biochemical studies for a functioning adrenal tumor are negative. Her past medical history is negative. The next step should be:
- Adrenalectomy
 - CT-guided percutaneous core needle biopsy
 - Arteriography
 - MRI
 - Repeat CAT scan in 3 months
299. A 40 y.o. patient was diagnosed:
- Medular thyroid gland cancer.
 - Pheochromocytoma.
- Make the diagnosis?
- MEN-1
 - MEN-2
 - Zollinger-Ellison syndrome
 - Watery diarrhea, hypokalemia, and achlorhydria (WDHA) syndrome
 - Werner's syndrome
300. A 30-year-old primigravida complains of headaches, restlessness, sweating, and tachycardia. She is 18 wk pregnant and her blood pressure is 200/120 mm Hg. Pheochromocytoma was suspected. What examination should be performed?
- Exploratory laparotomy
 - Biopsy of adrenal mass
 - Radioisotope scan
 - Abdominal CT scan
 - Abdominal ultrasonogram
301. A 30-year-old primigravida complains of headaches, restlessness, sweating, and tachycardia. She is 18 wk pregnant and her blood pressure is 200/120 mm Hg. Pheochromocytoma was suspected. Appropriate treatment might consist of
- Therapeutic abortion
 - Urgent excision of the tumor and a therapeutic abortion
 - Phenoxybenzamine and propranolol followed by a combined cesarean section and excision of the tumor
 - Propranolol blockade followed by a combined cesarean section and excision of the tumor
 - Phenoxybenzamine and propranolol followed by a combined vaginal delivery at term and excision of the tumor
302. Which of the following statements concerning Cushing syndrome secondary to adrenal adenoma is true?
- Adrenal adenomas cause 80% of all cases of Cushing syndrome
 - CT scan is generally unsuccessful in lateralizing the tumors preoperatively
 - Exploration of both adrenal glands is indicated
 - For uncomplicated small tumors, an open transperitoneal surgical approach is usually employed
 - Postoperative corticoid therapy is required to prevent hypoadrenalism
303. Primary aldosteronism is defined as excessive secretion of

- aldosterone. Choose **WRONG** statement concerning primary hyperaldosteronism?
- A. Aldosteronomas occur in approximately 65% of patients with primary aldosteronism
- B. Idiopathic hyperaldosteronism is caused by bilateral adrenal hyperplasia
- C. Aldosteronomas are almost always unilateral and are often less than 2 cm in size
- D. Unilateral adrenalectomy in the setting of Idiopathic hyperaldosteronism is curative
- E. Adrenal cortical aldosterone-producing carcinoma is extremely rare and represents another surgically treatable form of primary aldosteronism
304. Main clinical signs of primary hyperaldosteronism are: 1. Arterial hypertension; 2. Arrhythmia; 3. Hypokalemia; 4. Increased aldosterone level; 5. Decreased plasma renin activity.
- A. 1, 2, 3
- B. 1, 3, 5
- C. 1, 4, 5
- D. 2, 3, 5
- E. All are correct
305. Patients with endogenous Cushing's syndrome caused by a unilateral adrenal tumor will have: 1. Elevated cortisol level; 2. Decreased cortisol level; 3. Elevated ACTH; 4. Decreased ACTH; 5. Elevated 24-h urinary free cortisol.
- A. 1, 4, 5
- B. 1, 3, 5
- C. 2, 3, 4
- D. 1, 2, 3
- E. All are correct
306. Patients with endogenous Cushing's syndrome caused by a pituitary adenoma will have: 1. Elevated cortisol level; 2. Decreased cortisol level; 3. Elevated ACTH; 4. Decreased ACTH; 5. Hypokalemia.
- A. 1, 4, 5
- B. 1, 3, 5
- C. 2, 3, 4
- D. 1, 2, 3
- E. All are correct
307. Cushing's syndrome can be caused by: 1. Adrenocortical adenoma; 2. Adrenocortical carcinoma; 3. Pituitary corticotroph adenoma; 4. Ectopic secretion of ACTH by nonpituitary tumor; 5. Ectopic secretion of corticotropin-releasing hormone.
- A. 1, 2, 3
- B. 1, 2, 4
- C. 2, 4, 5
- D. 1, 3, 5
- E. All can cause
308. Choose the main clinical signs typical for Cushing's syndrome: 1. Centripetal obesity; 2. Hypertension; 3. Osteoporosis; 4. Acne; 5. Polyuria, polydipsia.
- A. 1, 2, 3
- B. 1, 2, 4
- C. 2, 4, 5
- D. 1, 3, 5
- E. All are typical
309. For Cushing's syndrome is typical deposition of adipose tissue in characteristic sites: 1. Face ("moon" facies); 2. Interscapular area ("buffalo hump"); 3. Mesenteric bed ("truncal"

- obesity); 4. Lower extremity; 5. Upper extremity.
- 1, 2, 3
 - 1, 2, 4
 - 2, 4, 5
 - 1, 3, 5
 - All are typical
310. A 35-year-old professional dancer presents with a well-defined, tense, smooth mass in the upper outer quadrant of the left breast. She states that the mass becomes larger just before onset of her periods. Aspiration yields a clear yellow fluid and the mass disappears. The most likely diagnosis is:
- Fibroadenoma in a cyst
 - Breast cyst
 - Carcinoma in a cyst
 - Lipoma
 - Galactocele
311. A 23-year-old presents with a well-circumscribed 2-cm mass in her right breast. The mass is painless and has a rubbery consistency and discrete borders. It appears to move freely through the breast tissue. What is the likeliest diagnosis?
- Carcinoma
 - Cyst
 - Fibroadenoma
 - Cystosarcoma phyllodes
 - Intramammary lymph node
312. Galactorrhea, a milky discharge from the nipple in nonpregnant women, is most likely to be associated with which of the following?
- Fibroadenoma
 - Tubular adenoma
 - Pituitary adenoma
 - Hyperparathyroidism
 - Breast abscess
313. A 28-year-old female figure skater presents several weeks after having sustained an injury to her left breast. She has a painful mass in the upper outer quadrant. Skin retraction is noticed, and a hard mass, 3–4 cm in diameter, can easily be palpated. What is the most likely diagnosis?
- Infiltrating carcinoma
 - Breast abscess
 - Hematoma
 - Fat necrosis
 - Sclerosing adenosis
314. A 35-year-old patient presents to your office with chronic draining subcutaneous periareolar abscesses, which have been incised and drained many times in the past 5 years but keep recurring. What is the best treatment of choice?
- Repeat incision and drainage (I and D) since the previous procedures were inadequate
 - Long-term antibiotics
 - Major duct excision
 - Complete excision of the drainage tract
 - Tell the patient there is nothing to do and that this will eventually resolve with age
315. A patient presents 1 month after a benign right breast biopsy with a lateral subcutaneous cord felt just under the skin and causing pain. The etiology of this condition is?
- Fat necrosis
 - Infection
 - Superficial thrombophlebitis
 - Suture granuloma
 - Misdiagnosed breast cancer

316. A 36-year-old woman complains of a 3-month history of bloody discharge from the nipple. At examination, a small nodule is found, deep to the areola. Careful palpation of the nippleareolar complex results in blood arrearage at the 3 O'clock position. Mammogram findings are normal. What is the likeliest diagnosis?
- A. Intraductal papilloma
 - B. Breast cyst
 - C. Intraductal carcinoma
 - D. Carcinoma in situ
 - E. Fat necrosis
317. During a routine screening mammography, a 62-year-old teacher is informed that she has changes on her mammography, and she should consult her physician. She can be reassured that the findings that indicate a benign condition are which of the following?
- A. Discrete, stellate mass
 - B. Fine, clustered calcifications
 - C. Coarse calcifications
 - D. Solid, clearly defined mass with irregular edges
 - E. Discrete, nonpalpable mass that has enlarged when compared with a mass shown on a mammogram taken 1 year previously
318. A 40-year-old lawyer comes into your office after seeing some information on the Internet relating to breast cancer. Which of the following factors has not shown to increase a woman's risk for breast cancer?
- A. Smoking
 - B. Previous history of benign breast biopsies
 - C. Atypia seen on pathology from previous breast biopsy
 - D. First-degree relative with history of breast cancer
 - E. Increasing age
319. A 46-year-old woman presents with a mammogram that shows a 1-cm cluster of fine calcification in the right breast. Following mammographic wire localization, the lesion is excised and the pathology reported as ductal carcinoma in situ (DCIS) with comedo features and free margins. What advice should be given to the patient?
- A. If untreated, about 30% of such lesions become invasive over a 10-year period
 - B. Comedo DCIS is less aggressive than noncomedo DCIS
 - C. Bilateral mastectomy and radiotherapy are the preferred treatments
 - D. Axillary node dissection is always indicated
 - E. Total mastectomy carries a high (50%) risk of carcinoma recurrence.
320. Breast cancer most often occurred in age:
- A. 25-30
 - B. 30-40
 - C. 40-50
 - D. 50-60
 - E. 30-50
321. A 50-year-old woman underwent wide excision of a 2.5-cm infiltrating ductal carcinoma of the breast with axillary lymph node

- dissection followed by radiation and chemotherapy 2 years ago. The patient now complains of RUQ abdominal pain. CT scan reveals two masses in the right lobe of the liver. Select the most likely diagnosis.
- Adenoma
 - Focal nodular hyperplasia
 - Hemangioma
 - Hepatocellular carcinoma
 - Metastatic carcinoma
322. A 52-year-old undergoes a left modified radical mastectomy for a 2-cm breast cancer. She should be informed that the factor which has the greatest impact on her prognosis is?
- The size of the primary tumor
 - The histological type of the carcinoma
 - The number of axillary nodes positive for metastasis
 - Hormonal receptor status of the primary tumor
 - Positive findings on tests for the presence of the BRCA(breast cancer)1 gene
323. A young man has painful indurations in the peripapillary regions of both mammary glands. The most reasonable action will be:
- To take an aspirate for bacterial inoculation and cytology
 - To cut and drain them
 - To administer steroids locally
 - To remove them
 - To leave these indurations untouched
324. A woman consulted a doctor on the 14-th day after labor about sudden pain, hyperemia and induration of the left mammary gland, body temperature rise up to 39⁰C, headache, indisposition. Objectively: fissure of nipple, enlargement of the left mammary gland, pain on palpation. What pathology would you think about in this case?
- Lactational mastitis
 - Lacteal cyst with suppuration
 - Breast cancer
 - Fibrous adenoma of the left mammary gland
 - Phlegmon of mammary gland
325. A 40 year old woman has changes of mammary gland. What is the most often symptom that precede the malignization?
- Painless movable induration
 - Bloody discharges from the nipple
 - Pure discharges from the nipple
 - Painful movable induration
 - Skin induration with inverted nipple
326. A parturient complains about pain in the mammary gland. Palpation revealed a 3x4 cm large infiltration, soft in the centre. Body temperature is 38,5⁰C. What is the most probable diagnosis?
- Retention of milk
 - Birth trauma
 - Acute purulent mastitis
 - Pneumonia
 - Pleuritis
327. Blunt chest trauma can be caused most oftenly by: 1. Motor vehicle crashes; 2. Stab wound; 3. Height falls; 4. Airplane crash; 5. Bullet wound:
- 1, 2, 3

- B. 2, 3, 4
 C. 3, 4, 5
 D. 2, 3, 5
 E. 1, 3, 4
328. Name the most common thoracic injury in blunt trauma?
 A. Hemothorax
 B. Flail chest
 C. Rib fracture
 D. Sternal fracture
 E. Pericardial tamponade
329. A 45-year-old man skidded from the road at high speed and hit a tree. Examples of deceleration injuries in this patient include:
 A. Aortic valve rupture
 B. Aortic arch rupture
 C. Posterior dislocation of shoulder
 D. Hemothorax
 E. Rib fracture
330. Choose life-threatening injuries, which should be identified immediately: 1. Esophageal rupture; 2. Tension pneumothorax; 3. Massive hemothorax; 4. Cardiac tamponade; 5. Pulmonary contusion.
 A. 2, 3, 4
 B. 1, 2, 3
 C. 1, 3, 5
 D. 1, 4, 5
 E. 2, 3, 5
331. A 70-year-old man is brought into the emergency department following his injury as a passenger in a car crash. He complains of right side chest pain. Physical examination reveals a respiratory rate of 42 breaths per minute and multiple broken ribs of a segment of the chest wall that moves paradoxically with respiration. At thoracentesis signs of tensionpneumothorax absent. Make the diagnosis?
 A. Hemothorax
 B. Sternal fracture
 C. Flail chest
 D. Esophageal injury
 E. Aorta rupture
332. A 70-year-old man is brought into the emergency department following his injury as a passenger in a car crash. He complains of right side chest pain. Physical examination reveals a respiratory rate of 42 breaths per minute and multiple broken ribs of a segment of the chest wall that moves paradoxically with respiration. At thoracentesis signs of tensionpneumothorax absent. What should the next step be?
 A. Tube thoracostomy
 B. Tracheostomy
 C. Insertion of a nasogastric tube
 D. Endotracheal intubation
 E. Intercostal nerve blocks
333. An 18-year-old man is brought to the emergency department with a stab wound just to the right of the sternum in the sixth intercostal space. His blood pressure is 80 mm Hg. Faint heart sounds and pulsus paradoxus are noted. Auscultation of the right chest reveals markedly decreased breath sounds. The *initial* management of this patient should be which of the following?
 A. Aspiration of the right chest cavity
 B. Analgesics
 C. Echocardiogram
 D. Pericardial window

- E. Insertion of central venous access line
334. An 18-year-old man presents to the emergency department with a gunshot wound to the left chest in the anterior axillary line in the sixth intercostal space. His blood pressure is 120/70 mm Hg, pulse – 78 bpm. A sucking sound is audible during inspiration. Immediate management is which of the following?
- A. Exploratory laparotomy
 - B. Exploratory thoracotomy
 - C. Pleurocentesis
 - D. Closure of the hole with sterile dressing
 - E. Insertion of central venous access line
335. While landing at the end of flight a young man develops shortness of breath and rightsided pressure chest pain. He is tall and thin. He has not previously consulted a doctor. A chest film is likely to show?
- A. Left pleural effusion
 - B. Spontaneous pneumothorax
 - C. Dilated stomach
 - D. Hemothorax
 - E. Cardiomegaly
336. While landing at the end of flight a young man develops shortness of breath and rightsided pressure chest pain. He is tall and thin. He has not previously consulted a doctor. The treatment is:
- A. Insertion of a chest tube
 - B. Immediate cardiology consult
 - C. Thoracentesis
 - D. Insertion of a nasogastric tube
 - E. Thoracoscopy
337. A 26-year-old man is stabbed in the right intercostal space in the midclavicular line and presents to the emergency department. On examination, subcutaneous emphysema of the right chest wall, absent breath sounds, and a trachea shifted to the left are noted. What is the most likely diagnosis?
- A. Pneumothorax
 - B. Tension pneumothorax
 - C. Massive hemothorax
 - D. Hemopneumothorax
 - E. Chest wall laceration
338. A 31-year-old man is shot in the back of the left chest, and the bullet exits the left anterior chest. The patient's blood pressure is 130/90 mm Hg, respiration rate is 28 breaths per minute, and pulse is 110 bpm. A chest x-ray reveals hemothorax. A chest tube is inserted and yields 800 mL of blood; the first and second hour drainage is 200 mL/h and 240 mL/h, respectively. What is the next step in management?
- A. Place a second chest tube
 - B. Collect the blood for autotransfusion
 - C. Transfuse and observe drainage for another hour
 - D. Insert a Swan-Ganz catheter
 - E. Perform a left thoracotomy
339. A 31-year-old man is shot in the back of the left chest, and the bullet exits the left anterior chest. The patient's blood pressure is 130/90 mm Hg, respiration rate is 28 breaths per minute, and pulse is 110 bpm. A chest x-ray reveals hemothorax. A chest tube is inserted and yields 800 mL of blood; the

first and second hour drainage is 200 mL/h and 240 mL/h, respectively. In the patient described above the most likely cause of the bleeding is injury to which of the following?

- A. Pulmonary artery
- B. Lung parenchyma
- C. Internal thoracic (mammary) and/or intercostals arteries
- D. Pulmonary vein
- E. Left atrium

340. Which statement concerning 1st and 2nd ribs fractures is wrong?

- A. Require high force
- B. Frequently have injury to aorta
- C. Frequently have injury to bronchi
- D. May injure subclavian artery/vein
- E. Causes pulsus paradoxicus

341. Most oftenly fracture of 11th or 12th ribs are associated with:

- A. Flail chest
- B. Damage to underlying abdominal solid organs (liver, spleen, kidney)
- C. Injury to aorta
- D. Injury to bronchi
- E. Pneumothorax

342. In what cases patients with rib fractures should be treated immediately or monitored carefully:
1. Elderly patients; 2. Patients with concomitant heart diseases; 3. Patients with COPD; 4. Patients with multiple rib fractures; 5. Patients with flail chest.

- A. 1, 2, 3
- B. 2, 4, 5
- C. 3, 4, 5
- D. 1, 2, 4
- E. All are correct

343. Which statement is wrong concerning sternal fracture?

- A. Is seen in 60% of patients with blunt trauma
- B. Is very uncommon injury
- C. Needs large traumatic force
- D. Is caused by direct blow to front of the chest
- E. Is associated with high rate of myocardial contusion and cardiac tamponade

344. A 25-year-old man is shot in the left lateral chest. In the emergency department, his blood pressure is 120/90 mm Hg, pulse rate is 104 beats per minute (bpm), and respiration rate is 36 breaths per minute. Chest x-ray shows air and fluid in the left pleural cavity. Nasogastric aspiration reveals blood-stained fluid. What is the best step to rule out esophageal injury?

- A. Insertion of chest tube
- B. Insertion of nasogastric tube
- C. Esophagogram with gastrografin
- D. Esophagoscopy
- E. Peritoneal lavage

345. Because of his involvement in a motor vehicle accident, a 23-year-old football player has a chest wall injury. The only abnormal findings on clinical and radiologic examination are a fracture of the left fifth to seventh ribs and a small hemothorax. What should treatment include?

- A. Insertion of an intercostal drain to avoid pneumothorax
- B. Thoracotomy to treat a small hemothorax in the left base
- C. Insertion of a metal plate to fix the fracture

- D. Administration of analgesic medication
- E. Administration of cortisone to prevent callus formation
346. A 25-year-old woman was stabbed by her boyfriend in the left chest. On examination, she has a 1-cm stab wound just inferior to her left breast in the mid-clavicular line. There is jugular venous distension and breath sounds are completely absent on the left side. She is becoming extremely dyspneic and hypoxic. Make the diagnosis.
- Cardiac tamponade
 - Tension pneumothorax
 - Massive hemothorax
 - Flail chest
 - Rupture diaphragm
347. A 45-year-old man was a passenger in a car when he was T-boned by a truck at a high speed. He is short in breath, complains of severe pain in the chest, and is hypoxic on the pulse oximeter. The breath sounds are diminished on the left and the percussion note is completely dull. He rapidly becomes tachycardic and hypotensive.
- Cardiac tamponade
 - Tension pneumothorax
 - Open pneumothorax
 - Flail chest
 - Massive hemothorax
348. A 40-year-old woman is brought to the emergency department following a car crash in which she was the driver. In the emergency department, her blood pressure is 80/60 mm Hg, pulse is 128 bpm, and respiratory rate is 36 breaths per minute. She complains of right lower chest wall and severe right upper quadrant (RUQ) tenderness. Her breath sounds are questionably diminished. The immediate priority is to perform which of the following?
- Peritoneal lavage
 - Chest x-ray
 - CT scan of chest and abdomen
 - Thoracentesis with an 18-gauge needle
 - Endotracheal intubation
349. In the case of isolated pneumothorax the tube should be placed in the:
- Second intercostal space, anterior axillary line
 - Second intercostal space, midclavicular line
 - Second intercostal space, mid axillary line
 - Fifth intercostal space, midclavicular line
 - Fifth intercostal space, mid axillary line
350. In the case of hemothorax the tube should be placed in the:
- Second intercostal space, anterior axillary line
 - Second intercostal space, midclavicular line
 - Second intercostal space, mid axillary line
 - Fifth intercostal space, midclavicular line
 - Fifth intercostal space, mid axillary line
351. A 55-year-old man involved in an automobile accident is unresponsive and is intubated at the scene. On arrival in the emergency

department, he responds to painful stimulation. His systolic BP is 60 mm Hg, his HR is 140 bpm, his neck veins are distended, and his breath sounds are absent on the left side. Immediate management should involve which of the following?

- A. Insertion of a central venous line on the right side
- B. Insertion of an 18-gauge needle in the left second intercostal space
- C. Pericardiocentesis
- D. Peritoneal lavage
- E. CT scan of head

352. During a car crash a young man suffers bilateral multiple fracture ribs. He is alert and presents shortness of breath. His blood pressure is 100/60 mm Hg and chest is unstable. Treatment for this is:

- A. Prolonged intubation and ventilatory support until rib fractures heal along with aggressive bronchial toilette.
- B. Once the patient is stable, open rib fracture reduction and stabilization with plates.
- C. Fracture stabilization, with towel clips on ribs and attached to weights (external fixation).
- D. Avoid intubation, control pain, and perform aggressive bronchial toilette.
- E. Temporary extracorporeal circulation to allow fractures to heal.

353. A young man is shot at the level of the right sternoclavicular joint. His blood pressure is 80/60 mm Hg, pulse 120 bpm, and a chest xray shows a right hydropneumothorax. The first step should be:

- A. Insert a chest tube and observe for drainage.
- B. Perform an immediate right thoracotomy.
- C. Perform an angiogram to rule out great vessels injury.
- D. Perform median sternotomy with extension along with right anterior boarder of the sternocleidomastoid muscle.
- E. Perform a CAT scan with contrast, to evaluate extent of injury.

354. A 31-year-old man is brought to the emergency room following an automobile accident in which his chest struck the steering wheel. Examination reveals stable vital signs, but the patient exhibits palpable 7 rib fractures from the right side and paradoxical movement of the right side of the chest. Chest x-ray shows no evidence of pneumothorax or hemothorax, but a large pulmonary contusion is developing. Proper treatment would consist of which of the following?

- A. Tracheostomy, mechanical ventilation, and positive end-expiratory pressure
- B. Stabilization of the chest wall with sandbags
- C. Stabilization with towel clips
- D. Immediate operative stabilization
- E. No treatment unless signs of respiratory distress develop

355. Select the proper intervention for a life-threatening injury of the chest: LARYNGEAL OBSTRUCTION

- A. Endotracheal intubation
- B. Cricothyroidotomy
- C. Subxiphoid window

- D. Tube thoracostomy
E. Occlusive dressing
356. 29. Select the proper intervention for a life-threatening injury of the chest: OPEN PNEUMOTHORAX
A. Endotracheal intubation
B. Cricothyroidotomy
C. Subxiphoid window
D. Tube thoracostomy
E. Occlusive dressing
357. Select the proper intervention for a life-threatening injury of the chest: FLAIL CHEST
A. Endotracheal intubation
B. Cricothyroidotomy
C. Subxiphoid window
D. Tube thoracostomy
E. Occlusive dressing
358. Select the proper intervention for a life-threatening injury of the chest: TENSION PNEUMOTHORAX
A. Endotracheal intubation
B. Cricothyroidotomy
C. Subxiphoid window
D. Tube thoracostomy
E. Occlusive dressing
359. Select the proper intervention for a life-threatening injury of the chest: PERICARDIAL TAMPONADE
A. Endotracheal intubation
B. Cricothyroidotomy
C. Subxiphoid window
D. Tube thoracostomy
E. Occlusive dressing
360. Name please indications for immediate surgery in patients with chest trauma: 1. Traumatic disruption with loss of chest wall integrity; 2. A chronic clotted hemothorax; 3. Atelectasis associated with ribs fracture; 4. A massive air leak following chest tube insertion; 5. High rate of blood loss via the chest tube (>200 ml/h).
A. 1,2,3
B. 1,3,5
C. 1,4,5
D. 2,4,5
E. 2,3,4
361. Name indications for immediate surgery in patients after chest trauma: 1. Traumatic disruption with loss of chest wall integrity; 2. Cardiac tamponade; 3. Tracheoesophageal fistula; 4. A persistent thoracic duct fistula/chylothorax; 5. Large vessel injury.
A. 1, 3, 4
B. 1, 2, 5
C. 1, 3, 5
D. 2, 4, 5
E. 2, 3, 4
362. What is the cornerstone in management of patients with rib fractures?
A. Pain control
B. Immediate surgery
C. Endotracheal intubation
D. Ipsilateral chest tube placement
E. Diagnostic thoracotomy
363. Concerning thoracic trauma which statement IS NOT true?
A. Rib fractures do not require surgery
B. Flail chest is associated with paradoxical motion of the flail segment
C. Cardiac tamponade is an indications for immediate surgery
D. First and second rib fractures are caused by excessive energy force

- E. Isolated first and second rib fractures require surgical therapy
364. What is the obvious sign of diaphragmatic disruption on chest radiographs?
- Abdominal visceral herniation into the chest
 - Absence of complete expansion of the lung
 - Distended shade of the mediastinum
 - Mediastinum dislocation to the contralateral side
 - Evidence of ipsilateral pneumothorax
365. Which statement IS NOT true concerning thoracic trauma?
- All patients with pneumothorax due to trauma need a tube thoracostomy
 - Open pneumothorax is caused by lung tissue defect that is larger than the cross-sectional area of the larynx
 - Treatment for an open pneumothorax consists of placing a 3-way occlusive dressing over the wound
 - Tension pneumothoraces are always life-threatening states
 - Large, clotted hemothoraces may require an operation
366. What are the primary therapies for pulmonary contusions? 1. Surgical debridement; 2. Pain control, iv fluid restriction; 3. Immobilization with a figure-of-eight dressing; 4. Pulmonary toilet; 5. supplemental oxygen.
- 1,3,4
 - 1,3,5
 - 1,2,5
 - 2,4,5
 - 2,3,4
367. All conditions belong to blunt cardiac injuries, except:
- Rupture of the valves,
 - Rupture of interventricular septum
 - Cardiac chamber rupture
 - Cardiac tamponade
 - Atrioventricular stenosis
368. Which condition CAN NOT occur in patients with chest trauma?
- Pericardial tamponade
 - Esophageal rupture
 - Esophageal ahalasia
 - Heart contusion
 - Main bronchial disruption
369. Trauma is the leading cause of death, morbidity, hospitalization, and disability in Americans in the age:
- 0 – 1y
 - 1 – 10y
 - 10 – 45y
 - 45 – 65y
 - More than 65y
370. What injury DOES NOT compromise ventilation?
- Lung contusion
 - Open pneumothorax
 - Painfull ribs fracture
 - Flail chest
 - Acute cardiac tamponade
371. Measurement of serum creatine kinase isoenzyme (creatine kinase-MB) levels is frequently performed in patients with possible:
- Blunt myocardial injury
 - Multiple ribs fracture

- C. Traumatic asphyxia
 D. Flail chest developing
 E. Tension pneumothorax
372. What is the initial study of choice in patients with thoracic blunt trauma, suspicious on pneumothorax?
 A. The chest radiogram
 B. 12-lead ECG
 C. Echocardiography
 D. CT scanning
 E. Ventilation test
373. Ultrasound examinations of thoracic cavities can be performed to confirm the diagnosis:
 A. Acute cardiac tamponade
 B. Open pneumothorax
 C. Multiple ribs fracture
 D. Main bronchi disruption
 E. Multiple atelectasis
374. Choose signs typical for pneumonia: 1. Abnormal temperature; 2. White blood cells in the sputum; 3. Abnormal white blood cell count; 4. Infiltrate on chest radiographs; 5. Crepitation on auscultation:
 A. 1, 2, 3
 B. 1, 2, 4
 C. 1, 2, 5
 D. 2, 4, 5
 E. All are correct
375. Which statement is wrong concerning lung abscess?
 A. Infecting organisms involved in a pneumonic process in the lung will promote abscess formation
 B. Most lung abscesses occur in the upper lobe of lung
 C. If the abscess cavity erodes into a bronchoalveolar space sufficiently to drain its contents, cavitation can occur
- D. Lung abscesses occur in patients with oral or dental infections who sustained a depression in their level of consciousness and aspirated their oral secretions
 E. Abscess is walled off the infectious process
376. Name the microorganism, which causes aspiration lung abscess most oftenly:
 A. Anaerobic bacteria
 B. Gram-positive bacteria
 C. Gram-negative bacteria
 D. Fungal infections
 E. Protozoan infection
377. Choose incorrect statement concerning instrumental diagnosis of lung abscess:
 A. The diagnosis is confirmed with a chest radiograph
 B. A chest radiograph demonstrate an air–fluid level
 C. Bronchoscopy is essential in making the diagnosis lung abscess
 D. In patients with concomitant lung diseases, most efficient in diagnosing lung abscess is CT scan
 E. The goal of bronchoscopy is to determine the bacterial identity and sensitivities
378. Which statement concerning the treatment of patients with lung abscess is wrong?
 A. Most lung abscesses will respond and resolve with appropriate antibiotic therapy and pulmonary toilet

- B. Surgical therapy is reserved for those cases that fail to resolve with nonoperative management
- C. Most lung abscesses will require surgery
- D. Surgical therapy is reserved for those patients who develop severe hemothysis, bronchopleural fistula or empyema
- E. Pulmonary resection is warranted if the abscess cavity is larger than 6 cm in diameter for more than 8 weeks of aggressive antibiotic therapy
379. After suffering a severe bout of pneumonia, a 46-year-old renal transplantation patient develops a lung abscess. She has been receiving immunosuppression therapy since her last kidney transplantation 3 years ago. What is the most appropriate treatment?
- A. Needle aspiration
- B. Urgent thoracotomy
- C. Antituberculous therapy
- D. Antibiotics and vigorous attempts to obtain bronchial drainage
- E. Insertion of an intercostal pleural drain
380. What minimal volume of pleural effusion can be seen on chest film?
- A. 50 cc
- B. 70 cc
- C. 175 cc
- D. 600 cc
- E. 1000 cc
381. Name the microorganism, which causes empyema most oftenly:
- A. Anaerobic bacteria
- B. Gram-positive bacteria
- C. Gram-negative bacteria
- D. Fungal infections
- E. Protozoan infection
382. Which diseases can cause empyema of the pleura: 1. Parapneumonic effusion; 2. Congestive heart failure; 3. Lung abscess cavity erodes into a pleural space; 4. Tuberculosis; 5. Collagen-vascular disease.
- A. 1, 3, 4
- B. 1, 2, 4
- C. 1, 4, 5
- D. 2, 3, 4
- E. 3, 4, 5
383. Choose correct principles in treatment of empyema: 1. Complete evacuation of the content of infected space; 2. Elimination of cavity; 3. Control of causative organisms/sterilisation; 4. Nutritional support; 5. Ventilation support:
- A. 1, 2, 3
- B. 2, 3, 4
- C. 1, 4, 5
- D. 3, 4, 5
- E. All are correct
384. Which microbiological aspect is not correct concerning empyema:
- A. 5-10% of parapneumonic effusions become empyema
- B. A lack of detectable causative organisms reported not more than 10%
- C. Blood cultures positive in only 10% of patients
- D. Community acquired empyema most oftenly is caused by *Streptococcus pneumoniae*
- E. Hospital-acquired empyema most oftenly is caused by *Staphylococcus aureus*

385. Immediately following a bout of pneumonia, a young woman develops a large pleural effusion. A chest tube is inserted and 600 mL of thin pus is obtained. A CAT scan shows incomplete drainage and multiple intrapleural loculations. Management of this empyema requires:

- A. Insertion of multiple chest tubes under CAT guidance to drain either most or all loculations
- B. Treat the patient with antibiotics and continue single chest tube drainage
- C. Treat patient with antibiotics and continue single chest tube drainage waiting for a thick peel to develop and then proceed with open total lung decortication
- D. Proceed with thoracoscopy and intrapleural toilette. Break the loculations and place drains
- E. A thorough open total lung decortication immediately

386. Which statements are NOT true?

- A. The lungs occupy most of the volume of each hemithorax
- B. Each lung is divided into lobes
- C. The right lung has 3 lobes
- D. The left lung has 2 lobes
- E. Each segment is further divided into lobes.

387. The most often pleural effusion is caused by all of the following, EXCEPT:

- A. Congestive heart failure
- B. Malignancy
- C. Infections
- D. Pulmonary embolism

E. Chronic obstructive pulmonary diseases

388. What is the most common symptom associated with pleural effusion?

- A. Dyspnea
- B. Cough
- C. Pain
- D. Diffuse edema
- E. Anaemia

389. Physical examination is NOT informative until pleural effusion exceeds:

- A. 100 mL
- B. 300 mL
- C. 30 mL
- D. 1000 mL
- E. 2500 mL

390. In the case of pleural effusion physical findings include all of the following, EXCEPT:

- A. Decreased breath sounds
- B. Dullness to percussion
- C. Decreased tactile fremitus
- D. Bronchial breath sounds
- E. Pleural friction rub

391. Transudates are caused by a small, defined group of etiologies, including the following: 1). Congestive heart failure, 2). Spread TB infection, 3). Atelectasis due to malignancy or pulmonary embolism, 4). Hypoalbuminemia, 5). Congenital lung diseases.

- A. 1,2,3
- B. 1,3,4
- C. 1,4,5
- D. 2,3,5
- E. 2,4,5

392. The most common causes of exudates include the following: 1). Congestive heart failure, 2). Pulmonary embolism, 3). Esophageal perforation, 4). Myxedema, 5). Chylothorax
 A. 1,2,3
 B. 1,3,4
 C. 1,4,5
 D. 2,3,5
 E. 2,4,5
393. Choose indications for diagnostic thoracentesis from the following: 1). Etiology of the effusion is unclear; 2). Effusion does not respond to therapy as expected; 3). Small amount of effusion in clinically stable patients; 4). Underlying congestive heart failure; 5). Suspected malignancy
 A. 1,2,5
 B. 1,2,3
 C. 1,4,5
 D. 2,3,4
 E. 3,4,5
394. Name contraindications for diagnostic thoracentesis: 1). Pulmonary hypertension; 2). Small volume of fluid; 3). Hypocoagulation; 4). Suspected malignancy; 5). Mechanical ventilation
 A. 1,2,5
 B. 1,2,4
 C. 1,3,4
 D. 2,3,5
 E. 3,4,5
395. Complications of diagnostic thoracentesis include: 1). Internal bleeding; 2). Systemic hypotension; 3). Pneumothorax; 4). Fistula formation; 5). Spleen or liver puncture
 A. 1,3,5
 B. 1,2,4
 C. 1,3,4
 D. 2,3,5
 E. 2,4,5
396. The recommended limit in a single thoracentesis procedure is:
 A. 1000-1500 mL
 B. 150-200 mL
 C. 300-450 mL
 D. 600-7500 mL
 E. 50-100 mL
397. Pleurodesis is most often used for:
 A. Recurrent malignant effusions
 B. Spreading TB infection
 C. COPD associated with pleural effusion
 D. If diagnosis of pyopneumothorax is confirmed
 E. Empiema associated with lung abscess
398. Surgical intervention is most often required for:
 A. Parapneumonic effusions that cannot be drained adequately by needle
 B. Lung abscess development after pneumonia
 C. Total hemithoracic effusion without clear diagnosis
 D. Multiple lung abscesses
 E. Lung abscess with purulent sputum more than 100 mL/day
399. In the management of chylous effusions following action is efficient:
 A. Restrictions of fat intake

- B. Restrictions of water intake
 C. Meal rich for proteins
 D. Meal rich for carbohydrate
 E. All are correct
400. Which statement concerning effusion, obtained by diagnostic thoracentesis, is NOT TRUE?
 A. A putrid odor suggests an anaerobic empyema.
 B. A milky, opalescent fluid suggests a chylothorax
 C. All are correct
 D. Frankly purulent fluid indicates an empyema.
 E. Grossly bloody fluid may result from trauma, malignancy
401. The fluid, obtained by diagnostic thoracentesis, is considered an exudate if (choose one correct sign):
 A. Ratio of pleural fluid to serum protein greater than 0.5
 B. Low pleural fluid glucose concentration (< 50 mg/dL)
 C. Ratio of pleural fluid to serum lactate dehydrogenase (LDH) lesser than 0.1
 D. Any of them
 E. Pleural fluid pH less than 5.1
402. Definition of lung abscess includes all, except:
 A. necrosis of the pulmonary tissue
 B. formation of cavities containing necrotic debris
 C. formation of cavities containing necrotic fluid
 D. caused by microbial infection
 E. obstructive changes in the small bronchi
403. What condition DO NOT cause secondary abscess of the lungs:
 A. Preexisting bronchial obstruction
 B. Infection spreading from an extrapulmonary location
 C. Bronchiectasis
 D. Immunocompromised state of the patient
 E. Heart failure
404. Most frequently, the lung abscess is:
 A. complication of aspiration pneumonia caused by mouth anaerobes
 B. caused by Peptostreptococcus species
 C. unrecognizable on chest X-ray film
 D. unexpected finding in healthy patients
 E. complication after acute bronchitis
405. Which mechanism in pathogenesis of lung abscess formation is WRONG?
 A. Bacteremia
 B. Tricuspid valve endocarditis
 C. Lemierre syndrome (acute oropharyngeal infection followed by septic thrombophlebitis of the internal jugular vein)
 D. Pulmonary embolism
 E. Severe enterocolitis
406. What factors ARE NOT associated with a poor prognosis in treatment of lung abscesses:
 A. advanced age
 B. malnutrition
 C. immunodeficiency
 D. malignancy

E. mitral regurgitation

E. 2,4,5

407. Which statements are NOT true?
- A. Male sex predominates for lung abscess
 - B. Lung abscesses likely occur more commonly in elderly patients
 - C. Incidence of periodontal disease increase likelihood of lung abscess formation
 - D. Alcoholism is preexisting factor for abscess occurring
 - E. Cigarette smoking is strong underlying factor for lung abscess
408. The unusual symptom of acute lung abscess is:
- A. Fever
 - B. Cough with sputum discharge
 - C. Sweating
 - D. Chest pain
 - E. Weight loss
409. Objective findings in patient with lung abscess are all, EXCEPT:
- A. Decreased breath sounds
 - B. Dullness on percussion
 - C. Bronchial breath sounds
 - D. Inspiratory crackles
 - E. Tachicardia associated with bradypnoe
410. Patients at the highest risk for developing lung abscess have the following risk factors: 1). Periodontal disease, 2). Mild to severe heart failure, 3). Alcohol abuse, 4). Dysphagia, 5). Antibiotic use in past.
- A. 1,2,3
 - B. 1,3,4
 - C. 1,4,5
 - D. 2,3,5
411. Name the most often reason for poor response to treatment with antibiotics, in patients with lung abscesses:
- A. Bronchial obstruction with a foreign body
 - B. Tumor
 - C. Reccurent aspiration
 - D. Fungial infection
 - E. Poor lung perfusion
412. The usual indications for surgery, in patients with lung abscess, are : 1). coexisting severe obstructive lung desease, 2). suspected neoplasm, 3). congenital lung malformation, 4). failure to respond to medical management, 5). amount of purulent sputum more than 100ml/day
- A. 1,2,3
 - B. 1,3,5
 - C. 1,4,5
 - D. 2,3,4
 - E. 2,4,5
413. Name the complications of pulmonary abscess: 1). Rupture into pleural space causing empyema, 2). Pulmonary hypertension, 3). Spreading bronchial sclerosis, 4). Bronchopleural fistula, 5). Respiratory failure.
- A. 1,2,3
 - B. 1,3,5
 - C. 1,4,5
 - D. 2,3,4
 - E. 2,4,5
414. Which of the following is FALSE?

- A. Postaspiration lung abscesses are associated with aerobic bacteria
- B. Prevention of aspiration is important to minimize the risk of lung abscess
- C. Early intubation in disable patients protects the airway from massive aspiration
- D. The most common is aspiration of oropharyngeal contents.
- E. Lung abscesses as a result of aspiration most frequently occur in the posterior segments of the upper lobes or the superior segments of the lower lobes
415. Which statements, concerning investigations of patients with lung abscesses, are TRUE? 1). A complete white blood cell count with differential may reveal leukocytosis and a left shift; 2). CT scan is the initiate step in evaluation of the patient with lung abscess; 3). On chest X-ray lung abscess is an irregularly shaped cavity with an air-fluid level inside; 4). Bronchoscopy has a very high sensitivity and specificity in reaviling of lung abscesses; 5). Peripheral lung abscesses with pleural contact or included inside a lung consolidation are detectable using lung ultrasonography at the bedside. Choose the correct combination:
- A. 1,2,3
- B. 1,3,5
- C. 1,4,5
- D. 2,3,4
- E. 2,4,5
416. X-ray pattern of thorax organs revealed a large intensive inhomogeneous opacity with indistinct outlines on the right side at the level of the 4-th rib. In the centre of this opacity there is a horizontal level and clearing of lung tissue above it. What disease does this X-ray pattern correspond with?
- A. Right-sided hemothorax
- B. Abscess of the right lung
- C. Peripheral cancer
- D. Right-sided pneumothorax
- E. Tuberculoma of the right lung
417. A 35 y.o. patient was admitted to the local hospital a week after a road accident with clinical picture of clotted hemothorax. What is the most appropriate treatment tactic for prevention of acute pleural empyema?
- A. Surgical removal of clotted hemothorax
- B. Treatment by pleural punctions
- C. Complex conservative therapy
- D. Passive drainage of pleural cavity
- E. Active drainage of pleural cavity
418. A 35 y.o. woman was admitted to thoracic surgery department with fever up to 40⁰C, onset of pain in the side caused by deep breathing, cough with considerable quantity of purulent sputum and blood with bad smell. What is the most likely diagnosis?
- A. Complication of liver echinococcosis
- B. Bronchiectatic disease
- C. Pulmonary tuberculosis
- D. Actinomycosis of lungs
- E. Abscess of the lung
419. A 52 year old patient complains about pain in the right part of her chest, dyspnea, cough with a lot of

foul-smelling albuminoid sputum in form of "meat slops". Objectively: the patient's condition is grave, cyanosis is present, breathing rate is 31/min, percussion sound above the right lung is shortened, auscultation revealed different rales. What is the most probable diagnosis?

- A. Chronic pneumonia
- B. Pleura empyema
- C. Lung abscess
- D. Lung gangrene
- E. Multiple bronchiectasis

1. Overall mortality rate in case of acute appendicitis is:
 - A. 10-20%;
 - B. 5-10%;
 - C. 0,2-0,8%;
 - D. 1-5%;
 - E. 25%.
2. Name the destructive form of appendicitis.
 - A. Appendicular colic;
 - B. Superficial;
 - C. Appendix hydrops;
 - D. Phlegmonous;
 - E. Catarrhal appendicitis.
3. Koher sign is:
 - A. Migration of the pain from the epigastrium to the right lower quadrant;
 - B. Pain in the right lower quadrant;
 - C. One time vomiting;
 - D. Pain in the right upper quadrant;
 - E. Pain in the epigastrium.
4. In cases of appendicular infiltration is indicated:
 - A. Laparoscopic appendectomy;
 - B. Conservative treatment;
 - C. Open appendectomy;
 - D. Draining;
 - E. Laparotomy.
5. In cases of appendicular abscess is indicated:
 - A. Laparoscopic appendectomy;
 - B. Conservative treatment;
 - C. Open appendectomy;
 - D. Draining, if possible - appendectomy;
 - E. Ileo-cecal resection.
6. A 34-year-old female patient suffered from abdominal pain week ago; no other gastrointestinal problems were noted. On clinical examination, a mass of about 6 cm was palpable in the right lower quadrant, appeared hard, not reducible and fixed to the parietal muscle. CBC: leucocytos $7,5 \cdot 10^9/l$, ESR – 24 mm/hr. Temperature $37,4^\circ C$. Make the diagnosis?
 - A. Appendicular colic;
 - B. Appendicular hydrops;
 - C. Appendicular infiltration;
 - D. Appendicular abscess;
 - E. Peritonitis.
7. A 34-year-old female patient suffered from abdominal pain week ago; no other gastrointestinal problems were noted. On clinical examination, a mass of about 6 cm was palpable in the right lower quadrant, appeared hard, not reducible and fixed to the parietal muscle. CBC: leucocytos $7,5 \cdot 10^9/l$, ESR – 24 mm/hr. Temperature $37,4^\circ C$. Triple antibiotic therapy with cefotaxime, amikacin and tinidazole was very effective. After 10 days no mass in abdominal cavity was palpated. What time term is optimal to perform appendectomy?
 - A. 1 week;
 - B. 2 weeks;
 - C. 3 month;
 - D. 1 year;
 - E. 2 years.
8. What instrumental method of examination is the most efficient in case of portal pyelophlebitis?
 - A. Plain abdominal film;
 - B. Barium meal;
 - C. US;
 - D. Termography;
 - E. Doppler ultrasound.
9. The complications of acute appendicitis are all, except:
 - A. Appendicular infiltration;
 - B. Appendicular abscess;
 - C. Enzyme peritonitis;
 - D. Pyelophlebitis;
 - E. Sepsis.
10. A 63-year-old male patient in reasonably good health suddenly suffered from fever ($>38^\circ C$) and a painful right iliac fossa tumefaction; no other gastrointestinal problems were noted. On clinical examination, a mass of about 5 cm was palpable in correspondence of right iliac fossa and appeared hard, not reducible and fixed to the parietal muscle. Laboratory data showed leucocytosis, shift to the left and elevated erythrocyte sedimentation rate (74 mm/hr) as pathological findings. Abdominal ultrasound examination

- evidenced a fluid in the right lower quadrant, with heterogenic echotexture and a thickening of the ileocecal tract. Abdominal CT, confirmed the presence of a complex, predominantly cystic, mass of large size (6×8 cm) with heterogeneous, mainly peripheral enhancement, the adjacent cecum had its wall thickened and it was not possible to differentiate the appendix separately from the mass, homolateral inguinal reactive lymphadenopathy was also present. The patient failed to respond to the initial conservative management, which consisted of intravenous fluids and triple antibiotic therapy with cefotaxime, gentamicin and metronidazole, without any improvement of pain and fever. At a further ultrasound examination, the mass appeared not modified. Make the diagnosis?
- Appendicular infiltration;
 - Appendicular abscess;
 - Peritonitis;
 - Appendicular colic;
 - Phlegmonous appendicitis;
11. A 17-year-old female model presents to the emergency room with a 1-day history of lower abdominal pain. On examination she is most tender in the right lower quadrant (RLQ) and also has pelvic tenderness. White blood cell (WBC) count is $13 \times 10^9/l$ and temperature is $38,2^\circ C$. A provisional diagnosis of uncomplicated appendicitis is made and laparoscopic appendectomy is offered. Regarding laparoscopic appendectomy which of the following is TRUE?
- It can be performed safely with minimal morbidity compared to open technique.
 - Length of hospital stay is longer than with open technique.
 - Posthospital recovery can be shorter in uncomplicated appendicitis.
 - Return to full feeding is less than with open technique.
 - Wound complication rate is greater with open technique.
12. A 79-year-old man has had abdominal pain for 4 days. An operation is performed, and a gangrenous appendix is removed. The stump is inverted. Why does acute appendicitis in elderly patients and in children have a worse prognosis?
- The appendix is retrocecal.
 - The appendix is in the preileal position.
 - The appendix is in the pelvic position.
 - The omentum and peritoneal cavity appear to be less efficient in localizing the disease in these age groups.
 - The appendix is longer in these age groups.
13. A 12-year-old boy complains of pain in the lower abdomen (mainly on the right side). Symptoms commenced 12 hours before admission. He had noted anorexia during this period. Examination revealed tenderness in the right iliac fossa, which was maximal 1 cm below McBurney's point. In appendicitis, where does the pain frequently commence?
- In the umbilical region and then moves to the right iliac fossa
 - In the back and moves to the right iliac fossa
 - In the rectal region and moves to the right iliac fossa
 - In the right iliac fossa and remains there
 - In the right flank
14. On examination, patients presenting with appendicitis typically show maximal tenderness over which of the following?
- Inguinal region
 - Immediately above the umbilicus
 - At a point between the outer one-third and inner two-thirds of a line between the umbilicus and the anterior superior iliac spine
 - At a point between the outer two-thirds and inner one-third of a line between the umbilicus and the anterior superior iliac spine
 - At the midpoint of a line between the umbilicus and the anterior superior iliac spine

15. A 29-year-old woman presents to her physician's office with pain in the right iliac fossa. Examination reveals tenderness in this region. Her last menstrual cycle was 2 weeks previously. CBC: leukocyte count – $7,2 \times 10^9/l$, RBC – $2,9 \times 10^{12}/l$, Hb – 105 g/l. Make the diagnosis.
- Acute superficial appendicitis
 - Ovarian apoplexy
 - Renal colic
 - Acute destructive appendicitis
 - Acute pancreatitis
16. A 28-year-old man is admitted to the emergency department complaining of pain in the umbilical region that moves to the right iliac fossa. Which is a corroborative sign of acute appendicitis?
- Referred pain in the right side with pressure on the left (Rovsing) sign
 - Increase of pain with testicular elevation
 - Relief of pain in lower abdomen with extension of thigh
 - Relief of pain in lower abdomen with internal rotation of right thigh
 - Hyperesthesia in the right lower abdomen
17. At open operation a normal appendix is found, no other pathology in abdominal cavity. What is the most common procedure a surgeon should do if he finds a normal appendix?
- Evaluate the pelvis for tuboovarian abscess pelvic inflammatory disease, malignancy or ectopic pregnancy
 - Removal of appendix
 - Evaluate the terminal ileum and cecum for signs of regional or bacterial enteritis
 - Evaluate the upper abdomen for cholecystitis or perforated duodenal ulcer
 - Evaluate for Meckel's diverticulum
18. M., 68-year old man, 14 hours ago appeared continuous pain in the RLQ, 2 hours ago pain decreased significantly. The diagnosis of acute appendicitis was made. What morphological form acute appendicitis we must suspect?
- Gangrenous;
 - Superficial;
 - Appendix hydrops;
 - Phlegmonous;
 - Appendicular colic.
19. A 20-year-old man has undergone appendectomy for perforated appendicitis with generalized peritonitis. Seven days postoperatively, his temperature continues to spike to $39,5^{\circ}C$ despite antibiotic therapy with ampicillin, gentamicin, and metronidazole. Abdominal CT scan reveals a large pelvic abscess. Soon afterward, he has bleeding from the mouth and nose with increasing oozing from the surgical wound and all intravenous puncture sites. What is the most likely diagnosis?
- Anaphylactoid reaction to intravenous dye;
 - Antibiotic-induced coagulopathy
 - Disseminated intravascular coagulation
 - Liver failure ;
 - Congenital bleeding disorder.
20. A 20-year-old man has undergone appendectomy for perforated appendicitis with generalized peritonitis. Seven days postoperatively, his temperature continues to spike to $39,5^{\circ}C$ despite antibiotic therapy with ampicillin, gentamicin, and metronidazole. Abdominal CT scan reveals a large pelvic abscess. Soon afterward, he has bleeding from the mouth and nose with increasing oozing from the surgical wound and all intravenous puncture sites. What was a trigger for coagulopathy?
- Sepsis;
 - Antibioticotherapy;
 - Congenital disorder;
 - Proteolysis;
 - Operation.
21. All listed below locations of appendix concerning cecum are correct, EXCEPT:
- medial

- B. retrocecal
C. subhepatic
D. pelvic
E. intermediate
22. Appendicular artery is the branch of:
A. a. ileocolica
B. a. mesenterica inferior
C. a. hepatica communis
D. celiac trunk
E. a. iliaca interna
23. What is the Clado ligament?
A. lig. appendico-ovaricum
B. lig. appendico-cecalis
C. lig. appendico-transversum
D. lig. circularis appendicis
E. lig. longitudinalis appendicis
24. Classification proposed by V.I. Kolesov in 1972, is based on clinical course of disease and includes FOUR items. They are all, EXCEPT:
A. Appendicular colic
B. Simple appendicitis: superficial, catarrhal
C. Destructive appendicitis: phlegmonous, gangrenous, perforating
D. Complications of acute appendicitis: appendicular infiltrate, appendicular abscess, diffuse peritonitis
E. Purulent complications: abscesses, sepsis
25. Which statement, concerning acute appendicitis, is NOT TRUE?
A. The tip of the appendix can be located anywhere in the right lower quadrant of the abdomen or pelvis
B. Appendicitis occurs rarely in very young children and elderly persons.
C. Luminal obstruction leads to secretion of mucus and fluid with the rise in luminal pressure causing ischemia of the wall of appendix
D. In general, patients with appendicitis report nausea and loss of appetite
E. Migration of the pain from epigastric or paraumbilical region to right lower quadrant is a sign of patient's recovery
26. Typically, in the case of acute appendicitis, symptoms of the disease include: 1) rebound tenderness (Blumberg's sign) in the RLQ, 2) hematuria, 3) pain in the RLQ, 4) involuntary guarding, 5) normal body temperature. Choose the RIGHT combination.
A. 1, 3, 4
B. 1, 2, 4
C. 1, 2, 5
D. 2, 3, 5
E. 3, 4, 5
27. Which sign reflects pelvic location of the appendix?
A. Rovsing's sign
B. Blumberg's sign
C. psoas sign
D. obturator sign
E. Koher's sign
28. You will perform all listed laboratory tests to make the diagnosis and differential diagnosis of acute appendicitis, EXCEPT?
A. white blood cell (WBC) count
B. urinalysis
C. serum liver enzymes and amylase levels
D. serum HCG (human chorionic gonadotropin) level in women of childbearing age
E. serum protein
29. Which statement, concerning acute appendicitis, is WRONG?
A. Perforation of the appendix is accompanied with a sharp abdominal pain
B. Acute appendicitis with pelvic location of the appendix is always characterized by clear clinical picture and typical course
C. Often the patients, with acute appendicitis with pelvic location of the appendix, have diarrhea and/or dysuria
D. White blood cells (WBC) are usually elevated in patients with acute appendicitis

- E. Infiltrate is being formed on 3-5 days of the disease
30. On the 10th day after the admission to the surgical department patient develops suppurative of appendicular infiltrate. In this case, clinical picture will include all symptoms, EXCEPT:
- pain in the region of abdominal mass
 - fatigue
 - headache
 - hectic fever
 - breathlessness
31. In attempting to minimize complications during cholecystectomy, the surgeon defines the triangle of Calot during the operation. The boundaries of the triangle of Calot (modified) are the common hepatic duct medially, the cystic duct inferiorly, and the liver superiorly. Which structure courses through this triangle ?
- Left hepatic artery
 - Right renal vein
 - Right hepatic artery
 - Cystic artery
 - Superior mesenteric vein
32. A 65-year-old woman is admitted with RUQ pain radiating to the right shoulder, accompanied by nausea and vomiting. Examination reveals tenderness in the RUQ and a positive Murphy's sign. A diagnosis of acute (uncomplicated) cholecystitis is made. What is the most likely finding?
- Serum bilirubin levels may be elevated
 - Cholelithiasis is present in 90% of all cases
 - Bacteria are rarely found at operation
 - An elevated amylase level excludes this diagnosis
 - A contracted gallbladder is noted on ultrasound
33. A 38-year-old male lawyer develops abdominal pain after having a fatty meal. Examination reveals tenderness in the right hypochondrium and a positive Murphy's sign. Which test is most likely to reveal acute cholecystitis?
- US of the abdomen
 - Oral cholecystogram
 - Intravenous cholangiogram
 - Abdominal x-ray
 - ERCP
34. A 48-year-old woman is admitted to the hospital with severe abdominal pain, tenderness in the right hypochondrium, and a WBC count of $12 \times 10^9/l$. Acute cholecystitis is established. After diagnosis, cholecystectomy should be performed within which of the following?
- 20–60 minutes
 - The first 1-2 days following hospital admission
 - 8 days
 - 3 weeks
 - 3 months
35. A 60-year-old diabetic man is admitted to the hospital with a diagnosis of acute cholecystitis. The WBC count is $28 \times 10^9/l$, and a plain film of the abdomen and CT scan show evidence of intramural gas in the gallbladder. What is the most likely diagnosis?
- Gallstone ileus
 - Acalculous cholecystitis
 - Cholangiohepatitis
 - Sclerosing cholangitis
 - Emphysematous gallbladder
36. A 60-year-old woman is recovering from a major pelvic cancer operation and develops severe abdominal pain and sepsis. Acute cholecystitis is established, laparotomy is performed. The gallbladder is severely inflamed and removed. There is no evidence of gallbladder stones (acalculous cholecystitis). Cholecystectomy is performed. Which is true of acalculous cholecystitis?
- It is usually associated with stones in the CBD.
 - It occurs in 80–90% of cases of cholecystitis.
 - It has a more favorable prognosis than calculous cholecystitis.
 - It is increased in frequency after trauma or operation.
 - It is characterized on US scan by enlarged cystic duct.

37. Following recovery in the hospital from a fracture of the femur, a 45-year-old female patient develops RUQ abdominal pain and fever. She has tenderness in the right subcostal region. There is evidence of progressive sepsis and hemodynamic instability. The WBC count is $24 \times 10^9/l$. A bedside sonogram confirms the presence of acalculous cholecystitis. What should treatment involve?
- Intravenous antibiotics alone
 - ERCP
 - Percutaneous drainage of the gallbladder
 - Urgent cholecystectomy
 - Elective cholecystectomy after 3 months
38. Following recovery in the hospital from a fracture of the femur, a 75-year-old nursing home female patient develops RUQ abdominal pain and fever. She has tenderness in the right subcostal region. There is evidence of progressive sepsis and hemodynamic instability. The WBC count is $24 \times 10^9/l$. A bedside sonogram confirms the presence of acalculous cholecystitis. What should treatment involve?
- Intravenous antibiotics alone
 - Percutaneous drainage of the gallbladder
 - ERCP
 - Urgent cholecystectomy
 - Elective cholecystectomy after 3 months
39. The gallbladder consists of following parts, EXCEPT:
- Fundus
 - Body
 - Infundibulum
 - Neck
 - Cardia
40. Sometimes small accessory bile duct may drain directly into the gallbladder. The name of this duct is?
- Cholecystohepatic duct of Luschka
 - Cholecystohepatic duct of Laschtuvka
 - Cholecystohepatic duct of Linka
 - Cholecystohepatic duct of Calot
 - Cholecystohepatic duct of Koher
41. Different hormones regulate function of the gallbladder. Choose all of them: 1). Vasoactive intestinal polypeptide; 2). Cholecystokinin; 3). Thyroxine; 4). Lipase; 5). Motilin.
- 1, 2, 3
 - 1, 2, 5
 - 1, 3, 4
 - 3, 4, 5
 - 2, 3, 4
42. What is the most common symptom related to acute cholecystitis?
- RUQ abdominal pain
 - Jaundice
 - Fever
 - Nausea and vomiting
 - Weight loss
43. Which condition does NOT predispose to gallstone formation?
- Concentrated bile
 - Increased gallbladder motility
 - Female sex
 - Obesity
 - Previous truncal vagotomy
44. Patient, who suffers from acute cholecystitis, can have all listed below symptoms, EXCEPT:
- Nausea and vomiting
 - Anorexia
 - Fever
 - Arterial hypotention
 - RUQ pain
45. Physical examination in patient with acute cholecystitis, can reveal all signs, EXCEPT:
- Guarding and rebound tenderness in the RUQ
 - Positive Murphy's sign
 - Painful mass in the RUQ
 - Positive Blumberg's in the RUQ
 - Absence of liver dullness
46. Which statement concerning imaging studies in patients with acute cholecystitis is WRONG?

- A. The most important value of plain abdominal film is exclusion of other abdominal pathology (perforated peptic ulcer)
- B. Ultrasound of the abdomen is an effective method for identifying gallstones in case of acute cholecystitis
- C. Gallstones and bile appear nearly isodense on CT
- D. Cholangiography is the most accurate method the extrahepatic biliary tree visualization
- E. All patients with acute cholecystitis should undergo MRI
47. The most efficient noninvasive instrumental method of examination in case of acute cholecystitis is:
- A. Oral cholecystography
- B. Ultrasonography
- C. Termography
- D. GIT X-ray examination
- E. IV cholangiography
48. Which signs are positive in patients with acute cholecystitis?
- A. Ortner, Kehr, Murphy
- B. Kocher, Sitkovski, Rovzing
- C. Pasternatski
- D. Mayo-Robson
- E. Cullen, Grey Turner
49. Normal diameter of CBD is:
- A. up to 25 mm
- B. up to 15 mm
- C. up to 10 mm
- D. up to 20 mm
- E. up to 5 mm
50. Normal diameter of cystic duct is:
- A. 2 mm
- B. 3-4 mm
- C. 10-12 mm
- D. 20 mm
- E. 8-9 mm
51. Choose the reasons which are responsible for gallstones formation during the pregnancy:
- A. Hyperestrogenemia, cholestasis
- B. Decreased duodenal motility
- C. Increased gallbladder motility
- D. Decreased liver function
- E. Hyperglycemia
52. What type of bile stones didn't exist?
- A. Cholesterol
- B. Pigment
- C. Mixed
- D. Calcium
- E. Protein
53. At abdominal examination: patient is asked to breathe out and then physician gently place the hand below the costal margin on the right side at the mid-clavicular line, the patient is then instructed to breathe in. If the patient stops breathing in the test is considered positive. Name this test?
- A. Murphy's sign
- B. Kehr's sign
- C. Blumberg's sign
- D. Rovsing's sign
- E. Psoas sign
54. Patient: 44 years female. Three weeks ago felt acute pain in right upper quadrant after fatty food, spasmolitics were efficient. Complaints on admission: dull pain in right upper quadrant. Examination: temperature 36,8°C, soft mass palpated in Kehr point. CBC: WBC – $6,8 \times 10^9/l$. US: very large gallbladder with thin wall, stone 15 mm in diameter obstructing it, common bile duct 7 mm in diameter. Make the diagnosis?
- F. Acute cholecystitis;
- G. Biliary pancreatitis;
- H. Gallbladder hydropsia;
- I. Cholangitis;
- J. Mechanical jaundice.
55. The management in case of acute cholecystitis complicated with choledocholithiasis should be?
- A. Conventional cholecystectomy;
- B. Laparoscopic cholecystectomy;
- C. Cholecystostomy;
- D. ECRP, sphincterotomy, cholecystectomy;
- E. Conservative treatment.

56. To what complication can lead acute obstructive cholecystitis?
- Cancer of pancreatic gland;
 - Pleural empiema;
 - Gallbladder empiema;
 - Perforative duodenal ulcer;
 - Acute bowle obstruction.
57. Which complication of acute cholecystitis develops, when the patient have jaundice, high temperature ($>38^{\circ}\text{C}$), pain in upper right quadrant, sweating:
- Acute pancreatitis;
 - Bile duct fistula;
 - Gallbladder empiema;
 - Duodenal ulcer;
 - Cholangitis.
58. An 85-year-old man is brought to the hospital with a 2-day history of nausea and vomiting. He has not passed gas or moved his bowels for the last 5 days. Abdominal films show dilated small bowel, no air in the rectum and air in the biliary tree. Which of the following statements is TRUE?
- Air in the biliary tree associated with small-bowel obstruction suggests a diagnosis of gallstone ileus;
 - An enterotomy should be distal to the site of obstruction and the stone should be removed;
 - Gallstone ileus is more common in the young adults;
 - Cholecystectomy is contraindicated;
 - Small-bowel obstruction usually occurs in the distal jejunum.
59. An intraoperative cholangiogram is performed during an elective laparoscopic cholecystectomy on a 30-year-old woman. She has no previous surgical history. There is a 0.8-cm filling defect in the distal common bile duct (CBD). The surgeon should:
- Complete the laparoscopic cholecystectomy and check liver function tests (LFTs) postoperatively. If they are normal, no further treatment is needed
 - Complete the laparoscopic cholecystectomy and repeat an ultrasound postoperatively. Observe the patient if no CBD stone is visualized
 - Perform a CBD exploration either laparoscopically or open along with a cholecystectomy
 - Complete the laparoscopic cholecystectomy, no further treatment is necessary
 - Complete the laparoscopic cholecystectomy and plan for a postoperative hydroxy iminodiacetic acid (HIDA) scan
60. A 42-year-old accountant presents with recurrent RUQ pain of 3-year duration. He had undergone a laparoscopic cholecystectomy 2-years ago for presumed symptomatic cholelithiasis, but the pain persisted. An upper GI endoscopy is normal. A sonogram and CT scan of the abdomen are normal. An ERCP is performed, and the pressure in the CBD is 45-cm saline (normal bile duct pressure is 10–18- cm saline). What is the most likely diagnosis?
- Acalculous cholecystitis
 - Emphysematous cholecystitis
 - Biliary dyskinesia
 - Cancer of the gallbladder
 - Myasthenia gravis
61. A 42-year-old accountant presents with recurrent RUQ pain of 3-year duration. He had undergone a laparoscopic cholecystectomy 2-years ago for presumed symptomatic cholelithiasis, but the pain persisted. An upper GI endoscopy is normal. A sonogram and CT scan of the abdomen are normal. An ERCP is performed, and the pressure in the CBD is 45-cm saline (normal bile duct pressure is 10–18- cm saline). Choose the best treatment option:
- Calcium channel blockers, if not effective an endoscopic sphincterotomy
 - Antibiotics, if not effective an endoscopic sphincterotomy
 - Analgesics, if not effective an endoscopic sphincterotomy

- D. β -blockers, if not effective an endoscopic sphincterotomy
- E. No treatment
62. A 43-year-old woman undergoes open cholecystectomy. Intraoperative cholangiogram revealed multiple stones in the CBD. Exploration of the CBD was performed to extract gallstones. The CBD was drained with a #18 T-tube. After 10 days, a T-tube cholangiogram reveals a retained CBD stone. This should be treated by which of the following?
- Laparotomy and CBD exploration
 - Subcutaneous heparinization
 - Antibiotic therapy for 6 months and then reevaluation
 - ERCP, endoscopic sphincterotomy, CBD exploration
 - Ultrasound crushing of the CBD stone
63. A 62-year-old woman who underwent cholecystectomy and choledochoduodenostomy (CBD duodenal anastomosis) 5 years previously is admitted to the hospital with a 3-day history of upper abdominal pain, chills, fever, and dark urine. Make the diagnosis:
- Ascending cholangitis
 - Cancer of gallbladder
 - Acute gastritis
 - Acute biliary pancreatitis
 - Liver abscess
64. A 62-year-old woman who underwent cholecystectomy and choledochoduodenostomy (CBD duodenal anastomosis) 5 years previously is admitted to the hospital with a 3-day history of upper abdominal pain, chills, fever, and dark urine. What laboratory finding that supports diagnosis ascending cholangitis?
- Amylase elevation with normal findings on liver studies
 - Alkaline phosphatase elevation with normal or elevated normal bilirubin levels
 - Elevated serum glutamic oxaloacetic transaminase (SGOT) levels
 - Altered urea/creatinine ratio
 - Urobilin in urine
65. An 70-year-old male presents with a clinical diagnosis of acute cholangitis. Which organism is most likely involved in the pathogenesis of ascending cholangitis?
- Clonorchis sinensis*
 - Escherichia coli*
 - Salmonella*
 - Staphylococcus aureus*
 - Clostridia*
66. Following admission to the hospital for intestinal obstruction, a 48-year-old woman states that she previously had undergone cholecystectomy and choledochoduodenostomy. The most likely indication for the performance of the choledochoduodenostomy was:
- Hepatic metastasis were present
 - Multiple stones were present in the gallbladder at the previous operation
 - Multiple stones were present in the CBD at the previous operation
 - The common hepatic duct had a stricture
 - The small intestine was occluded
67. In attempting to minimize complications during cholecystectomy, the surgeon defines the triangle of Calot during the operation. The boundaries of the triangle of Calot (modified) are the common hepatic duct medially, the cystic duct inferiorly, and the liver superiorly. Which structure courses through this triangle?
- Left hepatic artery
 - Right renal vein
 - Right hepatic artery
 - Cystic artery
 - Superior mesenteric vein
68. A 55-year-old white female undergoes a laparoscopic cholecystectomy for symptomatic cholelithiasis. The operation went well, and the patient was discharged home. One week later, she comes to your office for a routine postoperative follow-up. The final pathology report shows an incidental finding of a gallbladder

- carcinoma confined to the mucosa. In further advising the patient, you should inform her that
- She should undergo radiation therapy
 - She should undergo right hepatectomy to remove locally infiltrating disease
 - She should undergo regional lymphadenectomy
 - She requires systemic chemotherapy
 - She does not require any further therapy
69. Acute cholangitis is characterized by three symptoms known as *Charcot's triad*. They are: 1). Weight loss; 2). RUQ abdominal pain; 3). Jaundice; 4). Nausea and vomiting; 5). Fever. Choose the correct combination.
- 1, 2, 3
 - 1, 3, 4
 - 1, 4, 5
 - 2, 3, 5
 - 2, 4, 5
70. *Reynolds pentad* known as symptoms in patients with severe acute cholangitis. Which symptom do NOT belong to Reynold's pentad?
- Altered mental status
 - Arterial hypotension
 - Jaundice
 - Nausea and vomiting
 - Fever
71. Cholangiography is the most accurate and sensitive method of biliary tree visualization. Diagnostic cholangiogram can be performed in different ways. Name them? 1). Percutaneously; 2). Endoscopically; 3). Intraoperatively; 5). Intravenous. Choose the most complete answer.
- 1, 2, 3
 - 1, 3, 4
 - 1, 4, 5
 - All are correct
 - 2, 4, 5
72. Acute cholangitis is a bacterial infection and most commonly is associated with: 1. Gallstones; 2. Acute hepatitis; 3. Malignant tumor of CBD; 4. Truncal vagotomy; 5. Stricture of the CBD. Choose the correct combination.
- 1, 2, 3
 - 1, 3, 4
 - 2, 4, 5
 - 1, 3, 5
 - 2, 4, 5
73. Which factors play important role in the pathogenesis of acute cholangitis? 1. Biliary tract obstruction; 2. Elevated intraluminal pressure; 3. Decreased bile production by hepatocytes 4. Decreased serotonin serum level; 5. Infection of the bile. Choose the correct combination.
- 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 5
 - 1, 4, 5
74. Which condition is NOT associated with higher morbidity and mortality rate in patients with acute cholangitis:
- Hypotension
 - Acute renal failure
 - Liver abscess
 - Liver cirrhosis
 - Age less than 50 years
75. Which symptom together with Charcot's triad is associated with acute cholangitis:
- Coffee round vomitus
 - Pruritus
 - Hypertention
 - Diarrhea
 - Constipation
76. Which of the following DOESN'T increase the risk of cholangitis:
- CBD stones confirmed on US
 - Recent cholecystectomy
 - Recent ERCP
 - History of cholangitis in the past medical history
 - Recent appendectomy
77. In patients with cholangitis at physical examination you can reveal the following: 1. RUQ tenderness; 2. Fever; 3. Mental status changes; 4. Hypotension; 5. Tachycardia. Choose the correct combination.

- A. 1, 2, 3
 B. 2, 3, 4
 C. 3, 4, 5
 D. All are correct
 E. 1, 4, 5
78. Which statement, regarding acute cholangitis, is NOT true?
 A. Partial obstruction is associated with a higher rate of infection than complete obstruction
 B. The bile is normally sterile
 C. In case of cholangitis obstruction of the common bile duct occurs secondary to ascending infection
 D. The male-to-female ratio is equal in cholangitis
 E. The median age at presentation is between 50 and 60 years.
79. Which tumor does NOT cause cholangitis?
 A. Pancreatic cancer
 B. Cholangiocarcinoma
 C. Ampullary cancer
 D. Porta hepatis tumors
 E. Hepatocellular carcinoma
80. Which disease is NOT responsible for the development of cholangitis?
 A. Strictures or stenosis of ampulla Vateri
 B. Endoscopic manipulation of the CBD
 C. AIDS cholangiopathy
 D. Ascaris lumbricoides infections
 E. Later dumping syndrome
81. What changes in laboratory tests can be found in patients with acute cholangitis? 1. Elevated bilirubin; 2. Elevated alkaline phosphatase; 3. Elevated C-reactive protein; 4. Elevated ESR; 5. Leukocytosis
 A. All are present
 B. 1, 2, 3
 C. 1, 3, 5
 D. 1, 2, 4
 E. 2, 4, 5
82. On X-ray film air in the biliary tree was detected, which condition does NOT cause this?
 A. Recent papillotomy
 B. Emphysematous cholecystitis
 C. Cholangitis
 D. Cholecystic-enteric fistula
 E. Gallbladder hydropsia
83. Which disorder can cause gallbladder mucocele? 1. Impacted stone in the gallbladder neck or cystic duct; 2. Spontaneously resolved acute cholecystitis; 3. Tumors of the CBD; 4. Extrinsic compression of cystic duct by lymph nodes; 5. Ascending cholangitis. Choose the correct combination.
 A. 1, 2, 3
 B. 2, 3, 5
 C. 3, 4, 5
 D. 1, 2, 4
 E. 1, 4, 5
84. Which statement concerning gallbladder hydrops is WRONG?
 A. Acute inflammation is absent
 B. A large, painful gallbladder is found on physical examination
 C. Laboratory test are normal
 D. Ultrasonography of the RUQ shows an impacted stone in the neck of an enlarged gallbladder
 E. Intraoperatively, the aspirate from the gallbladder is clear fluid (white bile)
85. The gallbladder hydrops may develop all complication, listed below EXCEPT:
 A. Empyema of the gallbladder
 B. Perforation of the gallbladder
 C. Gastric outlet obstruction
 D. Cholecystenteric fistula
 E. GIT bleeding
86. Calculous cholecystitis may develop biliodigestive fistula, which can cause gallstone ileus. In this case fistula is a connection between gallbladder and..? 1. Duodenum; 2. Sigmoid colon; 3. Transversus colon; 4. Stomach; 5. Bladder. Choose the correct combination.
 A. 1, 2, 3
 B. 1, 3, 4
 C. 3, 4, 5
 D. 1, 2, 5
 E. 2, 4, 5
87. What hormone produces β -cells of pancreatic gland:

- A. Somatostatin;
 B. Somatotropin;
 C. Insulin;
 D. Glucagon;
 E. Pancreozymin.
88. Which ethiological factors causes acute pancreatitis most oftenly?
 A. Abdominal trauma, alimentary factor;
 B. Gallstones, alcohol;
 C. Hypercalcemia, hyperlipidemia;
 D. Drugs, toxins;
 E. ERCP, sphincter of Oddi disfunction.
89. Which thesis is correct according to pathogenesis of acute pancreatitis?
 A. Intrapancreatic enzyme's activation;
 B. Pancreatic gland autolysis;
 C. Neutrophils chemoactivation, infiltration and inflammation;
 D. SIRS;
 E. All are correct.
90. A 52-year-old male, without alcohol history, admitted to hospital with acute pain in epigastrium, radiating to the back. Amylase level elevated. Which radiological findings will help diagnosing acute pancreatitis?
 A. Changes in liver on CT scans;
 B. Choledocholithiasis on US;
 C. Stomach shifted anteriorly on contrast examination of GIT;
 D. Cloiber cups on plain abdominal film;
 E. Air below diaphragm on plain abdominal film.
91. What is the volume of pancreatic juice produced in 24 hours?
 A. 200-500 ml;
 B. 100-200 ml;
 C. 500-1000 ml;
 D. 700 ml;
 E. 2500 ml
92. What instrumental examination should be performed to diagnose necrotizing pancreatitis?
 A. US;
 B. ECRP;
 C. Plain abdominal film;
 D. Blood gases;
- E. CT.
93. A 60-year-old alcoholic is admitted to the hospital with a diagnosis of acute pancreatitis. Upon admission, his white blood cell (WBC) count is $21 \times 10^9/l$. His lipase, lactate dehydrogenase and aspartate aminotransferase are elevated, blood glucose is 10 mmol/L. Which of the following is TRUE?
 A. This patient is expected to have a mortality rate of less than 5%
 B. The patient's lipase level is not important indication of prognosis
 C. This patient requires immediate surgery
 D. A venous blood gas would be helpful in assessing the severity of illness in this patient
 E. A serum calcium level of 1.7 mmol/L on the second hospital day is a bad prognostic sign
94. A 40-year-old alcoholic male is admitted with severe epigastric pain radiating to the back. Serum amylase level is reported as normal (fluoroscopic method), but serum lipase is elevated. The serum is noted to be milky in appearance. A diagnosis of pancreatitis is made. The serum amylase is normal because:
 A. The patient has chronic renal failure
 B. The patient has hyperlipidemia
 C. The patient has alcoholic cirrhosis
 D. The patient has alcoholic hepatitis
 E. The diagnosis of pancreatitis is incorrect
95. A 57-year-old woman is admitted to the hospital with abdominal pain. She reports that she drinks alcohol only at social occasions. The amylase is elevated to 120 mmol/l. Which following x-ray finding would support a diagnosis of acute pancreatitis?
 A. Hepatic lesion on CT scan
 B. Gas in abdominal cavity
 C. Dilated colon transversum
 D. Large loop of colon in the RUQ
 E. Irregular cutoff of the CBD on cholangiogram

96. Following a motor vehicle accident a truck driver complains of severe abdominal pain. Serum amylase level is markedly increased to 400 mmol/l. Grey Turner's sign is seen in the flanks. Pancreatic trauma is suspected. Which statement is true of pancreatic trauma?
- It is often caused by blunt injuries
 - It is usually an isolated single-organ injury
 - It often requires a total pancreatectomy
 - It may easily diagnosed at operation
 - It is proved by the mildly elevated amylase level
97. The severity of pancreatitis can be estimated with:
- Ranson Criteria
 - Alvarado scale
 - US examination results
 - SOFA scale
 - CXR
98. Clinical staging (Atlanta consensus) of acute pancreatitis consists of the following forms of the disease: 1. Pseudotumorous pancreatitis. 2. Mild acute pancreatitis. 3. Sterile pancreonecrosis. 4. Infected pancreonecrosis. 5. Pseudocyst of the pancreas. Select the correct combination of answers:
- 2,3,4
 - 1,2,3,5
 - 3,4
 - 2,3,4,5
 - All correct
99. Enzyme toxemia in case of pancreonecrosis is caused by: 1. Trypsin. 2. Phospholipase A2. 3. Chymotrypsin. 4. Elastase. 5. Enterokinase. Select the correct combination of answers:
- 1,4
 - 2,3,5
 - 1,2,3,4
 - 1,3,4,5
 - All correct
100. A 45-year-old male admitted to the surgical department with severe pain in epigastrium with irradiation to the back, which develops after alcohol consumption. Acute pancreatitis was diagnosed. The patient was performed CT scan: pancreatic enlargement. What is the stage of acute pancreatitis according to CT picture?
- Grade A
 - Grade B
 - Grade C
 - Grade D
 - Grade E
101. Acute pancreatitis is most rarely seen in:
- > 60 years old women
 - 21-45 years old men
 - 45-60 years old women
 - 45-60 years old men
 - Children
102. How peritoneum covers pancreatic gland?
- From all sides
 - From anterior and posterior sides
 - From anterior and inferior sides
 - Covers only anterior surface of the gland
 - Covers anterior and posterior sides only of the head of the gland
103. For clinical picture of acute pancreatitis are typical all signs except:
- Continuous severe pain located in the epigastrium and/or left upper quadrant
 - The pain irradiates to the back
 - Multiple vomiting
 - Paralytic ileus
 - Absence of liver dullness
104. In differential diagnosis of acute pancreatitis and acute bowel obstruction will be usefull: 1. CBC; 2. Liver enzymes serum levels; 3. Serum amylase and lipase levels; 4. Plain abdominal film; 5. Serum electrolytes. Choose best combination.
- 1, 2
 - 2, 3
 - 3, 4
 - 1, 5
 - 2, 5
105. Choose changes in biochemical test typical for patients with acute pancreatitis: 1. Hypertriglyceridemia; 2. Hyperglycemia; 3.

Hypercalcemia; 4. Hypotriglyceridemia; 5. Hypocalcemia.

- A. 1, 2, 5
- B. 1, 3, 4
- C. 2, 3, 4
- D. 3, 4, 5
- E. 1, 2, 4

106. Most common cause of death in early acute pancreatitis is?

- A. Renal failure
- B. Cardiac failure
- C. Respiratory failure
- D. Uncontrolled coagulopathy
- E. Sepsis

107. Severity of acute pancreatitis correlate with levels of all of the following except

- A. Glucose
- B. Amylase
- C. Transaminase
- D. Calcium
- E. WBC level

108. A 60-year-old female treated in surgical department for acute pancreatitis. On 30 day of treatment in epigastrium appeared mass 10 cm in diameter. CBC: RBC – $3,7 \cdot 10^{12}/l$, WBC – $10 \cdot 10^9/l$. US examination: fluid collected near the head of the pancreatic gland. What complication of acute pancreatitis developed in this case?

- A. Postnecrotic pseudocyst;
- B. Retroperitoneal phlegmone;
- C. Enzyme peritonitis;
- D. Pancreatic abscess;
- E. Cancer of the head of the pancreas.

109. A 45-year-old male treated in surgical department for acute pancreatitis during 28 days. He started to complain for the temperature elevation to $39^{\circ}C$, weakness, fatigue. CBC: RBC – $3,5 \cdot 10^{12}/l$, WBC – $21 \cdot 10^9/l$. CT: 11 cm in diameter fluid collected near the head of the pancreatic gland. What complication of acute pancreatitis developed in this case?

- A. Postnecrotic pseudocyst;
- B. Retroperitoneal phlegmone;
- C. Enzyme peritonitis;

- D. Pancreatic abscess;
- E. Cancer of the head of the pancreas.

110. The early complications of acute pancreatitis are all, except:

- A. Pancreatic shock;
- B. Acute respiratory distress syndrome;
- C. Enzyme peritonitis;
- D. Renal failure;
- E. Pancreatic fistula.

111. When infection complications of acute pancreatitis develops most oftenly?

- A. On 7-th day of disease;
- B. After 2 weeks;
- C. On 4-th day of disease;
- D. After 6 months;
- E. On 2-nd day of disease.

112. Treatment of acute pancreatitis includes all EXCEPT:

- A. Diuretics;
- B. Antibiotics;
- C. Intravenous hydration;
- D. Analgesics;
- E. Nothing per os.

113. A 24-year-old college student recovers from a bout of severe pancreatitis. He has mild epigastric discomfort, sensation of bloating, and loss of appetite. Examination reveals an epigastric fullness that on ultrasound is confirmed to be a pseudocyst. The swelling increases in size over a 3-week period of observation to 15 cm in diameter. What should be the next step in management?

- A. Percutaneous drainage of the cyst
- B. Laparotomy and internal drainage of the cyst
- C. Excision of pseudocyst
- D. Total pancreatectomy
- E. Administration of pancreatic enzymes

114. A 42-year-old woman with a history of chronic alcoholism is admitted to the hospital because of acute pancreatitis. The bilirubin and amylase levels are in the normal range. An ultrasound reveals cholelithiasis (stones in the gallbladder, CBD 6 mm in diameter). The symptoms

- decreased on the fifth day after admission. What should she be advised?
- To start on a low-fat diet at home
 - To increase the fat content of her diet
 - To undergo immediate cholecystectomy
 - To undergo cholecystectomy during the same hospital stay as well as an assessment of her bile ducts
 - That she will be discharged and should undergo elective cholecystectomy after 3 months
115. A 26-year-old woman with a known history of chronic alcoholism is admitted to the hospital with severe abdominal pain due to acute pancreatitis. The serum and urinary amylase levels are elevated. On the day following admission to the hospital, there is no improvement, and she has a mild cough and slight dyspnea. What is the most likely complication?
- Pulmonary atelectasis
 - Bronchitis
 - Pulmonary embolus
 - Afferent loop syndrome
 - Pneumonia
116. The most often cause of death in case of destructive pancreatitis is:
- Pulmonary embolism
 - Mechanical jaundice
 - Peritonitis
 - Septic complications
 - Renal failure
117. 30-year-old man hospitalized with a severe epigastric pain. During examination: hypoxemia, dehydration. Laboratory tests: increased levels of amylase and lipase in the blood. CT confirmed severe acute pancreatitis. Which antibiotic will reduce the risk of infection?
- Ampicillin
 - Erythromycin
 - Gentamicin
 - Ceftriaxon
 - Imipenem/cilastatin
118. 45-year-old man who abused alcohol, admitted to the hospital complaining of abdominal pain, nausea, vomiting. Body temperature 36,8°C. At palpation: defined tumor in the epigastrium. Laboratory tests: pancreatic amylase normal. On the second day in the hospital CT was held: 9 cm pseudocyst of pancreas was found. Which statement regarding this patient is correct?
- Pseudocyst can cause compression of stomach and biliary ducts
 - Spontaneous resorption never met
 - Pseudocyst can be seen only in case of acute pancreatitis
 - In this case pseudocyst doesn't need any treatment
 - Malignant degeneration occurs in 25% of cases, if untreated
119. Which drug is used to suppress the secretion of the pancreas?
- Aprotinin
 - Octreotide
 - Papaverine
 - Imipenem/cilastatin
 - Acetaminophen
-
120. Which drug is used to inhibit proteases?
- Aprotinin
 - Octreotide
 - Papaverine
 - Imipenem/cilastatin
 - Acetaminophen
-
121. Which statement concerning medical treatment of patient with acute pancreatitis on early phase (first 3-5 days) is WRONG?
- Patients are kept "nothing per os"
 - Aggressive fluid resuscitation is critically important
 - Antibiotics should be used in any case of acute pancreatitis
 - Imipenem/cilastatin is indicated to prevent infection in patients with pancreatic necrosis
 - Early initiation of enteral nutrition is important in treatment and infection prevention

122. Name the source of infection in patients with necrotizing pancreatitis?
- Pulmonary infection
 - Bacterial translocation from gut
 - Skin infection
 - Urinary infection
 - Nosocomial infection
123. A 44-year-old woman is admitted to the hospital because of acute pancreatitis. Biochemical test: bilirubin – 45 mcmol/l. An ultrasound reveals stones in gallbladder and CBD 14 mm in diameter. MRCP: 8 mm stone in the distal part of CBD, which is dilated to 14 mm. What should be the first step in the treatment of patient?
- Whipple procedure
 - Distal resection of the pancreas
 - Sphincterotomy and stone extraction
 - Only medical treatment
 - Urgent cholecystectomy
124. A 47-year-old man with a known history of chronic alcoholism is admitted to the hospital with severe abdominal pain due to acute pancreatitis. His general condition worsens in first 48 hours. CBC: RBC – $4,4 \cdot 10^{12}/l$, WBC – $11,2 \cdot 10^9/l$. On second series of CT scans rapid increase in retroperitoneal fluid accumulation was found. Which complication of necrotizing pancreatitis develops in this case?
- Enzyme peritonitis
 - Retroperitoneal bleeding
 - Pancreatic duct disruption
 - Retroperitoneal phlegmon
 - Pancreatic abscess
125. Choose the **WRONG** statement concerning pseudocyst definition:
- Peripancreatic fluid collection persisting for more than 4 weeks
 - Pseudocyst lack an epithelial layer
 - Most of them are filled with necrotic debris
 - Intervention (minimally invasive or conventional) should be performed in case of pseudocyst complications development
 - In all cases pseudocysts should be treated with conventional surgery
126. Which sign is not associated with peptic ulcer perforation:
- Sudden onset;
 - Positive Blumberg sign;
 - Free air below diaphragm on plain abdominal film;
 - Cloiberg caps;
 - Intolerable abdominal pain.
127. Which ethiological factors causes peptic ulcer disease most oftenly?
- Abdominal trauma, alimentary factor;
 - H. pylori, NSAID's;
 - H. pylori, hyperlipidemia;
 - Drugs, toxins;
 - NSAID's, gastrinoma.
128. A 30-year-old male is operated on for peptic ulcer perforation, in 2,5 hours after the beginning of the disease. Which operation will be most efficient (radical operation for peptic ulcer)?
- Simple closure and highly selective vagotomy;
 - Simple closure with a Graham patch using omentum;
 - Simple closure;
 - Antrumectomy;
 - Stomach resection.
129. A 42-year-old male, with previous ulcer history and typical clinical picture of peptic ulcer perforation, on examination, in 4 hours after the beginning of the disease, discomfort in right upper quadrant, heart rate – 74/min., mild abdominal wall muscles rigidity, negative Blumberg sign. Free air below diaphragm on X-ray abdominal film. What is your diagnosis?
- Peptic ulcer recurrence;
 - Acute cholecystitis;
 - Covered peptic ulcer perforation;
 - Chronic cholecystitis;
 - Acute appendicitis (subhepatic location).
130. Most oftenly perforated peptic ulcers are located at:
- Posterior wall of antrum;
 - Cardiac part of stomach;

- C. Fundus of stomach;
 D. Posterior wall of duodenal bulb;
 E. Anterior wall of duodenal bulb.
131. Penetrated ulcer can cause such complications: 1). Abdominal abscess; 2). Portal pyelophlebitis; 3). Stomach-organ fistula; 4). Acute pancreatitis; 5). Bleeding.
 A. 1, 2, 3;
 B. 2, 3, 5;
 C. 3, 4, 5;
 D. 1, 3, 5;
 E. All.
132. A 45-year-old man complains of burning epigastric pain that wakes him up at night. The pain is relieved by eating or using over-the-counter antacids and H2 blockers. Diagnosis is best confirmed by which of the following?
 A. Urea breath test
 B. Serum gastrin levels
 C. Barium meal examination
 D. Upper endoscopy
 E. Upper endoscopy and biopsy
133. A 44-year-old dentist complains of burning epigastric pain that wakes him up at night caused by a recurrent duodenal ulcer. He has shown considerable improvement following operative treatment by a truncal vagotomy and pyloroplasty, 10 years prior to this incident. Which is TRUE of truncal vagotomy?
 A. It is performed exclusively via the thorax
 B. It can be performed in the neck
 C. If complete, it will result in increased acid secretion
 D. It requires a gastric drainage procedure
 E. It has been abandoned as a method to treat ulcer disease.
134. A 42-year-old executive has refractory chronic duodenal ulcer disease. His physician has suggested several surgical options. The patient has chosen a parietal (highly selective) vagotomy instead of a truncal vagotomy and antrectomy because?
 A. It results in a lower incidence of ulcer recurrence
 B. The complication rate is lower
 C. It reduces acid secretion to a greater extent
 D. It benefits patients with antral ulcers the most
 E. It includes removal of the ulcer
135. A 63-year-old woman is admitted to the hospital with severe abdominal pain of 3-hour duration. Abdominal examination reveals board-like rigidity, guarding, and rebound tenderness. Her blood pressure is 90/50 mm Hg, pulse 110 bpm (beats per minute), and respiratory rate is 30 breaths per minute. After a thorough history and physical, and initiation of fluid resuscitation, what diagnostic study should be performed?
 A. Supine abdominal x-rays
 B. Upright chest x-ray
 C. Gastrograffin swallow
 D. Computerized axial tomography (CAT) scan of the abdomen
 E. Abdominal sonogram
136. A frail elderly patient is found to have an anterior perforation of a duodenal ulcer. He has a recent history of nonsteroidal anti-inflammatory drug (NSAID) use and no previous history of peptic ulcer disease. A large amount of bilious fluid is found in the abdomen. What should be the next step?
 A. Lavage and omental patch closure of the ulcer
 B. Lavage of the peritoneal cavity alone
 C. Total gastrectomy
 D. Lavage, vagotomy, and gastroenterostomy
 E. Laser of the ulcer
137. Name 3 main signs of perforated peptic ulcer?
 A. Abdominal pain, multiple vomiting, distention of abdominal cavity
 B. Increasing abdominal pain, meteorism, peritonitis
 C. Ulcer in past medical history, sudden abdominal pain, board-like rigidity

- D. Ulcer in past medical history, pain in the epigastrium, which gradually increases, peritonitis
E. Abdominal pain, pale and cold skin, low BP
138. A 63-year-old male patient admitted to hospital with complaints of general weakness, dizziness, temporary loss of consciousness. For last three years patient was complaining of pain in epigastric area, specially at night, heartburn. Medical examination was not performed. 2 weeks before hospitalization, patient complaint of intense pain in epigastrium. On the day of hospitalization encountered severe weakness, nausea, dizziness, twice black stool with a rotten odor and twice lost of consciousness. CBC: hemoglobin – 91 g/l, RBC – $2,3 \times 10^9/l$. Make the diagnosis?
A. Bleeding from duodenal ulcer;
B. Stomach cancer complicated with bleeding;
C. Acute pancreatitis;
D. Myocardial infarction;
E. Esophageal varices.
139. 63-year-old patient admitted with massive vomiting with blood, which started suddenly. Previous history of viral hepatitis. On examination: caput medusae, enlarged liver and spleen. What is the cause of bleeding?
A. Erosive gastroduodenitis;
B. Peptic ulcer disease complicated with bleeding;
C. Esophageal varices;
D. Mallory-Weiss syndrome;
E. Gastric cancer.
140. Choose the most efficient diagnostic method in case of peptic ulcer disease complicated with bleeding:
A. Abdominal plain film;
B. Ultrasound;
C. CT scanning;
D. Endoscopy;
E. Laparoscopy.
141. In patient suffering from peptic ulcer disease the risk of bleeding is highest in case of:
A. Ulcer perforation;
B. Gastric outlet obstruction;
C. Penetration;
D. Ulcer malignization;
E. In all cases.
142. During endoscopy on the proximal 1/3 of lesser curvature of stomach the large ulcer (3x3 cm) with profuse arterial bleeding was visualized. Name the bleeding vessel.
A. Right gastric artery;
B. Left gastric artery;
C. Left gastroepiploic artery;
D. Right gastroepiploic artery;
E. Short gastric arteries.
143. 53-year-old patient, alcoholic, complaining for hematemesis that follows episodes of intense vomiting. During endoscopy: liner tears below the gastroesophageal junction. Make the diagnosis?
A. Peptic ulcer complicated with bleeding;
B. Mallory-Weiss syndrome;
C. Esophageal varices;
D. Dieulafoy's lesion;
E. Gastritis.
144. Name most often cause of GIT bleeding?
A. Peptic ulcer;
B. Liver cirrhosis;
C. Portal hypertension;
D. Colon diseases;
E. Esophagus diseases.
145. The main complication of GIT bleeding is?
A. Renal insufficiency;
B. Liver failure;
C. CNS hypoxia;
D. Hypovolemic shock;
E. Centralization of circulation.
146. What is the most efficient and safe method of bleeding stress ulcers treatment?
A. Stomach resection;
B. Sengstaken-Blackmore tube;
C. Combination of hemostatic and anti-acid treatment;

- D. Endoscopic coagulation;
E. Gastrotomy and suturing of the vessels.
147. Peptic ulcer complicated with bleeding is associated with such clinical signs: 1). Increase of the pain; 2). Coffee ground vomitus; 3). Decrease of the pain; 4). Bradycardia; 5). Melena
A. 1, 2, 3;
B. 2, 3, 5;
C. 3, 4, 5;
D. 1, 3, 4;
E. All.
148. A 68-year-old woman has been diagnosed with a benign ulcer on the greater curvature of her stomach, 5 cm proximal to the antrum. After 3 months of standard medical therapy, she continues to have guaiac positive stool, anemia, and abdominal pain with failure of the ulcer to heal. Biopsies of the gastric ulcer have not identified a malignancy. The next step in management is which of the following?
A. Treatment of the anemia and repeat all studies in 6 weeks
B. Endoscopy and bipolar electrocautery or laser photocoagulation of the gastric ulcer
C. Admission of the patient for total parenteral nutrition (TPN), treatment of anemia, and endoscopic therapy
D. Surgical intervention, including partial gastric resection
E. Surgical intervention, including total gastrectomy
149. A healthy 75-year-old man bleeds from a duodenal ulcer. Medical management and endoscopic measures fail to stop the bleeding. What is the next step in management?
A. Continued transfusion of 8 U of blood
B. Oversewing of the bleeding point, vagotomy, and pyloroplasty
C. Oversewing of the bleeding point
D. Administration of norepinephrine
E. Hepatic artery ligation
150. A 73-year-old woman is admitted to the hospital with a mild UGI hemorrhage that stopped spontaneously. She did not require transfusion. She had ingested large amounts of aspirin in the past 4 months to relieve the pain caused by severe rheumatoid arthritis. Endoscopy confirms the presence of a duodenal ulcer. A biopsy is done. What is the next step in the management of a duodenal ulcer associated with a positive biopsy for *H. pylori*?
A. H2 blockers
B. Bipolar electrocautery of the ulcer
C. Triple therapy
D. Photocoagulation
E. Elective surgery
151. An 80-year-old grandfather gets admitted to the hospital for a UGI bleed. He undergoes upper endoscopy and bleeding ulcer is visualized. Attempts at endoscopic cauterization and epinephrine injection are unsuccessful at stopping the bleeding. A previous attempt at angioembolization was also unsuccessful. What is the next definitive step in therapy?
A. Elective surgery
B. PPI IV
C. Blood transfusion
D. Repeated attempts at bipolar electrocautery
E. Emergency surgery
152. A 54-year-old man presents with a massive UGI bleed. After resuscitation, endoscopy is performed. No esophageal varices, gastritis, or gastric ulcers are seen. After irrigation, a pinpoint lesion is seen near the gastro-esophageal junction. Make the diagnosis?
A. Mallory-Weiss syndrome
B. Dieulafoy's lesion
C. Carcinoma
D. Gastro-intestinal stromal tumor
E. Telangiectasia
153. A 54-year-old man presents with a massive UGI bleed. After resuscitation, endoscopy is performed. No esophageal varices, gastritis, or gastric ulcers are seen. After irrigation, a pinpoint lesion is seen near the gastro-esophageal

- junction. What can be said about this disease?
- It is a carcinoid
 - It is related to alcohol use
 - It is exclusively a mucosal lesion
 - Surgery is first-line therapy
 - Bleeding is from a submucosal vessel
154. The most efficient noninvasive diagnostic method for small bowel obstruction is:
- Plain abdominal film;
 - Laparoscopy;
 - Irrigography;
 - Colonoscopy;
 - Ultrasound examination.
155. Medical therapy will be effective in cases of bowel obstruction caused by:
1. Volvulus; 2. Cancer of colon; 3. Paralytic ileus; 4. Spastic bowel obstruction; 5. Coprostasis.
- 1, 2, 3;
 - 2, 3, 4;
 - 3, 4, 5;
 - 1, 2, 5;
 - 1, 2, 4.
156. The signs of strangulation are: 1. Acute onset of disease; 2. Severe abdominal pain; 3. Slow beginning; 4. Dull pain; 5. Dilated small intestine loops with air/fluid levels on plain abdominal film.
- 4, 5;
 - 1, 3, 4;
 - 3, 4, 5;
 - 1, 2, 5;
 - 2, 3, 5.
157. The signs of obturation are: 1. Acute onset of disease; 2. Severe abdominal pain; 3. Slow beginning; 4. Dull pain; 5. Dilated air-filled colon on plain abdominal film.
- 1, 2, 3;
 - 3, 4, 5;
 - 1, 4, 5;
 - 2, 3, 5;
 - 1, 2.
158. Patient with bowel obstruction is complaining for blood in the stool. What is your diagnosis?
- Intussusception;
 - Paralytic ileus;
 - Volvulus;
 - Hernia incarceration;
 - Spastic bowel obstruction.
159. For low large bowel obstruction are characteristic all signs except:
- Slow beginning;
 - Abdominal distension;
 - Cloiberg caps on plain abdominal film;
 - Absence of stool;
 - Acute dehydration.
160. Surgical treatment in case of acute bowel obstruction is indicated in cases: 1. Electrolyte disbalance. 2. Abdominal cramps. 3. Strangulation. 4. Obstruction has not resolved within 24-48 hours of conservative treatment 5. Multiple air-fluid level on plain abdominal film.
- 1, 2;
 - 3, 4;
 - 3, 5;
 - 4, 5;
 - 2, 3.
161. A 42-year-old woman is admitted to the emergency department with severe colicky pain, vomiting, and abdominal distention. She has not passed stools or flatus for 48 hours. X-rays of the abdomen confirm the presence of small bowel obstruction. What is the most likely cause of small-bowel obstruction in the patients?
- Adhesions, inflammatory diseases;
 - Helminths, tumors;
 - Groin hernia incarceration, adhesions;
 - Gallstones, tumors;
 - Tumors, groin hernia.
162. Most often small bowel obstruction is caused by:
- Adhesions, inflammatory diseases;
 - Helminths, tumors;
 - Groin hernia incarceration, adhesions;
 - Gallstones, tumors;
 - Tumors, groin hernia.
163. An elderly nursing home patient is brought to the hospital with recent onset of

- colicky abdominal pain, distension and obstipation on examination, the abdomen is markedly distended and tympanitic. There is no marked tenderness. Plain abdominal x-ray shows a markedly distended loop located mainly in the right upper quadrant. The likely diagnosis is:
- Small-bowel obstruction;
 - Chron's disease;
 - Gallstone ileus;
 - Mesenteric vascular occlusion;
 - Sigmoid volvulus.
164. 56-year-old patient admitted to the surgical department with complaints of abdominal pain, repeated vomiting, which does not bring relief. The pain starts 2 hours before admission, after consumption of large amount of food. Patient anxious, pale skin, acrocyanosis, pulse 120 bpm, BP 90/60 mmHg. Abdomen moderately distended in the epigastric region, in the lower parts – sink in. On palpation: tenderness in the epigastrium. On percussion: tympanic sound in the epigastric region, increased peristalsis. On plain abdominal film dilated small intestinal loops. Make diagnosis?
- Peptic ulcer perforation
 - Groin hernia incarceration
 - Acute pancreatitis
 - Small intestine volvulus
 - Bowel obstruction caused by the tumor of large intestine
165. Which sign is characterized by rebound tenderness over the site of abnormality in patients with peritonitis?
- Kocher's sign;
 - Blumberg's sign;
 - Murphy's sign;
 - Pasternatski's sign;
 - Cullen's sign.
166. What is the leading etiological factor causing spontaneous bacterial peritonitis?
- Candida albicans;
 - Streptococcus pyogenes;
 - Staphylococcus aureus;
 - Escherichia Coli;
 - Pseudomonas aeruginosa.
167. Name the scoring system which helps surgeon to make the prognosis in case of peritonitis?
- Manheim index;
 - APACHE II;
 - ONTARIO Score;
 - EuroSCORE;
 - SOFA.
168. A 68-year-old woman is admitted with an acute surgical abdomen. After resuscitation with IV crystalloids fluids and administration of antibiotics, she is taken for an immediate laparotomy. Perforated diverticulitis of the sigmoid colon is found. The sigmoid colon is inflamed but mobile and the mesentery contains a perforated abscess. The best operation for this patient would be:
- Insertion of a drain in the abscess;
 - Sigmoid resection including the abscess and primary colon-to-colon anastomosis;
 - Sigmoid loop colostomy;
 - Left hemicolectomy;
 - Sigmoid resection and end sigmoid colostomy and oversew the rectum (Hartmann procedure).
169. Which statement is wrong concerning primary microbial peritonitis?
- Occurs without perforation of a hollow viscus;
 - Occurs with perforation of a hollow viscus;
 - Caused by direct seeding of microorganisms;
 - Seeding of microorganisms via bacterial translocation from the gut;
 - Seeding of microorganisms via hematogenous dissemination.
170. Which statement is wrong concerning secondary microbial peritonitis?
- Occurs subsequent to perforation of a hollow viscus;
 - Endogenous microbes spill out into the peritoneal cavity;
 - Even after timely surgical intervention and preemptive antibiotic therapy, about 15-30% of patients demonstrate

- ongoing infection consisting of recurrent secondary microbial peritonitis, intraabdominal abscess, or tertiary microbial peritonitis.
- D. Perforation of the colon is associated with lower infection rates;
- E. Patients who develop secondary microbial peritonitis should undergo surgery to alleviate the source of ongoing peritoneal soilage.
171. Which examination would be most efficient in finding the cause for secondary bacterial peritonitis?
- A. Laparoscopy;
- B. Plain abdominal film;
- C. Ultrasound;
- D. CT scan;
- E. Level of CRP.
172. One of the listed below diseases didn't cause secondary peritonitis
- A. Acute cholecystitis;
- B. Destructive appendicitis;
- C. Acute cholangitis;
- D. Bowel obstruction;
- E. Mesenteric infarction
173. Choose the clinical sign, not typical for acute peritonitis:
- A. Tachycardia;
- B. Positive Blumberg sign;
- C. Muscles rigidity;
- D. Paralytic ileus;
- E. Positive Ortner sign
174. Select the method of instrumental examination, which is not suitable for localization of intra-abdominal abscesses:
- A. US;
- B. Colonoscopy;
- C. CT;
- D. MRI;
- E. Laparoscopy
175. Specify the main microorganisms, which are identified in the abdominal cavity of patients with purulent peritonitis:
- A. Monomicrobial;
- B. Gram-positive microorganisms domination;
- C. Gram-negative microorganisms domination;
- D. Staphylococcus;
- E. Streptococcus
176. Choose a reason for the use of metronidazole as a component of antibacterial therapy of patients with diffuse peritonitis?
- A. Elimination of anaerobic bacteria;
- B. Elimination of gram-positive flora;
- C. Elimination of gram-negative flora;
- D. Elimination of [fungal infections](#);
- E. Antiprotozoal antibiotic
177. For the clinical course of acute peritonitis three stages are typical. Choose the correct combination: 1. Subclinical; 2. Reactive; 3. Toxic; 4. Septic; 5. Terminal:
- A. 1, 2, 3;
- B. 2, 3, 4;
- C. 1, 2, 5;
- D. 3, 4, 5;
- E. 2, 3, 5
178. For clinical picture of subdiaphragmatic abscess is typical everything except:
- A. Reduction of pulmonary respiratory excursions;
- B. Elevation of diaphragm dome;
- C. Reactive pleural effusion;
- D. Leukocytosis;
- E. Hematemesis
179. Name the walls of inguinal canal: 1. Inguinal ligament; 2. External oblique abdominal m. aponeurosis; 3. Transversalis fascia; 4. Round ligament of the uterus; 5. M. rectus abdominis; 6. Spermatic cord; 7. M. [transversus abdominis](#), [internal oblique](#) abdominal m..
- A. 1, 2, 4, 5;
- B. 1, 2, 3, 7;
- C. 2, 3, 4, 5;
- D. 3, 4, 5, 6;
- E. 4, 5, 6, 7.
180. A 60-year-old male presents with an inguinal hernia of recent onset. Which of the following statements are TRUE?

- A. The hernia is more likely to be direct than indirect;
- B. Presents through the posterior wall of the inguinal canal, lateral to the deep inguinal ring;
- C. Is located lateral to epigastric vessels;
- D. Is more likely than a femoral hernia to strangulate;
- E. The sac is congenital.
181. A 70-year-old cigarette smoker presents with a right inguinal mass that has enlarged and has caused discomfort in recent months. The swelling, which does not extend to the scrotum, reduces when resting. What is the likely diagnosis?
- A. Strangulated indirect inguinal hernia;
- B. Direct inguinal hernia
- C. Hydrocele
- D. Aneurysm of the femoral artery;
- E. Cyst of the cord.
182. Name the best tension-free method for inguinal hernia repair.
- A. Bassini repair;
- B. Shouldice repair;
- C. Stoppa repair;
- D. Lichtenstein repair;
- E. McVay (Cooper's ligament) repair.
183. A 62-year-old male presents with an irreducible swelling and severe pain in the left groin. He had a known reducible hernia for 15 years prior to this. He had a bowel movement while in the emergency room. At surgery, a Richter's hernia was found. Which of the following statements is TRUE?
- A. It presents lateral to the rectus sheath;
- B. It presents through the lumbar triangle;
- C. It presents through the obturator foramen;
- D. It contains a Meckel's diverticulum;
- E. It may allow normal passage of stool.
184. At surgery for a right inguinal hernia, a 72-year-old man is found to have a hernia sac that is not independent of the bowel wall. The cecum forms part of the wall of the sac. Such a hernia is properly referred to as which of the following?
- A. Incarcerated;
- B. Irreducible;
- C. Sliding;
- D. Richter's;
- E. Interstitial.
185. Which nerves can be injured during surgery for repair of inguinal hernia: 1). Ilioinguinal n., 2). Pudendal n., 3). Iliohypogastric n., 4). Femoral n., 5). Popliteal n., 6). Genitofemoral n..
- A. 1, 3, 6
- B. 2, 3, 5
- C. 1, 2, 3
- D. 3, 5, 6
- E. 1, 5, 6
186. Which of the following structures would be encountered during repair of an inguinal hernia in a male?
- A. Spermatic cord;
- B. Round ligament;
- C. Obturator nerve;
- D. Symphysis pubis
- E. Nerve to the adductor muscles of the thigh.
187. In repair of a femoral hernia, the structure most vulnerable to major injury lies:
- A. Medially;
- B. Laterally;
- C. Anteriorly;
- D. Posteriorly;
- E. Superficially.
188. A 28-year-old professional football player has sudden pain and swelling in the right groin when attempting to intercept a pass. He is admitted to the local emergency department. On examination, there is a tender swelling in the right groin. The scrotum and penis show no abnormality. What is the next step in management?
- A. Needle aspiration to exclude hematoma;
- B. Forceful manual reduction;
- C. Laparotomy within 20 minutes;
- D. Preoperative preparation and exploration of the groin with hernia repair;
- E. Morphine and reevaluation within 12

hours

189. A 45-year-old man complains of burning epigastric pain that wakes him up at night. The pain is relieved by eating or using over-the-counter antacids and H₂ blockers. Diagnosis is best confirmed by which of the following?

- A. Urea breath test
- B. Serum gastrin levels
- C. Barium meal examination
- D. Ultrasound
- E. Upper endoscopy and biopsy

190. A 44-year-old patient has refractory chronic duodenal ulcer disease. His physician has suggested several surgical options. The patient has chosen a parietal (highly selective) vagotomy instead of a truncal vagotomy and antrectomy because?

- A. It results in a lower incidence of ulcer recurrence.
- B. It benefits patients with antral ulcers the most.
- C. It includes stomach resection.
- D. It left the nerve supply to pylorus intact (nerves of Latarjet).
- E. It includes removal of the ulcer.

191. A frail elderly patient is found to have an anterior perforation of a duodenal ulcer. He has a recent history of nonsteroidal anti-inflammatory drug (NSAID) use and no previous history of peptic ulcer disease. A large amount of bilious fluid is found in the abdomen. What should be the next step?

- A. Lavage of the peritoneal cavity alone
- B. Lavage and omental patch closure of the ulcer
- C. Total gastrectomy
- D. Lavage, vagotomy, and gastroenterostomy
- E. Laser of the ulcer

192. A 37-year-old man has had recurrent symptoms suggestive of peptic ulcer disease for 4 years. Endoscopy reveals an ulcer located on duodenum bulb. A mucosal biopsy reveals *Helicobacter pylori*. What is TRUE about *H. pylori*?

- A. Active organisms can be discerned by serology.

B. It is protective against gastric carcinoma.

C. It is associated with chronic gastritis.

D. It causes gastric ulcer but not duodenal ulcer.

E. It cannot be detected by the urea breath test.

193. A 68-year-old woman has been diagnosed with a benign ulcer on the greater curvature of her stomach, 5 cm proximal to the antrum. After 3 months of standard medical therapy, she continues to have guaiac positive stool, anemia, and abdominal pain with failure of the ulcer to heal. Biopsies of the gastric ulcer have not identified a malignancy. The next step in management is which of the following?

- A. Treatment of the anemia and repeat all studies in 6 weeks
- B. Endoscopy and bipolar electrocautery or laser photocoagulation of the gastric ulcer
- C. Admission of the patient for total parenteral nutrition (TPN), treatment of anemia, and endoscopic therapy
- D. Surgical intervention, including partial gastric resection
- E. Surgical intervention, including total gastrectomy

194. Over the past 6 months, a 60-year-old woman with long standing duodenal ulcer disease has been complaining of anorexia, nausea, weight loss and repeated vomiting. She recognizes undigested food in the vomitus. Examination and workup reveal dehydration, hypokalemia, and hypochloremic alkalosis. What is the most likely diagnosis?

- A. Carcinoma of the fundus
- B. Penetrating ulcer
- C. Pyloric obstruction due to cicatricial stenosis of the lumen of the duodenum
- D. ZES (Zollinger Ellison Syndrome)
- E. Anorexia nervosa

195. A 2-cm ulcer on the greater curvature of the stomach is diagnosed in a 70-year-old woman by a barium study. Gastric analysis to maximal acid stimulation shows achlorhydria. What is the next step in management?

- A. Antacids, H₂ blockers, and repeat barium study in 6 to 8 weeks
 B. Proton pump inhibitor (e.g., omeprazole)
 C. Prostaglandin E (misoprostol) and repeat barium study in 6 to 8 weeks
 D. Immediate elective surgery
 E. Upper endoscopy with multiple biopsies (at least 8 or 9) for the ulcer
196. A 9-year-old girl had multiple episodes of upper GI bleeding. Contrast enhanced CT scan showed multiple cavernous malformation surrounding the portal vein. She is admitted with severe hematemesis and melena. At birth, she had developed an infection around the umbilicus. What is the most likely site of bleeding?
 A. Mallory-Weiss tear of the lower end of the esophagus
 B. Duodenal varices
 C. Peptic ulcer
 D. Esophageal varices
 E. Meckel's diverticulum
197. A 43-year-old man with chronic hepatitis and liver cirrhosis is admitted with upper GI bleeding. He has marked ascites and shows multiple telangiectasias, liver palmar erythema, and clubbing. A diagnosis of bleeding esophageal varices secondary to portal hypertension is made. Portal pressure is considered elevated when it is above which of the following?
 A. 0.15 mm Hg
 B. 1.5 mm Hg
 C. 10 mm Hg
 D. 40 mm Hg
 E. 105 mm Hg
198. For how many segments the liver is divided?
 A. 11
 B. 9
 C. 8
 D. 7
 E. 5
199. Name the main vessels which forms portal vein
 A. Azygos veins
 B. Hepatic veins
 C. Superior mesenteric vein, inferior mesenteric vein
 D. Splenic vein + inferior mesenteric vein, superior mesenteric vein
 E. Splenic vein, superior mesenteric vein, inferior mesenteric artery
200. Budd-Chiari syndrome develops due to:
 A. Thrombosis of hemorrhoidal veins
 B. Thrombosis of hepatic veins
 C. Thrombosis of superior mesenteric vein
 D. Thrombosis of inferior mesenteric vein
 E. Thrombosis of splenic vein
201. The portal vein drains blood from the following organs, except:
 A. liver
 B. spleen
 C. pancreas
 D. small intestines
 E. stomach
202. What is the most common complication of portal hypertension:
 A. chronic pancreatitis
 B. obstructive jaundice
 C. hematochezia
 D. liver cirrhosis
 E. variceal hemorrhage
203. Determining the cause of portal hypertension involves all except (choose one wrong answer):
 A. chronic fever
 B. history of alcohol abuse
 C. umbilical infection
 D. history of blood transfusions, intravenous drug use (hepatitis B and C)
 E. history of jaundice
204. Signs of portosystemic collateral formation include the following: 1. Dilated veins in the anterior abdominal wall (umbilical epigastric vein shunts) 2. Venous pattern on the flanks (portal-parietal peritoneal shunting) 3.

Paraumbilical hernia 4. Rectal hemorrhoids 5. Ascites - Shifting dullness and fluid wave 6. Caput medusa (tortuous collaterals around the umbilicus). Choose the correct combination of answers:

- A. 2, 3, 5, 6.
- B. 1, 2, 3, 5, 6.
- C. 1, 2, 4, 6.
- D. 2, 4, 5, 6.
- E. 1, 2, 4, 5, 6.

205. US features suggestive of hepatic cirrhosis with portal hypertension include the following: 1. nodular liver surface or nodular regenerative hyperplasia. 2. enlarged IVC. 3. splenomegaly. 4. "portal" gastropathy. 5. ascitis. 6. portal vein cavernous formation. Exclude false answers:

- A. 3, 4, 6.
- B. 2, 4.
- C. 2, 4, 6.
- D. 1, 2, 4.
- E. 1, 3, 5.

206. Name scoring system used to evaluate severity of liver cirrhosis:

- A. APACHE II
- B. Glasgow score
- C. Child-Pugh scoring system
- D. Ranson Criteria
- E. Alvorado score

207. To evaluate liver function abnormalities all listed below laboratory test should be performed, except:

- A. Viral hepatitis serologies
- B. Platelet count
- C. Prothrombin time
- D. Albumin
- E. Liver function tests

208. All patients with cirrhosis should be considered for the presence of varices at the time of the initial diagnosis of cirrhosis. Gastroesophageal varices confirm the diagnosis of portal hypertension. What examination is the most reliable in revealing the varices:

- A. antegrade cholangiogram
- B. liver-spleen scan (with technetium sulfur colloid)

- C. US investigation with Duplex-Doppler
- D. upper GI endoscopy
- E. hepatic venous pressure gradient (HVPG) measurement

209. Patient with 10-year history of hepatitis C is admitted to emergency department with massive GI bleeding. Within admission there were signs of rebleeding, but patient complains on severe weakness and dizziness. What complications can develop in this case : 1. hepatic encephalopathy, 2. bronchial aspiration, 3. renal failure, 4. portal vein thrombosis, 5. acute liver necrosis.

- A. 1, 3, 4.
- B. 1, 3, 5.
- C. 1, 2, 3.
- D. 2, 3, 5.
- E. 2, 4, 5.

210. 62-year old man with long history of liver cirrhosis developed massive variceal bleeding. Physician performed upper endoscopy and variceal bleeding was confirmed. First attempt of endoscopic variceal ligation failed. Balloon-tube tamponade was considered to stop the bleeding. For how long Balloon-tube tamponade is allowed?

- A. 6-9 h
- B. up to 24 h
- C. only within resuscitation
- D. 1-2 h
- E. 2-3 days

211. Choose wrong statement concerning blood supply of liver:

- A. The liver receives a dual blood supply from both the portal vein and the hepatic artery
- B. 75% of flow from the portal vein and 25% from the hepatic artery
- C. Venous drainage is via the hepatic veins, which drain directly into the inferior vena cava
- D. Portal flow is increased by food intake
- E. The liver receives blood supply only from the proper hepatic artery

212. Under the normal conditions per 24 hours the liver produces bile in the volume:

- A. 50-100 ml
- B. 150-200 ml
- C. 1500-2000 ml
- D. 600-1000 ml
- E. 2000-2500 ml

213. Choose the reasons which cause presinusoidal (prehepatic) portal hypertension: 1. Budd–Chiari syndrome; 2. Viral hepatitis C; 3. Thrombosis of portal vein or one of it's major branches; 4. Thrombosis of inferior vena cava 5. Alcohol liver cirrhosis; 6. Umbilical infection in infants.

- A. 1, 3
- B. 3, 6
- C. 1, 4
- D. 3, 5
- E. 4, 6

214. Choose the reasons which cause sinusoidal (hepatic) portal hypertension: 1. Budd–Chiari syndrome; 2. Viral hepatitis C; 3. Thrombosis of portal vein or one of it's major branches; 4. Thrombosis of inferior vena cava 5. Alcohol liver cirrhosis; 6. Umbilical infection in infants.

- A. 1, 3
- B. 3, 6
- C. 1, 4
- D. 3, 5
- E. 2, 5

215. Choose the reasons which cause postsinusoidal (posthepatic) portal hypertension: 1. Budd–Chiari syndrome; 2. Viral hepatitis C; 3. Thrombosis of portal vein or one of it's major branches; 4. Thrombosis of inferior vena cava 5. Alcohol liver cirrhosis; 6. Umbilical infection in infants.

- A. 1, 5
- B. 3, 6
- C. 1, 4
- D. 3, 5
- E. 4, 6

216. The high mortality associated with first variceal bleeding episodes has led to the investigation of a variety of methods of prevention of initial bleeding. Which drugs

are used to PREVENT initial bleeding by lowering the portal pressure?

- A. α -blockers
([phenoxybenzamine](#),
[phentolamine](#))
- B. β -blockers (propranolol,
nadolol)
- C. antibiotics (cefazolin,
ceftriaxone)
- D. Lactulose
- E. Diuretics (furosemide)

217. A 49-year-old man with a history of cirrhosis is admitted with significant hematemesis. There is jaundice and clubbing of the fingers. His extremities are cold and clammy, and the systolic blood pressure drops to 84 mm Hg. After BP stabilization, which drugs should be used to STOP bleeding?

- A. [phenoxybenzamine](#) or
[phentolamine](#)
- B. propranolol or nadolol
- C. furosemide
- D. vasopressin or octreotide
- E. prednisolon or
hydrocortisone

218. A 49-year-old man with a history of cirrhosis is admitted with significant hematemesis. There is jaundice and clubbing of the fingers. His extremities are cold and clammy, and the systolic blood pressure drops to 84 mm Hg. After BP stabilization, which intervention should be performed primarily to STOP bleeding?

- A. Urgent endoscopy and endoscopic bleeding management (band ligation or sclerotherapy)
- B. Open surgery to stop the bleeding
- C. Sengstaken-Blakemore tube
- D. Emergency lienorenal shunt
- E. Vagotomy

219. A 42-year-old woman with a known history of esophageal varices secondary to hepatitis and cirrhosis is admitted with severe hematemesis from esophageal varices. Bleeding persists after vasopressin therapy, after endoscopic bleeding management (band ligation and sclerotherapy). What should be the next

step in management?

- A. Emergency portocaval shunt
- B. Emergency lienorenal shunt
- C. Splenectomy
- D. Vagotomy
- E. Transjugular intrahepatic portasystemic shunt (TIPS)

220. A 25-year-old man from rural district on US was diagnosed a cyst 60 mm in diameter, serological test for antigens specific for [Echinococcus](#) granulosus was positive. Which statement is wrong concerning treatment of this patient?

- A. Systemic antihelminthic agents are generally very effective against human *Echinococcus*
- B. Surgery remains the standard approach for hydatid disease of the liver
- C. Surgery is indicated in all patients with symptomatic disease
- D. Surgical treatment should be considered in patients with asymptomatic disease discovered accidentally, when the cyst is large (>5 cm)
- E. To be curative, surgical therapy must remove all the living parasite and leave no viable daughter cysts or protoscolices

221. Which statement is wrong concerning liver cirrhosis?

- A. Cirrhosis is a histologic diagnosis, based on three essential criteria: diffuse disease, presence of fibrosis, and replacement of normal architecture by abnormal nodules
- B. Cirrhosis is a reversible process
- C. Morphologically liver cirrhosis can be divided into two groups: macronodular (>3 mm) and micronodular (<3 mm)
- D. Clinically cirrhosis is classified to two stages: compensated and decompensated

E. Laboratory tests are performed to establish the etiology of liver cirrhosis

222. To determine the etiology of liver cirrhosis laboratory test should be performed. Which tests will be positive or increased in case of cholestatic liver cirrhosis? Choose correct combination: 1. Alcohol screening; 2. Gamma glutamyl transpeptidase; 3. ALT is greater than AST; 4. AST is greater than ALT; 5. Viral serology (HBV, HCV); 6. Alkaline phosphatase.

- A. 1, 2
- B. 2, 3
- C. 2, 4
- D. 2, 5
- E. 2, 6

223. To determine the etiology of liver cirrhosis laboratory test should be performed. Which tests will be positive or increased in case of alcohol liver cirrhosis? Choose correct combination: 1. Alcohol screening; 2. Gamma glutamyl transpeptidase; 3. ALT is greater than AST; 4. AST is greater than ALT; 5. Viral serology (HBV, HCV); 6. Alkaline phosphatase.

- A. 1, 2
- B. 1, 3
- C. 1, 4
- D. 1, 5
- E. 1, 6

224. To determine the etiology of liver cirrhosis laboratory test should be performed. Which tests will be positive or increased in case of viral liver cirrhosis? Choose correct combination: 1. Alcohol screening; 2. Gamma glutamyl transpeptidase; 3. ALT is greater than AST; 4. AST is greater than ALT; 5. Viral serology (HBV, HCV); 6. Alkaline phosphatase.

- A. 1, 5
- B. 2, 5
- C. 3, 5
- D. 4, 5
- E. 5, 6

225. *In 50-year-old patient., suffering from Budd-Chiari's syndrome, appeared progressive pain in right subcostal area,

- jaundice, varicose veins of the esophagus, rectum, abdominal wall, ascites, splenomegaly. Liver cirrhosis was diagnosed. What was the mechanism of liver cirrhosis development?
- Cholestatic hepatitis
 - Portal hypertension
 - Autoimmune hepatitis
 - Toxic hepatitis
 - Viral hepatitis
226. *In patient M. for a long time suffering from liver cirrhosis, recently appeared complaints for moderate pain in the epigastric area, constant bloating, which aggravated after eating. Objective: caput medusae on abdominal wall, signs of free fluid in the abdominal cavity, enlarged liver and spleen. US: expansion of portal vein, increased liver and spleen. Which complication of liver cirrhosis we can think about?
- Portal vein thrombosis
 - Hepatocellular failure
 - Portal hypertension
 - Peritonitis
 - Intestinal dysbacteriosis
227. Choose the symptom of portal hypertension:
- Tongue papilla atrophy
 - Jaundice
 - Ascites
 - Erythema of palms
 - Increased levels of liver enzymes in serum
228. Select the causes of ascites in patients with liver cirrhosis: 1. Portal hypertension 2. AST and ALT high levels 3. Secondary hyperaldosteronism 4. Hypoalbuminemia 5. High level of bilirubin in the blood serum.
- 1, 3, 4
 - 1, 2, 3
 - 2, 3, 5
 - 1, 3
 - All are correct
229. Which method is the most efficient in diagnosing liver cirrhosis?
- CT
 - US
 - Radioisotope scanning
 - Needle biopsy with histological examination
 - Biochemical blood test
230. A patient delivered to the emergency department with obstructive jaundice. Choose clinical signs which are typical for obstructive jaundice caused by choledocholiasis: 1. Upper right quadrant pain; 2. Itch; 3. Back pain; 4. Vomiting; 5. Discolouration of stool:
- 1, 2, 5
 - 2, 3, 5
 - 1, 4, 5
 - 3, 4, 5
 - 1, 2, 3
231. 67-year-old man was made diagnosis cancer of pancreas, tumor is located in the head of the gland and causes obstructive jaundice. Which clinical signs are typical for obstructive jaundice caused by cancer of the pancreas: 1. Upper right quadrant pain; 2. Nausea; 3. Palpable enlarged gallbladder; 4. Weight loss; 5. Discolouration of stool:
- 1, 3, 4
 - 2, 3, 4
 - 1, 2, 3
 - 3, 4, 5
 - 2, 3, 5
232. A 58-year-old man with a 20-year history of alcoholism and pancreatitis is admitted to the hospital with an elevated bilirubin level to 65 $\mu\text{mol/L}$, acholic stools, and an amylase level of 120 U*H/L. Obstructive jaundice in case of chronic pancreatitis usually results from which of the following?
- Sclerosing cholangitis
 - Common bile duct compression caused by inflammation
 - Alcoholic hepatitis
 - Biliary dyskinesia
 - Splenic vein thrombosis
233. A 62-year-old man is admitted with abdominal pain and weight loss of 5 kg over the past month. He has continued to consume large amounts of rum. Examination reveals icteric sclera. The indirect bilirubin level is 50

$\mu\text{mol/L}$ with a total bilirubin of $65 \mu\text{mol/L}$. An ultrasound shows a 4-cm fluid collection near the head of the pancreas. What is the most likely cause of jaundice in a patient with alcoholic pancreatitis?

- A. Alcoholic hepatitis
- B. Carcinoma of pancreas
- C. Intrahepatic cyst
- D. Pancreatic pseudocyst
- E. Hemolytic anemia

234. A 66-year-old man with obstructive jaundice is found on ERCP to have periampullary carcinoma. He is otherwise in excellent physical shape and there is no evidence of metastasis. What is the most appropriate treatment?

- A. External radiotherapy
- B. Local excision and radiotherapy
- C. Radical excision (Whipple procedure) when possible
- D. Internal radiation seeds via catheter
- E. Stent and chemotherapy

235. Which instrumental examination is considered to be the most efficient and safe in finding the cause of obstructive jaundice?

- A. CT
- B. US
- C. Plain abdominal film
- D. MRCP
- E. ERCP

236. A 67-year-old woman is evaluated for obstructive jaundice. Which biochemical test, except bilirubin level, helps in diagnosing obstructive jaundice?

- A. Alkaline phosphatase
- B. AST
- C. CRP
- D. Protein
- E. Amilase

237. A 40-year-old man underwent laparoscopic cholecystectomy 2 years earlier. He remains asymptomatic until 1 week before admission, when he complains of RUQ pain and jaundice. He develops a fever and has several rigor attacks on the day of admission. An ultrasound confirms the presence of gallstones in the distal CBD. The patient is given antibiotics. Which of the following

should be undertaken as the next step in therapy?

- A. Should be discharged home under observation
- B. Should be observed in the hospital
- C. Undergo surgical exploration of the CBD
- D. ERCP with sphincterotomy and stone removal
- E. Anticoagulants

238. A 49-year-old African American woman born in New York is admitted with RUQ pain, fever, and jaundice (Charcot's triad.) A diagnosis of ascending cholangitis is made. With regard to the etiology of ascending cholangitis, which of the following is TRUE?

- A. It usually occurs in the absence of jaundice
- B. It usually occurs secondary to CBD stones
- C. It occurs frequently after choledochoduodenostomy
- D. It does not occur in patients with cholangiocarcinoma
- E. It is mainly caused by the liver insufficiency

239. A surgeon is removing the gallbladder of a 35-year-old obese man. One week previously the patient had recovered from obstructive jaundice and at operation, numerous small stones are present in the gallbladder. In addition to cholecystectomy, the surgeon should also perform which of the following?

- A. No further treatment
- B. Liver biopsy
- C. Intraoperative cholangiogram
- D. Removal of the head of the pancreas
- E. CBD exploration

240. Choose the diseases for which [Courvoisier sign](#) is typical: 1. Chronic calculous cholecystitis; 2. Pancreatic cancer; 3. Acute pancreatitis; 4. Cancer of papilla Vateri; 5. Liver cirrhosis.

- A. 1, 2, 5;
- B. 3, 5;
- C. 2, 5;
- D. 2, 3, 5;
- E. 2, 4.

241. Name the indications for Intraoperative cholangiography: 1. Detection of stones in CBD during palpation; 2. Suspicion for scar narrow of papilla Vateri; 3. Jaundice before surgical intervention; 4. Diameter of CBD more than 10 mm; 5. Jaundice during surgical intervention.
- 1, 2, 3, 4;
 - 1, 3, 4;
 - 3, 4;
 - 1, 3, 4, 5;
 - All are correct.
242. Choose the most serious complications of mechanical jaundice:
- violation of absorption in small intestine;
 - reduction of protein-synthesizing function of liver;
 - hepatic-renal failure;
 - gallbladder empyema;
 - gallbladder hydrops.
243. Choose the indications for choledochotomy: 1. Biliary dyskinesia; 2. Acute cholangitis; 3. Gallbladder perforation and peritonitis; 4. Obstructive jaundice; 5. Detection of stones in CBD during palpation.
- 1, 3, 4;
 - 2, 3, 4;
 - 2, 3, 4, 5;
 - 2, 4, 5;
 - All are correct.
244. Which disease did not cause obstructive jaundice?
- 1,6 cm stone in gallbladder;
 - Cancer of papilla Vateri;
 - Residual stone in CBD;
 - Pancreatic cancer;
 - Choledocholithiasis.
245. Prehepatic jaundice is caused by:
- Hemolysis
 - Gallstones
 - Pancreatic cancer
 - Renal fealure
 - Pancreatic pseudocyst
246. Posthepatic jaundice can be caused by all except:
- Gallstones
 - Cholangitis
 - Chronic pancreatitis
 - CBD malignancy
 - Acute hepatitis
247. Extrahepatic biliary tree consists of all except:
- Wirsung's duct
 - Common hepatic duct
 - Cystic duct
 - Gallbladder
 - Common bile duct
248. What is the most common benign causes of obstructive jaundice?
- Gallstones
 - Strictures
 - Chronic alcohol abuse
 - Primary sclerosing cholangitis
 - Liver cirrhosis
249. What is NOT the additional source of bilirubin production?
- Ineffective erythropoiesis
 - Myoglobinemia
 - Cytochromes metabolism
 - Large hematoma lysis
 - Gallstones dissolving
250. All diseases can cause hemolysis, except:
- Autoimmune disorders
 - Hypersplenism
 - Defects in hemoglobin structure
 - Sickle cell disease
 - Iron deficiency anemia
251. What are the most common causes of hepatitis? 1. Portal hypertention. 2. Alcohol. 3. Autoimmune disorders. 4. Cholelithiasis. 5. Viruses.
- 2,3,5
 - 1,2,4
 - 3,4,5
 - 1,3,4
 - 1,2,5
252. Chronic alcohol abuse may result in: 1. Fatty liver (steatosis). 2. Biliary tract infection. 3. Gallstone formation. 4. Cirrhosis. 5. Hepatitis.

- A. 2,4,5
 B. 1,4,5
 C. 2,3,4
 D. 1,2,3
 E. 1,3,5
253. Classically cholangitis is diagnosed clinically as syndrome known as Charcot's triad.
- A. Fever, hypotension and jaundice
 B. Fever, RUQ pain and hypotension
 C. Pruritus, RUQ pain and jaundice
 D. Pruritus, hypotension, and jaundice
 E. Fever, RUQ pain, and jaundice
254. Which enzymes are markers of biliary hypertension? 1. Alkaline phosphatase. 2. gamma glutamyl transpeptidase. 3. Enterocinase, 4. Acid phosphatase. 5. AST.
- A. 2,4
 B. 1,5
 C. 2,3
 D. 1,2
 E. 3,5
255. Bile is produced by the liver and contains all components, EXCEPT:
- A. Bile salts.
 B. Water and electrolytes.
 C. Cholesterol.
 D. Bilirubin.
 E. Vitamins A, K, D
256. ERCP and percutaneous transhepatic cholangiography are invasive and can be associated with following complications, EXCEPT:
- A. Cholangitis
 B. Biliary leakage – biliary peritonitis
 C. Pancreatitis
 D. Bleeding
 E. Obstructive jaundice
257. Which statement is NOT true?
- A. Intrahepatic disorders can lead to unconjugated-conjugated hyperbilirubinemia
 B. Posthepatic disorders can cause conjugated hyperbilirubinemia
 C. Bilirubin is a breakdown product of heme
 D. Pancreatic cancer is associated with positive Courvoisier's sign
 E. Common bile duct is divided into two parts: supraduodenal and retroduodenal
258. All diseases listed below can lead to extrahepatic biliary obstruction, EXCEPT:
- A. Choledocholithiasis
 B. Acute viral hepatitis
 C. Ampullary cancer
 D. Pancreatic cancer
 E. Biliary strictures
259. Decompression of extrahepatic biliary obstruction can be achieved by three methods: 1. Surgical bypass. 2. Percutaneous insertion of stents. 3. Endoscopic insertion of stents. 4. TIPS procedure. 5. Nasogastric decompression.
- A. 2,4,5
 B. 1,4,5
 C. 2,3,4
 D. 1,2,3
 E. 1,3,5
260. Which statements, concerning jaundice, is NOT true?
- A. High levels of circulating bile salts are associated with pruritus
 B. Jaundice, dark urine, discoloration of stool and pruritus are the hallmark of obstructive jaundice
 C. History of fever, biliary colic and intermittent jaundice may be suggestive of cholangitis or choledocholithiasis
 D. Weight loss, abdominal mass, pain radiating to the back and progressively deepening jaundice may be suggestive of pancreatic cancer
 E. A palpably enlarged gall bladder in a jaundiced patient is also suggestive of chronic alcohol abuse
261. Complications of obstructive jaundice are all of the following, EXCEPT:
- A. Sepsis caused by cholangitis
 B. Biliary cirrhosis
 C. Pancreatitis
 D. Renal and liver failure

E. Respiratory failure

262. Chronic pancreatitis (CP) is characterized by (choose correct clues of CP pathogenesis): 1. Parenchymal fibrosis; 2. Ductal strictures; 3. Atrophy of acinar and islet tissue; 4. Pseudocyst formation; 5. CBD compression.
- 1, 2, 3
 - All correct
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 4
263. Name main forms of CP: 1. Proliferative; 2. Calcific; 3. Degenerative; 4. Obstructive; 5. Inflammatory.
- 1, 2, 3
 - 2, 3, 4
 - 2, 4, 5
 - 3, 4, 5
 - 1, 4, 5
264. The most often reason causing CP is:
- Alcohol ingestion
 - Gallstones
 - Pancreatic cancer
 - Autoimmune disorders
 - Trauma of the pancreas
265. Name main clinical signs of CP: 1. Epigastric pain; 2. Vomiting; 3. Poor appetite; 4. Weight loss; 5. Positive Blumberg sign in RUQ
- 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - 2, 4, 5
 - 1, 3, 4
266. Which instrumental examination is a reference standard diagnostic method for chronic pancreatitis?
- US
 - CT
 - MRCP
 - Plain abdominal film
 - ERCP
267. Choose indications for surgical treatment of CP: 1. Pseudocyst formation; 2. Disabling abdominal pain; 3. Disabling obstruction of adjacent hollow viscera; 4. Exocrine insufficiency; 5. Diabetes mellitus.
- 1, 2, 5
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 3
 - 1, 2, 4
268. Longitudinal pancreaticojejunostomy is also known as:
- Puestow procedure
 - Whipple procedure
 - Billroth reconstruction
 - Bassini's operation
 - Hartman's procedure
269. The most common complication of CP is:
- Mechanical jaundice
 - Compression of duodenum
 - Pseudocyst
 - Diabetes mellitus
 - Exocrine insufficiency
270. A 40-year-old woman with severe chronic pancreatitis is scheduled to undergo an operation, because other forms of treatment have failed. The ultrasound shows no evidence of pseudocyst formation or cholelithiasis and endoscopic retrograde cholangiopancreatogram (ERCP) demonstrates dilated main pancreatic duct (12 mm) with multiple stricture formation. Which operation is suitable to treat this condition?
- Gastrojejunostomy
 - Pancreaticojejunostomy
 - Cholecystectomy
 - Splenectomy
 - Subtotal pancreatectomy
271. A 45-year-old patient with chronic pancreatitis is suffering from malnutrition and weight loss secondary to inadequate pancreatic exocrine secretions. Which is TRUE regarding pancreatic secretions?
- Pancreas releases fluid poor in enzymes
 - Pancreas releases fluid rich in enzymes and bicarbonate
 - Cholecystokinin doesn't have influence into pancreatic secretion

- D. All pancreatic enzymes are secreted in an active form
E. The pancreas produces proteolytic enzymes only
272. Which statement is **WRONG** concerning anatomy of the pancreas?
A. Pancreas is located mesoperitoneally
B. Pancreas consists of head, neck, body and tail
C. The head of the gland lies nestled in the C-loop of the second part of the duodenum
D. The tail of the gland extends obliquely into the hilum of the spleen
E. The neck of the pancreas overlies the spine, where it is susceptible to injury in blunt abdominal trauma
273. The islets of Langerhans are small islands of endocrine cells within a sea of exocrine tissue, they does NOT consists of:
A. A-cells
B. B-cells
C. C-cells
D. PP-cells
E. D-cells
274. The pancreas has a major exocrine function in the production of digestive enzymes. These include:
A. Amylase, which functions in the breakdown of starches
B. Lipase, which functions to hydrolyze fatty acids
C. Trypsin and chymotrypsin, which function to degrade proteins
D. Enterokinase, which functions to hydrolaze proteins
E. Nucleases such as deoxyribonuclease and ribonuclease, which function to break down DNA and RNA, respectively
275. Choose **TWO** main etiological factors causing chronic pancreatitis: 1. Alcohol; 2. Autoimmune disorders; 3. Hyperlipidemia; 4. Pancreatic duct obstruction; 5. Idiopathic.
A. 1, 2
B. 1, 3
C. 1, 4
D. 1, 5
E. 2, 5
276. All problems that compromise blood flow listed below can cause acute visceral ischemia, except?
A. Acute embolic occlusion
B. Acute thrombotic occlusion
C. Nonocclusive mesenteric ischemia
D. Splanchnic artery aneurysm
E. Mesenteric veins thrombosis
277. Which clinical sings are typical for early stages of acute visceral ischemia?
A. Severe abdominal pain, vomiting, diarrhea, leukocytosis
B. Mild abdominal pain, constipation
C. Pulsating abdominal mass
D. No typical clinical signs
E. Bloody stool, signs of peritonitis
278. Name later manifestations of acute visceral ischemia?
A. Severe abdominal pain, vomiting, diarrhea, leukocytosis
B. Mild abdominal pain, constipation
C. Pulsating abdominal mass
D. No typical clinical signs
E. Bloody stool, signs of peritonitis
279. Which examination is considered to be a gold standard for diagnosis of acute visceral ischemia?
A. Ultrasound
B. CT
C. Selective mesenteric angiography
D. Duplex ultrasonography
E. MRI
280. Which examination is considered to be the best for screening of acute visceral ischemia caused by thrombotic ischemia or venous thrombosis?
A. Ultrasound
B. CT
C. Selective mesenteric angiography
D. Duplex ultrasonography
E. MRI

281. A 60-year-old man with a history of atrial fibrillation is found to severe abdominal pain, vomiting, diarrhea, $WBC=23 \times 10^9/l$. The embolus is most probably originating from which of the following?
- An atherosclerotic plaque
 - An abdominal aortic aneurysm
 - Heart
 - Lungs
 - Paradoxical embolus
282. A 60-year-old man with a history of atrial fibrillation is found to severe abdominal pain, vomiting, diarrhea, $WBC=23 \times 10^9/l$. What is the most appropriate surgical treatment for this patient?
- Embolectomy
 - Lumbar sympathectomy
 - Bypass surgery
 - Intestine resection
 - Heparinization
283. Name the most often cause for mesenteric thrombosis?
- Blunt abdominal trauma
 - Arteriosclerotic plaque
 - Mesenteric artery aneurysm
 - Embolus
 - Vasospasm
284. A 66-year-old woman is admitted for hyperalimentation due to malnutrition consequent to massive small-bowel resection. What is the most likely condition that leads to the need to perform a massive resection?
- Autoimmune disease
 - Mesenteric ischemia
 - Mesenteric adenitis
 - Cancer
 - Pseudomyxoma peritonei
285. Name the form of acute mesenteric ischemia which has the highest mortality rate?
- Acute embolic occlusion
 - Acute thrombotic occlusion
 - Nonocclusive mesenteric ischemia
 - Splanchnic artery aneurysm
 - Mesenteric vein thrombosis
286. The intestine is viable in over 90% of patients if the duration of mesenteric ischemia symptoms lasts:
- 12 hours or less
 - 24 hours or less
 - 36 hours or less
 - 48 hours or less
 - 72 hours or less
287. Superior mesenteric artery embolism can be caused by: 1. Aneurysm of the left ventricle after myocardial infarction; 2. Atrial fibrillation; 3. Bacterial endocarditis; 4. Right ventricle hypertrophy; 5. Pulmonary artery stenosis. Choose correct combination:
- 1, 3, 4;
 - 1, 2, 3;
 - 2, 3, 4;
 - 2, 3, 5;
 - All are correct.
288. What can cause infarction of the intestine: 1. Superior mesenteric artery embolism; 2. Superior and inferior mesenteric artery embolism; 3. Superior mesenteric artery thrombosis; 4. Superior mesenteric vein thrombosis; 5. Prolonged spasm of small intestine arteries. Choose the BEST combination.
- 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - All diseases can cause intestine infarction
 - None of these diseases can cause intestine infarction
289. In a patient with superior mesenteric artery embolism in stage of bowel infarction (part of small intestine necrotised) should be performed the following operation:
- Thrombectomy
 - Isolated embolectomy
 - Embolectomy and resection of necrotised intestine
 - Total colectomy
 - Periarterial sympathectomy
290. A 42-years-old patient, who suffers from mitral stenosis and atrial fibrillation, 6 hours ago appeared severe abdominal pain,

vomiting, diarrhea. On examination: tenderness in mesogastrium, negative Blumberg sign. CBC: Leukocytes – $21 \times 10^9/l$. What causes acute mesenteric ischemia in this case?

- A. Acute embolic occlusion of superior mesenteric artery
- B. Acute thrombotic occlusion of superior mesenteric artery
- C. Nonocclusive mesenteric ischemia
- D. Portal vein thrombosis
- E. Mesenteric vein thrombosis

291. Which parts of the GI tract will be ischemic in case of thrombosis of the orifice of superior mesenteric artery?

- A. Stomach and duodenum
- B. Stomach, duodenum and ileum
- C. Small intestine, cecum, colon ascendans
- D. Colon and rectum
- E. All parts of small and large intestine

292. Which operations we can perform in case of embolic occlusion of superior mesenteric artery (choose the best combination): 1. Embolectomy; 2. Embolectomy and resection of part of small intestine; 3. Embolectomy and left hemicolectomy; 4. Embolectomy and right hemicolectomy; 5. Total excision of ileum, jejunum and right hemicolectomy.

- A. 1, 2, 3
- B. 2, 3, 4
- C. 1, 4, 5
- D. 1, 2, 4
- E. All operations can be performed

293. Most often cause of acute mesenteric ischemia is:

- A. Embolisation to the superior mesenteric artery
- B. Thrombosis of superior mesenteric artery
- C. Nonocclusive mesenteric ischemia
- D. Portal vein thrombosis
- E. Mesenteric vein thrombosis

294. What can cause nonocclusive mesenteric ischemia (NOMI)? 1. Severe mesenteric vasoconstriction; 2. Myocardial infarction; 3.

Septic shock; 4. Hemorrhagic shock; 5. Cardiac decompensation.

- A. 1, 2, 3
- B. 2, 3, 5
- C. 2, 3, 4
- D. None of these diseases cause NOMI
- E. All these diseases cause NOMI

295. In patients with acute mesenteric ischemia due to mesenteric embolism, which of the following statements is correct?

- A. Most oftenly embolization to inferior mesenteric artery is observed
- B. Embolus most oftenly originates from right heart
- C. Thrombolytic therapy may be attempted in patients without signs of bowel infarction or gastrointestinal bleeding
- D. Arteriography usually reveals the embolus lodged at the orifice of the superior mesenteric artery
- E. At the time of exploration in case of superior mesenteric artery embolism, ischemia is most severe in the left colon

296. A 68-year-old man is admitted to the coronary care unit with an acute myocardial infarction. His postinfarction course is marked by congestive heart failure and intermittent hypotension. On the fourth hospital day, he develops severe midabdominal pain. On physical examination, blood pressure is 90/60 mm Hg and pulse is 110 beats/min and regular; the abdomen is soft with mild generalized tenderness and distention. Bowel sounds are hypoactive; stool hematest is positive. The next step in this patient's management should be which of the following?

- A. Barium enema
- B. Upper gastrointestinal endoscopy
- C. Angiography
- D. Ultrasonography
- E. Celiotomy

297. The earliest symptom of CP is abdominal pain, choose **WRONG** statement concerning the pain in case of chronic pancreatitis:
- In CP, two pain patterns have been described: continuous and intermittent
 - When pain is intermittent, episodes may be separated by pain-free intervals of months or years
 - Episodes of continuous pain last from daily to 2- to 3-days per week for at least 2 months
 - Pain appears in the epigastric region at the beginning of disease with a subsequent shift to the right iliac region
 - Pancreatic pain is felt in the epigastrium or upper abdomen, with penetration to the back or radiation to the left intercostal region
298. With advancing disease, patients develop exocrine and endocrine insufficiency and thus lose the ability to digest protein and fat. Which statement is **WRONG**?
- The patient manifests diabetes mellitus and malabsorption on early (reversible) stage
 - Protein malabsorption results in creatorrhea
 - Since malnutrition impairs immunity, incidence of infection is likely to rise among affected patients
 - With the destruction of insulin-producing pancreatic cells, the patient may develop diabetes mellitus
 - Fat malabsorption results in steatorrhea
299. Choose the combination of instrumental examinations, which can be used in patients with chronic pancreatitis? 1. Endoscopic US; 2. CT; 3. MRCP; 4. Plain abdominal film 5. ERCP.
- 1, 2, 5
 - 1, 3, 5
 - 1, 4, 5
 - 2, 4, 5
 - All can be used
300. In patients with chronic pancreatitis surgical treatment is indicated in: 1. Disabling pain, which interferes with the patient's ability to work, is refractory to pancreatic enzyme therapy, requires high doses of oral narcotics; 2. Diabetes mellitus; 3. Malabsorption; 4. ERCP evidence of a dilated pancreatic duct (> 6 mm); 5. Obstruction of CBD.
- 1, 2, 3
 - 1, 3, 4
 - 1, 4, 5
 - 2, 3, 4
 - All are indications for surgical treatment
301. In diagnosing CP in its early stages, clinicians should recognize that:
- Pain is present, to some degree, in all patients
 - Pain may be absent in 10% and more patients
 - Direct pancreatic secretory assessment remains the gold standard for diagnosing pancreatic insufficiency and is performed frequently
 - Radiographic imaging confirms pancreatitis in early stages of the disease
 - Endoscopic US is gold standard instrumental examination for making the diagnosis chronic pancreatitis
302. Name the most often complication of chronic pancreatitis:
- Left sided pleural effusion
 - Disseminated intravascular coagulation
 - Splenic vein thrombosis
 - Pancreatic pseudocyst
 - Pancreatic ascities

303. All statements concerning Chron's disease are true, except?
- Affects all parts of GI (from the oropharynx to the anus)
 - Nonspecific inflammation
 - Superficial (mucosal) inflammation
 - Ileocolic region affected most oftenly
 - Etiology is not known
304. All statements concerning Ulcerative colitis (UC) are true, except?
- Affects colon and rectum
 - Transmural inflammation
 - 20-30% of patients with UC have another family member with the disease
 - Etiology is not known
 - Smokers are in the risk group for UC
305. The typical complications of Chron's disease are all, except:
- Abdominal abscesses
 - Internal fistula
 - Intestinal obstruction caused by strictures
 - Sclerosing cholangitis
 - Hemorrhage
306. A 26-year-old man is present with mild clinical signs of Chron's colitis. What primary treatment this patient should be recommended:
- Right hemicolectomy
 - Left hemicolectomy
 - Treatment of anemia
 - Total colectomy
 - Medical treatment with aminosalicylates
307. A 43-year-old woman undergoes investigation for colitis. In her history, it is noted that 20 years earlier she underwent a surgical procedure on the large intestine. Is the diagnosis more likely to be ulcerative colitis rather than Crohn's disease because at the previous operation?
- The serosa appeared normal on inspection, but the colon mucosa was extensively involved
 - There was evidence of fistula formation
 - All layers of the bowel wall were involved
 - Skip lesions were noted
 - The preoperative GI series showed a narrowing string like stricture in the ileum (string sign)
308. A 35-year-old man has known ulcerative colitis. Which of the following is an indication for total proctocolectomy?
- Occasional bouts of colic and diarrhea
 - Sclerosing cholangitis
 - Toxic megacolon
 - Arthritides
 - Iron deficiency anemia
309. A 54-year-old man with diarrhea is found to have ulcerative colitis. Colectomy should be advised in patients with ulcerative colitis who have symptoms that persist for more than which of the following?
- 1 month
 - 6 months
 - 1 year
 - 10–20 years
 - More than 25 years
310. A 48-year-old woman develops colon cancer. She is known to have a long history of ulcerative colitis. In ulcerative colitis, which of the following is a characteristic of colon cancer?
- Occurs more frequently than in the rest of the population.
 - Is more likely to occur when the ulcerative disease is confined to the left colon.
 - Occurs equally in the right and left side.
 - Has a synchronous carcinoma in 4–5% of cases.
 - Has an excellent prognosis because of physician awareness.
311. A 40-year-old man with a long history of bloody diarrhea presents with increased abdominal pain, vomiting, and fever. On examination, he is found to be dehydrated and shows tachycardia and hypotension. The abdomen is markedly tender with

- guarding and rigidity. What is the most likely cause?
- Toxic megacolon in ulcerative colitis
 - Small-bowel perforation from regional enteritis
 - Perforated carcinoma of the sigmoid colon
 - Volvulus of the sigmoid colon
 - Acute perforated diverticulitis
312. A 25-year-old man has recurrent, indolent fistula in ano. He also complains of weight loss, recurrent attacks of diarrhea with blood mixed in the stool, and tenesmus. Proctoscopy revealed a healthy, normal-appearing rectum. What is the most likely diagnosis?
- Colitis associated with acquired immunodeficiency syndrome (AIDS)
 - Ulcerative colitis
 - Amoebic colitis
 - Ischemic colitis
 - Crohn's colitis
313. Perirectal abscess fistulous disease is most oftenly:
- Associated with a specific systemic disease
 - Associated with specific infection disease
 - Cryptoglandular in origin
 - Associated with hemorrhoids
 - Etiology is not known
314. According to their location perirectal abscesses are classified to (one answer is not correct):
- Superficial
 - Suprlevator
 - Ischiorectal
 - Intersphincteric
 - Perianal
315. The typical complications of perirectal abscess are all, except:
- Internal fistula
 - Hemorrhoids
 - Sphincter injury
 - Perineal sepsis
 - Chronic fistula
316. What imaging study is necessary to make diagnosis uncomplicated perirectal abscess fistula disease?
- Sinogram
 - Transrectal US
 - CT
 - No imaging study
 - MRI
317. The most effective treatment, which is successful in healing 90% of anal fissures, includes: 1. Stool softeners; 2. Laxatives; 3. Antibiotics; 4. NSAIDs; 5. Sitz bath.
- 1, 2, 3
 - 1, 2, 4
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 5.
318. Uncomplicated interanal hemorrhoids typically are associated with:
- Anorectal pain
 - Pain after defecation
 - Thrombosis
 - Perirectal abscesses
 - Bright-red bleeding per rectum
319. Interanal and external hemorrhoids can develop all complications except:
- Incarceration
 - Necrosis
 - Perianal condylomas
 - Thrombosis
 - Bleeding
320. Proctoscopy reveals nonbleeding grade I hemorrhoids. Indications for surgical treatment are all except:
- III-IV grade hemorrhoids
 - Severe bleeding
 - Thrombosis
 - I-II grade hemorrhoids
 - Necrosis
321. Why during hemorrhoidal bleeding the blood is bright-red?
- Hemorrhoidal vein have lots of shunts with rectal arteries
 - Hemorrhoids never bleed
 - Hemorrhoids develops from arteries
 - Bleeding is associated with coagulopathy

- E. Most oftenly upper parts of colon are bleeding, which are richly vascularized
322. A 44-year-old man has recurrent hemorrhoids. What treatment modality is not indicated in case of recurrency?
 A. Conventional surgery
 B. Minimally invasive treatment
 C. Increasing dietary fiber
 D. decreasing constipating foods,
 E. decreasing time spent on the toilet
323. List the layers of skin from the most superficial to the deepest layer: 1. dermis, 2. epidermis, 3. deep fascia, 4. subcutaneous tissue, 5. superficial fascia.
 A. 1 2 3 4 5
 B. 2 3 4 5 1
 C. 2 1 5 4 3
 D. 4 5 3 1 2
 E. 1 2 3 5 4
324. Which is the most commonly identified infectious agent causing skin and soft tissue infection?
 A. *Staphylococcus aureus*
 B. *Streptococcus pyogenes*
 C. *Pseudomonas aeruginosa*
 D. *Clostridium perfringens*
 E. *Escherichia coli*
325. Erysipelas most oftenly is caused by:
 A. *Staphylococcus aureus*
 B. *Streptococcus pyogenes*
 C. *Pseudomonas aeruginosa*
 D. *Clostridium perfringens*
 E. *Escherichia coli*
326. A 23 year old patient fell ill 3 weeks ago when she noticed a very painful induration in her axillary area, 4-5 days later it burst and discharged a lot of pus. After this some new infiltrations appeared around the affected area. The patient has never suffered from skin diseases before. What is the most probable diagnosis?
 A. Hydradenitis
 B. Streptococcal impetigo
 C. Furuncle
 D. Mycosis
 E. Carbuncle
327. Which of the following is a β -haemolytic group of bacteria that commonly cause purulent skin and soft tissue infection?
 A. *Staphylococcus aureus*
 B. *Pasteurella multocida*
 C. *Haemophilus influenzae*
 D. *Streptococcus pyogenes*
 E. *Escherichia coli*
328. Which of the following is clearly demarcated?
 A. Furuncle
 B. Carbuncle
 C. Cellulitis
 D. Necrotizing fasciitis
 E. Erysipelas
329. 6-years-old boy was brought to the out-patient surgical department by parents with complaints for a rash on the face. On examination: thin-walled vesicles and yellow crusts on the chin, enlarged regional lymph nodes, temperature – 37,8°C. What is the most probable diagnosis?
 A. Furuncle
 B. Carbuncle
 C. Impetigo
 D. Necrotizing fasciitis
 E. Erysipelas
330. Which skin and soft tissue infection have highest mortality rate?
 A. Furuncle
 B. Carbuncle
 C. Cellulitis
 D. Necrotizing fasciitis
 E. Erysipelas
331. Choose WRONG thesis concerning necrotizing fasciitis.
 A. Necrotizing fasciitis is more commonly polymicrobial disease
 B. The most commonly affected sites are the extremities
 C. Necrotizing infections typically progress more rapidly (within 24–48 hr) than more superficial cellulitic processes
 D. Signs and symptoms are diffuse swelling of the affected area without well-demarcated borders and pain out of proportion to physical findings
 E. CT and MRI may show air in the tissues or enhancement with intravenous contrast and these signs are specific to necrotizing fasciitis
332. Choose CORRECT thesis for the treatment of skin and soft tissue infection (SSTI).
 A. Most SSTIs can be managed on an inpatient basis
 B. Superficial infections typically do not require systemic treatment and usually respond to topical agents

- C. SSTI caused by healthcare-associated MRSA have better prognosis than community-associated MRSA
- D. In the case of furuncles and carbuncles, incision and drainage of abscesses is required
- E. Impetigo is typically managed with topical agents
333. A 63-year-old male patient in reasonably good health suddenly suffered from fever ($>38^{\circ}\text{C}$) and a painful right iliac fossa tumefaction; no other gastrointestinal problems were noted. On clinical examination, a mass of about 5 cm was palpable in correspondence of right iliac fossa and appeared hard, not reducible and fixed to the parietal muscle. Laboratory data showed leucocytosis, shift to the left and elevated erythrocyte sedimentation rate (74 mm/hr) as pathological findings. Abdominal ultrasound examination evidenced a fluid in the right lower quadrant, with heterogenic echotexture and a thickening of the ileocecal tract. Abdominal CT, confirmed the presence of a complex, predominantly cystic, mass of large size (6x8 cm) with heterogeneous, mainly peripheral enhancement, the adjacent cecum had its wall thickened and it was not possible to differentiate the appendix separately from the mass, homolateral inguinal reactive lymphadenopathy was also present. The patient failed to respond to the initial conservative management, which consisted of intravenous fluids and triple antibiotic therapy with cefotaxime, gentamicin and metronidazole, without any improvement of pain and fever. At a further ultrasound examination, the mass appeared not modified. Make the diagnosis?
- A. Appendicular infiltration;
- B. Appendicular abscess;
- C. Diffuse peritonitis;
- D. Appendicular colic;
- E. Phlegmonous appendicitis;
334. A 20-year-old man has undergone appendectomy for perforated appendicitis with generalized peritonitis. Seven days postoperatively, his temperature continues to spike to 39.5°C despite antibiotic therapy with ampicillin, gentamicin, and metronidazole. Abdominal CT scan reveals a large pelvic abscess. Soon afterward, he has bleeding from the mouth and nose with increasing oozing from the surgical wound and all intravenous puncture sites. What was a trigger for coagulopathy?
- A. Sepsis;
- B. Antibiotic therapy;
- C. Congenital disorder;
- D. Proteolysis;
- E. Operation.
335. The diagnosis of pseudomembranous colitis is aided by:
- A. Positive blood culture for *Clostridium difficile*
- B. Raised antibody levels in blood to *Clostridium difficile* toxin
- C. High C-reactive protein level
- D. Detection of *Clostridium difficile* toxin in the stool
- E. Isolation of *Clostridium perfringens* from the stool
336. The following is cause of pseudomembranous colitis in man:
- A. *Clostridium histolyticum*
- B. *Clostridium septicum*
- C. *Clostridium sporogenes*
- D. *Clostridium perfringens*
- E. *Clostridium difficile*
337. 30-year-old man hospitalized with a severe epigastric pain. During examination: hypoxemia, dehydration. Laboratory tests: increased levels of amylase and lipase in the blood. CT confirmed severe acute pancreatitis. Which antibiotic will reduce the risk of infection?
- A. Ampicillin
- B. Erythromycin
- C. Gentamicin
- D. Ceftriaxon
- E. Imipenem/cilastatin
338. Which statement concerning medical treatment of patient with acute pancreatitis on early phase (first 3-5 days) is WRONG?
- A. Patients are kept "nothing per os"
- B. Aggressive fluid resuscitation is critically important
- C. Antibiotics should be used in any case of acute pancreatitis
- D. Imipenem/cilastatin is indicated to prevent infection in patients with pancreatic necrosis
- E. Early initiation of enteral nutrition is important in treatment and infection prevention
339. Which of the following is not a B-lactam antibiotic?
- A. Meropenem
- B. Ceftriaxone
- C. Benzylpenicillin
- D. Gentamicin
- E. Monobactam
340. What is the commonest cause of Antibiotic-associated diarrhea (choose best answer)?

- A. Malabsorption
 B. Allergic reactions
 C. Reversible renal impairment on accumulation
 D. Clostridium difficile
 E. Bone marrow depression
341. What is the commonest side-effect of B-lactams?
 A. Malabsorption
 B. Allergic reactions
 C. Reversible renal impairment on accumulation
 D. Clostridium difficile
 E. Bone marrow depression
342. What therapy is based on predicted susceptibility of likely pathogens and local antimicrobial policy?
 A. Targeted Therapy
 B. Etiological therapy
 C. Susceptibility-guided therapy
 D. Empiric therapy
 E. Symptomatic therapy
343. Which diagnostic procedure should be performed at first in a hemodynamically unstable patient with blunt abdominal trauma?
 A. Ultrasound (Focused abdominal sonography for trauma)
 B. Triple contrast CT
 C. Diagnostic peritoneal lavage
 D. Laparoscopy
 E. Plain abdominal film
344. Which diagnostic procedure should be performed at secondly in a hemodynamically unstable patient with blunt abdominal trauma?
 A. Ultrasound (Focused abdominal sonography for trauma)
 B. Triple contrast CT
 C. Diagnostic peritoneal lavage
 D. Laparoscopy
 E. Plain abdominal film
345. The indications for laparotomy in patient with penetrating abdominal trauma are: 1). Hemodynamic instability; 2). Positive peritoneal signs; 3). Evisceration; 4). Grade IV liver injury; 5). Grade V spleen injury. Choose the best combination.
 a. 1, 2, 3
 B. 1, 3, 4
 C. 1, 4, 5
 D. 2, 3, 5
 E. All conditions are indications for laparotomy
346. Which diagnostic procedure should be performed at first in a hemodynamically stable patient with penetrating abdominal trauma?
 A. Ultrasound (Focused abdominal sonography for trauma)
 B. CT
 C. Laparoscopy
 D. Local wound exploration
 E. Diagnostic peritoneal lavage
347. Which diagnostic procedure should be performed secondly in a hemodynamically stable patient with penetrating abdominal trauma?
 A. Ultrasound (Focused abdominal sonography for trauma)
 B. CT
 C. Laparoscopy
 D. Local wound exploration
 E. Diagnostic peritoneal lavage
348. Which organs are injured most often in patients with blunt abdominal trauma: 1). Stomach; 2). Duodenum; 3). Liver; 4). Spleen; 5). Small intestine; 6). Large intestine.
 A. 1, 2

- B. 2, 5
- C. 3, 4
- D. 5, 6
- E. 1, 6

349. A 7-year-old boy was involved in a motorcycle crash while seated in the back of a minivan without restraints. His vital signs in the emergency room are stable but he is complaining of left upper quadrant abdominal pain. The FAST scan shows scanty fluid around in the left colic gutter. An abdominal and pelvic CT scan with iv and po contrast is performed and the radiologist suggests a “blush” (arterial extravasation) in the splenic parenchyma. The spleen itself sustained a deep parenchymal tear and is classified as a grade III injury. The child remains hemodynamically stable. What is recommended next?

- A. Continuous hemodynamic monitoring, celiac angiogram, and angio embolisation of splenic artery.
- B. Immediate exploration in the operation room
- C. If hemodynamic instability develops, aggressive fluid resuscitation including a repeated bolus of 20 mL/kg lactated Ringer’s solution followed by a liver spleen scan
- D. Monitoring only
- E. Pneumovax and elective splenectomy in 6 weeks

350. Laparoscopy in abdominal trauma may be indicated in which of the following?

- A. To exclude diaphragmatic injury
- B. In patients with multiple previous abdominal operations
- C. If there is limited cardiovascular reserve
- D. If severe diffuse peritonitis exists
- E. In hemodynamically unstable patients

360. A 30-year-old restrained driver was involved in a motor-vehicle crash. He is hemodynamically stable and has a large seat belt sign on the abdomen. His abdomen is tender to palpation. In this patient one should be most concerned about:

- A. Liver and spleen injury
- B. Transection of the head of the pancreas
- C. Renal pedicle avulsion
- D. Hollow-viscus injuries
- E. Pelvic fracture

361. A 20-year-old unrestrained driver was involved in a motor-vehicle crash. A computed tomography (CT) of the abdomen revealed a large hematoma in the second portion of duodenum. The rest of the abdomen is normal. The initial management of this duodenal hematoma should be:

- A. Operative evacuation
- B. Nasogastric decompression, intravenous fluids, and

- gradual resumption of oral diet
- C. Endoscopic retrograde cholangiopancreatogram (ERCP)
- D. Laparotomy, pyloric exclusion, and gastrojejunostomy
- E. Octreotide
362. In a patient who had a motor-cycle crash, a CT of the abdomen revealed a peripancreatic hematoma and indistinct pancreatic border. The most definitive test for a pancreatic injury requiring operative intervention is:
- A. ERCP
- B. Ultrasonography
- C. CT scanning
- D. Operative exploration
- E. Amylase test of lavage fluid
363. A 25-year-old man fell down from his bicycle and hit a concrete wall on his left side. An ultrasound examination showed free fluid in the abdomen. A CT scan confirmed a grade III splenic injury. The most important contraindication for a nonoperative management of the splenic injury is:
- A. Hemodynamic instability
- B. Active bleeding on CT scan
- C. Adult patient
- D. Lack of availability of blood for transfusion
- E. Extensive associated injuries
364. A 17-year-old girl presents to the emergency department with a stab wound to the abdomen and a blow to the head that left her groggy. Her blood pressure is 80/0 mm Hg, pulse is 120 bpm, and respiration rate is 28 breaths per minute. Her abdomen has a stab wound in the anterior axillary line at the right costal margin. Two large-bore intravenous lines, a nasogastric tube, and a Foley catheter are inserted. The blood pressure rises to 85 mm Hg after 2 L of Ringer's lactate. The appropriate management is which of the following?
- A. Peritoneal lavage
- B. Ultrasound of the abdomen
- C. Laparoscopic assessment of the peritoneal cavity
- D. Exploratory laparotomy
- E. CT of the head
365. A 22-year-old woman presents to the emergency department with a chief complaint of severe left upper quadrant (LUQ) pain after being punched by her husband. Her blood pressure is 110/70 mm Hg, pulse is 100 bpm, and respiration rate is 24 breaths per minute. The best means to establish a diagnosis is which of the following?
- A. FAST
- B. Physical examination
- C. CT of the abdomen
- D. Peritoneal lavage
- E. Upper gastrointestinal (GI) series
366. A 60-year-old man is attacked with a baseball bat and sustains multiple blows to the abdomen. He presents to the emergency department in shock and is brought to the operating room (OR), where a laparotomy reveals massive hemoperitoneum and a stellate

- fracture of the right and left lobes of the liver. Which of the following techniques should be used immediately?
- Pringle's maneuver
 - Packing the liver
 - Suture ligation
 - Ligation of the right hepatic artery
 - Ligation of the proper hepatic artery
367. A 23-year-old man is shot with a handgun and found to have a through-and-through injury to the right transverse colon. There is little fecal contamination and no bowel devascularization. At operation, what does he require?
- Right hemicolectomy with ileotransverse colon anastomosis
 - Right hemicolectomy with ileostomy and mucous fistula
 - Debridement and closure of wounds with exteriorization of colon
 - Debridement and closure of wounds
 - Segmental resection with primary anastomosis
368. A 20-year-old woman presents to the emergency department with a stab wound to the abdomen. There is minimal abdominal tenderness. Local wound exploration indicates that the knife penetrated the peritoneum. What is the ideal use of antibiotic administration?
- Preoperatively
 - Intraoperatively, if a colon injury is found
 - Postoperatively, if the patient develops fever
 - Postoperatively, based on culture and sensitivity of fecal contamination found at the time of surgery
 - Intraoperatively, if any hollow viscus is found to be injured
369. A 70-year-old woman is hit by a car and injures her midabdomen. The best way to rule out a rupture of the second part of the duodenum is by which mode?
- Repeated physical examinations
 - Ultrasound
 - Repeated amylase levels
 - CT with oral and intravenous contrast
 - Peritoneal lavage
370. A 15-year-old girl had an injury to the right retroperitoneum with duodenal contusion. What is the test required to exclude a rupture of the duodenum?
- Serum amylase
 - Dimethyliminodiacetic acid (HIDA) scan
 - Gastrografin study
 - Upper GI with barium
 - ERCP
371. A 33-year-old man presents to the emergency department with a gunshot injury to the abdomen. At laparotomy, a deep laceration is found in the pancreas just to the left of the vertebral column with severance of the pancreatic duct. What is the next step in management?

- A. Intraoperative cholangiogram
- B. Debridement and drainage of defect
- C. Distal pancreatectomy
- D. Closure of abdomen with J-P drains
- E. Vagotomy