

## General Medicine – Surgery V 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 then:
- 2 cm<sup>2</sup>
  - 3 cm<sup>2</sup>
  - 4 cm<sup>2</sup>
  - 5 cm<sup>2</sup>
  - 7 cm<sup>2</sup>
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: 1. Critical mitral stenosis (mitral valve orifice area less then 1 cm<sup>2</sup>); 2. Symptomatic patients; 3. Systemic embolism; 4. Mitral valve gradient 12-15 mmHg; 5. 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 H<sub>2</sub>O with 30-second pressure on the liver (hepatojugular reflux)
- E. CVP of -1 cm H<sub>2</sub>O

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 cm<sup>2</sup>
  - 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:  
 A. 1,4;  
 B. 2,3,5;  
 C. 1,3,4;  
 D. 2,3;  
 E. 3,4.
34. The best instrument for embolectomy from big arteries is:  
 A. Vessel ring;  
 B. Vacuum aspirator;  
 C. Fogarty catheter;  
 D. Dormia catheter;  
 E. Kelly forceps.
35. In the topical diagnosis of acute arterial occlusion the most informative method of examination is:  
 A. Sphygmography;  
 B. Thermography;  
 C. Aorto-arteriography;  
 D. Ultrasound dopplerography;  
 E. 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?  
 A. Cardiac embolus  
 B. Atheroembolism  
 C. Lupus vasculitis  
 D. Digital atherosclerosis  
 E. 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?  
 A. Femoral artery thrombosis  
 B. Superficial venous insufficiency  
 C. Arteriovenous (AV) fistula  
 D. Pseudoaneurysm  
 E. 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?  
 A. An atherosclerotic plaque  
 B. An abdominal aortic aneurysm  
 C. Heart  
 D. Lungs  
 E. 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?  
 A. Aortic bifurcation  
 B. Dorsalis pedis artery  
 C. Tibial arteries  
 D. Popliteal artery  
 E. 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?  
 A. Embolectomy  
 B. Lumbar sympathectomy  
 C. Bypass surgery  
 D. Amputation  
 E. 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?
- Muscle
  - Nerve
  - Skin
  - Fat
  - 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?
- Traumatic deep vein thrombosis
  - Gastrocnemius muscle tear
  - Traumatic arteriovenous fistula
  - Posterior knee dislocation with thrombosed popliteal artery
  - Traumatic sciatic neuropathy
43. Name the earliest sign in case of acute extremity ischemia caused by thromboembolism?
- Pain
  - Pallor
  - Edema
  - Paralysis
  - Muscle contracture
44. Symptoms of acute arterial occlusion are all except:
- Muscle pain
  - Skin pallor
  - Increased pulse on peripheral arteries
  - Skin paresthesias
  - Muscle contracture
45. Which clinical sign suggests necrosis of the muscles in patients with acute extremity ischemia?
- Pain
  - Pallor
  - Edema
  - Paralysis
  - Muscle contracture
46. Which location IS NOT usual source for emboli in case of acute extremity ischemia?
- Mitral valve
  - Left atrium
  - Aorta
  - Left ventricle
  - 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.
- 1,3,5
  - 1,2,4
  - 3,4,5
  - 1,2,5
  - 2,3,4
48. Which metabolic derangements are related to reperfusion in patient with acute lower-extremity ischemia after revascularization?
- acidosis, 2) hyperkalemia, 3) alkalosis, 4) hypernatremia, 5) myoglobinuria.
  - 1,2,5
  - 2,3,5,
  - 1,4,5
  - 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 oftenly 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:
- A. t-PA
  - B. Heparin
  - C. Pentoxifyphyllin
  - D. Warfarin
  - E. 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  $PO_2$  of 50,  $PCO_2$  of 28, and pH of 7.49. The most likely diagnosis is?
- A. Unilateral pulmonary edema
  - B. Hematoma of the chest
  - C. Fat embolism
  - D. Pulmonary thromboembolism
  - E. 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?
- A. Massive PE
  - B. Acute myocardial infarction
  - C. Major (submassive) PE
  - D. Minor PE
  - E. 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?
- A. CT-pulmonary angiogram
  - B. ECG
  - C. Chest x-ray
  - D. Leg doppler
  - E. 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:
- A. Immobilization
  - B. Surgery and trauma
  - C. Pregnancy
  - D. Bone fracture
  - E. Alcohol abusing
80. The onset of pulmonary embolism may include all symptoms, EXCEPT:
- A. Syncope
  - B. Arterial hypertension
  - C. Productive cough
  - D. Wheezing
  - E. Decreasing level of consciousness
81. Patients with massive pulmonary embolism may develop all symptoms, EXCEPT
- A. Arterial hypotension
  - B. Tachycardia
  - C. Polyuria
  - D. Pleuritic chest pain
  - E. Tachypnea
82. Minor pulmonary embolism is caused by occlusion of pulmonary vasculature:
- A. 50-70%
  - B. 70-90%
  - C. < 30%
  - D. 30-50%
  - E. >90%
83. Major pulmonary embolism is caused by occlusion of pulmonary vasculature:
- A. 50-70%
  - B. 70-90%
  - C. < 30%
  - D. 30-50%
  - E. > 50%
84. Massive pulmonary embolism is caused by occlusion of pulmonary vasculature:
- A. 10-30%
  - B. < 10%
  - C. < 30%
  - D. 30-50%
  - E. > 50%
85. 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
86. Which clinical signs 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
87. 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
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 ascendence
- 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:
- 1, 2, 3
  - 1, 3, 4
  - 1, 4, 5
  - 2, 3, 4
  - 3, 4, 5
116. Which antiplatelet agent is used most often?
- Aspirin
  - Clopidogrel
  - Ticlopidine
  - Heparin
  - 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?
- Thromboangiitis obliterans (Buerger's disease)
  - Lupus vasculitis
  - Atheroembolism
  - Raynaud's syndrome
  - 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?
- Multiple toe amputations
  - Long-term anticoagulant therapy
  - Immediate operative intervention
  - Angiography followed by bypass surgery
  - 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?
- There is less efficient function than after above-knee amputation
  - Stump prognosis can be judged by transcutaneous oxygen monitoring
  - Poor prognosis is inevitable if Doppler fails to record a pulse at that level
  - Is performed in patients with occlusion of femoral artery
  - 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?
- 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 preasure; 4. Endothelial function imparement; 5. Smooth muscle function imparement.
- 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 pedal 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:  
 A. 1-4 mm;  
 B. 5-10 mm;  
 C. 10-15 mm;  
 D. > 15 mm;  
 E. < 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.  
 A. 1, 2, 3;  
 B. 1, 3, 4;  
 C. 1, 2, 4;  
 D. 2, 3, 5;  
 E. All are correct.
149. Where deep vein thrombosis most oftenly begins:  
 A. Foot;  
 B. Anlke;  
 C. Calf;  
 D. Knee;  
 E. 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.  
 A. 1, 2, 3;  
 B. 2, 3, 4;  
 C. 1, 3, 5;  
 D. 2, 3, 5;  
 E. All are correct.
151. What cancers are most suspicios for the development of deep vein thrombosis: 1. Thyroid cancer; 2. Lung cancer; 3. Genitourinary cancer; 4. CNS cancer; 5. Gastrointestinal cancer.  
 A. 2, 3, 4;  
 B. 2, 3, 5;  
 C. 1, 2, 3;  
 D. 3, 4, 5;  
 E. 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 therap.  
 A. All are correct;  
 B. 1, 2, 3;  
 C. 2, 3, 4;  
 D. 1, 2, 4;  
 E. 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.  
 A. 1, 2, 3;  
 B. 2, 3, 4;  
 C. 3, 4, 5;  
 D. 1, 2, 5;  
 E. 2, 3, 5
154. Homans' sign – is:  
 A. Thigh swelling;  
 B. Leg cyanosis;  
 C. Pain with passive dorsiflexion of the foot;  
 D. Tenderness of the calf;  
 E. Prominent superficial veins in case of deep vein thrombosis
155. Which statement concerning D-dimer are not true?  
 A. 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 39°C. 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
- E. 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*
  - $\beta$ -hemolytic *Streptococcus*
  - Pseudomonas*
  - Bacteroides*
  - E.coli*
198. What type of surgery is complicated most oftenly 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-Patteson) 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 esophagus 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 vary 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
  - H<sub>2</sub> 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
  - H<sub>2</sub>-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
  - $\alpha$ -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 (T<sub>4</sub>) and triiodothyronine (T<sub>3</sub>)
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. catotis communis  
 B. a. thyroidea communis  
 C. aortic arch  
 D. tr.thyrocervicalis  
 E. a. subclavia
233. Superior thyroid artery is the branch of:  
 A. a. catotis 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 +  $\beta$ -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:
- A. Thyrostatic drugs
  - B.  $\beta$ -blockers
  - C. Radioactive iodine
  - D. Sedative drugs
  - E. Steroid hormones
241. Ultrasonographic sign of malignant thyroid nodule is:
- A. Size of the nodule less than 1 cm
  - B. Fluid in the central area of the nodule
  - C. Peripheral vascularization of the nodule
  - D. Unclear circuit of the nodule
  - E. Multiple nodules
242. Thyrotoxic adenoma generally produces:
- A. Triiodothyronine
  - B. Thyroxin
  - C. Thyrocalcitonin
  - D. Thyrotropin-releasing hormone
  - E. Thyroid-stimulating hormone
243. The best surgical procedure for Grave's disease is:
- A. Resection of thyroid gland
  - B. Hemithyroidectomy
  - C. Subtotal thyroid resection
  - D. Isthmectomy
  - E. Total thyroidectomy
244. Ultrasonographic sign of colloid nodule is:
- A. Size of the nodule – 1 cm
  - B. Fluid in the central area of the nodule
  - C. Peripheral vascularization of the nodule
  - D. Unclear circuit of the nodule
  - E. Multiple nodules
245. Ultrasonographic sign of thyroid cyst is:
- A. Size of the nodule – 1 cm
  - B. Fluid inside the nodule
  - C. Peripheral vascularization of the nodule
  - D. Unclear circuit of the nodule
  - E. Multiple nodules
246. On second day after hemithyroidectomy the deep wound hematoma arised, but does not increase in size. What is your further action?
- A. No further intervention
  - B. Surgical exploration, removing wound hematoma and ligation of the bleeding vessel
  - C. Cold compress on wound area, antibiotic therapy, hemostatic drugs
  - D. Antibiotic therapy, aspirin
  - E. Hot compress on neck area
247. In patient with suspicion for postoperative hypothyroidism first of all we should check:
- A. Iodine excretion with urine
  - B. Radioiodine absorption
  - C. T4
  - B. T3
  - E. TSH
248. Levothyroxine therapy after thyroidectomy in patient with multinodular goiter is called:
- A. Suppressive
  - B. Replacing
  - C. Supportive
  - D. Stimulating
  - E. 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?

- A. Insufficiency of parathyroid glands
- B. Thyrotoxic crisis
- C. Injury of recurrent nerve
- D. Postoperative hypothyroidism
- E. 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?

- A. Dynamic observation
- B. No need for treatment
- C. Radioactive iodine
- D. Conservative therapy
- E. Surgical intervention

263. What arrhythmia most oftenly develops in patients with toxic goiter?

- A. Atrial fibrillation
- B. Ventricle fibrillation
- C. AV block
- D. Extrasystole
- E. Thyroid hormones doesn't cause any heart problems

264. What is the most probable reason of autoimmune thyroid inflammation initiation?

- A. human body reaction to own thyroid proteins
- B. human body reaction to foreign proteins which get to organism from environment
- C. influence of light irradiation to human body
- D. increased blood level of thyrostimulating hormone
- E. 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 fatigue E. What is the most probable diagnosis?

- A. Riedel's thyroiditis
- B. Subacute thyroiditis
- C. Papillary thyroid carcinoma
- D. Suppurative thyroiditis
- E. 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?

- A. Thyroid carcinoma
- B. Autoimmune thyroiditis
- C. Thyroid hyperplasia
- D. Endemic goiter
- E. 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
- 1, 2, 3
  - 1, 3, 4
  - 1, 2, 4
  - 2, 3, 4
  - All are correct
268. What medicine may cause secondary thyroiditis?
- Amiodarone
  - Cefuroxime
  - Potassium iodine
  - Digoxin
  - All can cause
269. The history of acute thyroiditis include all of the following, EXCEPT:
- Fever
  - Neck pain
  - Hoarseness
  - Dysphagia
  - 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
- 1,3,5
  - 1,3,6
  - 2,4,6
  - 2,3,6
  - 1,4,5
271. Chronic autoimmune thyroiditis is associated with which of the following?
- High fever
  - Previous bacterial infection
  - Thyroid gland enlargement
  - Dysphagia
  - With everything
272. What is the main complication of chronic autoimmune thyroiditis?
- Hypothyroidism
  - Hyperthyroidism
  - Hypoparathyroidism
  - Abscess formation
  - Descending necrotizing mediastinitis
273. Which statement, concerning acute thyroiditis is NOT TRUE?
- The usual microorganism responsible for acute thyroiditis is *Staphylococcus aureus*
  - Patients with acute thyroiditis generally maintain normal thyroid function
  - Radioactive iodine thyroid scanning is useless in patients with acute thyroiditis
  - Thyroid ultrasonography is useful in patients with acute thyroiditis
  - 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?
- Subacute thyroiditis is generally thought to be due to viral infection
  - C-reactive protein levels are usually elevated in subacute thyroiditis
  - Treatment of subacute thyroiditis is symptomatic
  - 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.
- A. The cortex is divided into three functional zones: the outer glomerulosa, the intermediate fasciculata, and the inner reticularis.
  - B. Zona glomerulosa produce mineralocorticoids
  - C. Zona fasciculata produce glucocorticoids
  - D. Zona reticularis produce sex steroids
  - E. Only mineralocorticoids are absolutely required for life
288. The adrenal medulla is embryologically analogous to a peripheral sympathetic ganglia and consists of:
- A. Chromaffin tissue
  - B. Connective tissue
  - C. Chromogranin tissue
  - D. Muscle tissue
  - E. Epithelial tissue
289. The adrenal medulla produces:
- A. Estrogen
  - B. Aldosterone
  - C. Cortisol
  - D. Epinephrine
  - E. 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.
- A. 1, 2, 3
  - B. 1, 2, 4
  - C. 1, 2, 5
  - D. 1, 3, 4
  - E. All are used
291. Sudden death has been reported following biopsy of unsuspected pheochromocytoma. Which statement is **WRONG** concerning adrenal tumor biopsy?
- A. Percutaneous biopsy of the adrenal gland can be performed under either CT or ultrasound guidance
  - B. Biopsy should be performed in all cases of adrenal masses
  - C. The most common indication is suspicion of metastatic disease to the adrenal gland
  - D. A percutaneous biopsy cannot reliably distinguish between an adrenal adenoma and an adrenal carcinoma
  - E. 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?
- A. 1, 2
  - B. 1, 3
  - C. 2, 3
  - D. All of them should be answered
  - E. 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 thyroxine 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 H<sub>2</sub>-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. Atrial fibrillation; 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 39°C, 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 38,5°C. 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 tension pneumothorax 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 tension pneumothorax 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 1<sup>st</sup> and 2<sup>nd</sup> 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 11<sup>th</sup> or 12<sup>th</sup> 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 achalasia
  - 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
  - Painful ribs fracture
  - Flail chest
  - Acute cardiac tamponade
371. Measurement of serum creatine kinase isoenzyme (creatin 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 hemoptysis, 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 oftenly 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 oftenly 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
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
- E. 2,4,5
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. Recurrent aspiration  
 D. Fungal infection  
 E. Poor lung perfusion
412. The usual indications for surgery, in patients with lung abscess, are : 1). coexisting severe obstructive lung disease, 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 40<sup>0</sup>C, 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