Database of questions for the Medical Final Examination (LEK)

Part 1

Internal diseases

Modified 21.05.2026

Question nr **1**

A 52-year-old woman receiving orally iron formulations because of mild microcytic anaemia complains of abnormally heavy menorrhagia. The doctor ordered faecal guaiac occult blood test (FOBT) three times and the results were positive. Which strategy should be chosen first?

A. colonoscopy.

B. FOBT should be repeated after discontinuation of iron formulations.

C. coeliac disease should be excluded.

D. diet with elimination of high doses of vitamin C and repeat the test.

E. decision needs to be based on gastrointestinal symptoms.

Question nr **2**

Which of the following medications should be avoided in the patient with hypertrophic cardiomyopathy, with left ventricular outflow tract peak instantaneous pressure gradient 35 mmHg (measured with Doppler echocardiography), left ventricular ejection fraction 52%, symptoms of heart failure NYHA class II and chest pain:
1) nonsteroidal anti-inflammatory drugs;
2) non-vasodilating beta-blockers;
3) non-dihydropyridine calcium channel blockers;
4) long-acting oral nitrates;
5) digoxin.
The correct answer is:

A. 1,3,4.

B. 1,4,5.

C. 2,3,5.

D. 4,5.

E. only 5.

Question nr **3**

The extra-articular manifestations in rheumatoid arthritis include:
1) lymphadenopathy;
2) rheumatoid nodules;
3) pulmonary fibrosis;
4) keratoconjunctivitis, scleritis, episcleritis;
5) pericarditis.
The correct answer is:

A. all the above.

B. only 2.

C. 3,5.

D. 1,2,3,5.

E. 2,3,5.

Question nr **4**

A 62-year-old patient with arterial hypertension and type 2 diabetes presents at his family doctor office because of a retrosternal stubbing pain that occurs after going upstairs to the first floor. The symptoms started about 6 weeks ago. Medical examination shows no significant abnormalities. The ECG records regular sinus rhythm 70/min without changes within ST segment or T wave. Indicate the correct management of this patient:

A. referring the patient to the cardiology ward in order to exclude myocardial infarction and to perform urgent coronarography.

B. referring the patient to the cardiology outpatient clinic in order to schedule the planned coronarography.

C. referring the patient to the cardiology outpatient clinic in order to perform non-invasive stress echocardiography.

D. referring the patient to the cardiology outpatient clinic in order to perform stress test ECG.

E. patient does not need any further diagnostics.

Question nr **5**

A 70-year-old patient, treated for arterial hypertension for over 30 years, called his family doctor because of lower limb edemas worsening for a week. Physical examination showed increased blood pressure and edemas around ankles. Indicate **the least** probable cause of those symptoms:

A. hypertensive nephropathy.

B. drug-induced lymphatic edemas.

C. congestive heart failure.

D. nephrotic syndrome in the course of primary amyloidosis.

E. nephrotic syndrome in the course of glomerulonephritis.

Question nr **6**

Non-cardiac conditions that predispose towards atrial fibrillation include:
1) hyperthyroidism;
2) hypothyroidism;
3) acute infection;
4) obstructive sleep apnea;
5) pheochromocytoma.
The correct answer is:

A. 1,3,5.

B. 1,3,4,5.

C. 1,2,3,5.

D. 2,3,4,5.

E. all the above.

Question nr **7**

The abnormalities in ECG which are characteristic of hyperkalemia include:
1) ST depression;
2) flattened P wave;
3) shortened QT intervals;
4) tall and narrow T waves;
5) tall and wide U waves.
The correct answer is:

A. 1,2,4,5.

B. 1,4,5.

C. 3,4,5.

D. 2,3,4.

E. 2,4.

Question nr **8**

Cancer-related ileus:

A. is most frequent in patients with ovarian cancer and gastrointestinal tumours.

B. may be caused by a mechanical obstruction or may be related to metabolic disorders.

C. is always an indication for using somatostatin analogues.

D. A and B are true.

E. A, B and C are true.

Question nr **9**

A decreased serum iron concentration can be found in:

A. megaloblastic anemia.

B. sideroblastic anemia.

C. chronic disease anemia.

D. healthy persons aged 16-20 years.

E. healthy persons aged over 65 years.

Question nr **10**

In which clinical circumstances a decrease in the diffusing capacity of the lung for carbon monoxide (DLCO) is observed?
1) interstitial pulmonary fibrosis;
2) alveolar hemorrhage;
3) well-controlled asthma;
4) pulmonary emphysema;
5) severe perfusion disturbances (e.g. pulmonary embolism).

The correct answer is:

A. 1,2,5.

B. 1,3.

C. 1,4,5.

D. 2,3,5.

E. 1,2,3,4.

Question nr **11**

Which of the following concerning gastric neuroendocrine tumor **is false**?

A. may occur in the course of Zollinger-Ellison syndrome.

B. sporadic tumor (type III) is associated with the worst prognosis because of the tendency to spread.

C. may occur as a result of atrophic gastritis.

D. occurrence of “carcinoid syndrome” indicates that the disease is advanced (metastases).

E. for diagnosis it is sufficient to find the more-than-twice elevated concentration of chromogranin A in the blood.

Question nr **12**

Which of the following should **not be** used in the therapy of a 23-year-old female who has never been pregnant and is suffering from rheumatoid arthritis diagnosed a month ago?

A. leflunomide.

B. methotrexate.

C. nonsteroidal anti-inflammatory drugs.

D. glucocorticosteroids.

E. folic acid at dose exceeding 5 mg/day.

Question nr **13**

Which of the following conditions may lead to aortic regurgitation?

1) type B aortic dissection in the Stanford classification;
2) dilatation of the aorta caused by long-term arterial hypertension;
3) ischemic cardiomyopathy with the dilated left ventricle;
4) outlet-type ventricular septal defect;
5) acute myocarditis.
The correct answer is:

A. 1,2,3.

B. 1,3,5.

C. 4,5.

D. 2,4.

E. only 2.

Question nr **14**

Indicate the true statement concerning the rules and time in the treatment for chronic hepatitis B:

A. chronic hepatitis B should be treated with pegylated interferon.

B. chronic hepatitis B should be life-long treated with lamivudine in each HBsAg-positive patient.

C. chronic hepatitis B should be treated with entecavir or tenofovir for 48 weeks.

D. chronic hepatitis B should be treated with pegylated interferon for 48 weeks in selected patients or with entecavir or tenofovir until the elimination of HBs antigen and the occurrence of anti-HBs antibodies.

E. chronic hepatitis B does not demand any antiviral treatment nowadays.

Question nr **15**

Which of the following factors increase the risk of community-acquired pneumonia?
1) poor oral hygiene and dental caries;
2) chronic spondyloarthropathy;
3) elderly age;
4) work in an air-conditioned room;
5) glucocorticoid administration.
The correct answer is:

A. 1,2,4.

B. 1,3,5.

C. 2,4,5.

D. 1,3,4.

E. 3,4,5.

Question nr **16**

Pancreatic cancer may be related to:

A. obesity.

B. smoking.

C. diabetes.

D. A and B are true.

E. A, B and C are true.

Question nr **17**

The measurement of albuminuria in 24 h urine collection may be replaced by more convenient:

A. albumin-to-creatinine ratio in 24 h urine collection.

B. albumin-to-creatinine ratio in a spot first morning urine sample.

C. albumin-to-creatinine ratio in a spot urine.

D. total protein-to-creatinine ratio in 24 h urine collection.

E. albumin detection in a spot urine using dipstick method.

Question nr **18**

An increased level of prostate-specific antygen (PSA):

A. justifies the diagnosis of prostate carcinoma.

B. indicates the need of transrectal ultrasound-guided fine-needle biopsy.

C. indicates the need of transrectal ultrasound with excisions for histologic examination.

D. requires pelvic magnetic resonance imaging.

E. requires use of positron emission tomography.

Question nr **19**

Indicate the laboratory test used to determine if ascites is caused by portal hypertension:

A. APRI (aspartate aminotransferase to platelet ratio index).

B. CA125 concentration in ascitic fluid.

C. serum-ascites albumin gradient.

D. pH of blood and ascitic fluid.

E. fibronectin concentration in ascitic fluid.

Question nr **20**

Interstitial pneumonia:

A. is the most common manifestation of lung cancer.

B. may be a result of anti-cancer immunotherapy.

C. is an indication for the use of corticosteroids.

D. B and C are correct.

E. A, B and C are correct.

Question nr **21**

The first-choice medication in the treatment of skin itching caused by cholestasis is:

A. colestyramine.

B. rifampicin.

C. naltrexone.

D. rifaximin.

E. ursodeoxycholic acid.

Question nr **22**

A 58-year-old man otherwise healthy, not treated for any chronic diseases complains of chronic constipation. He was admitted to the hospital because of bloody stools that occurred two days prior to the admission. His general clinical state was good. Blood pressure 135/65 mmHg, HR 84/min. Body temperature 36.6 °C, BMI 31 kg/m^2. He underwent screening colonoscopy at the age of 55, in which colon diverticula were diagnosed. Indicate the most probable cause of GI bleeding:

A. ulcerative colitis.

B. haemorrhoids.

C. colon diverticula.

D. colon cancer.

E. angiodysplasia.

Question nr **23**

In a patient with acute kidney injury features of thrombotic microangiopathy were found in the biopsy. It can occur in the course of:
1) granulomatosis with polyangiitis (GPA);
2) malignant-phase hypertension;
3) atypical hemolytic-uremic syndrome;
4) pulmonary-renal syndrome;
5) antiphospholipid syndrome.
The correct answer is:

A. 1,3,5.

B. 2,3,5.

C. 1,2,3,5.

D. 2,4,5.

E. 2,3,4.

Question nr **24**

A 60-year-old patient with diabetes, arterial hypertension and paroxysmal atrial fibrillation presents at the ER because of a chest pain. Laboratory tests show increased levels of cardiac troponins. The cause of his complains may be:
1) unstable angina;
2) dissecting aneurysm of the aorta;
3) atrial fibrillation with ventricular tachycardia;
4) decompensated cardiac failure;

5) pulmonary embolism;
6) NSTEMI;
7) stroke;
8) gastroesophageal reflux disease and chronic kidney disease.
The correct answer is:

A. only 6.

B. 2,3,6.

C. 2,3,5,6.

D. 2,3,5,6,8.

E. all the above.

Question nr **25**

Orthopnoea in a patient with left ventricular insufficiency typically starts:

A. late after lying down, it awakes the patient, and subsides after ≥ 30 minutes of verticalization.

B. late after lying down, but it does not awake the patient, and subsides after ≥ 30 minutes of verticalization.

C. right after lying down and it subsides promptly after standing up or sitting.

D. 1-2 minutes after lying down and it subsides a few minutes after standing up or sitting.

E. 15 minutes after lying down and subsides after ≥ 30 minutes of sitting.

Question nr **26**

A 28-year-old patient with no serious medical history presents at family doctor office because of fatigue increasing for the last week, nocturia and edemas of the lower limbs during the day. On physical examination normal blood pressure and edema in the ankle regions are noted. The most probable diagnosis suggested by the described clinical picture is:

A. erysipelas.

B. thrombophlebitis of the deep veins.

C. congestive heart failure.

D. nephrotic syndrome in the course of amyloidosis.

E. nephrotic syndrome in the course of glomerulonephritis.

Question nr **28**

A 56-year-old female smoker with recurrent bilateral nephrolithiasis diagnosed 10 years ago, resistant to treatment depression, and arterial hypertension came to the doctor with the result of her forearm DXA densitometry which showed T-score=-2.9. Indicate the most important tests in further diagnostics:

A. serum concentrations of TSH, creatinine, and aldosterone.

B. DXA densitometry of the femoral neck, serum concentrations of calcium and creatinine.

C. serum concentrations of calcium, phosphates and PTH.

D. serum concentrations of creatinine, PTH, and TSH as well as urinalysis.

E. serum concentrations of calcium, ALP, and glucose as well as urinalysis.

Question nr **29**

In a patient with systemic lupus erythematosus with the involvement of the respiratory system in the form of lupus pneumonitis, the following treatment may be applied:

A. glucocorticosteroids in large doses orally or in i.v. pulses.

B. cyclophosphamide i.v. in pulses.

C. plasmapheresis.

D. azathioprine, especially as a maintenance therapy after cyclophosphamide induction.

E. all the above.

Question nr **30**

Indicate the most characteristic set of symptoms of meningitis:

A. palsy of the cranial nerve, nausea.

B. loss of consciousness, seizures.

C. seizures, high fever.

D. nausea, headache.

E. headache, high fever, nuchal rigidity.

Question nr **31**

In a patient with long-lasting type 2 diabetes and diabetic kidney disease, until now treated with oral hypoglycemic drugs, further progression of chronic kidney disease has been noted with decrease of glomerular filtration rate down to 15/ml/min/1.73 m^2. Which of the following drugs can be still used as hypoglycemic agents in this patient?

A. metformin and liraglutide.

B. dapagliflozin and insulin.

C. empagliflozin and glipizide.

D. linagliptin and insulin.

E. sitagliptin and insulin.

Question nr **32**

Which of the following concerning restrictive cardiomyopathy (RCM) **is false**?

A. right ventricular heart failure is dominant in the clinical picture of advanced RCM.

B. acquired RCM may develop in constrictive pericarditis.

C. electrocardiogram typically shows a low R wave amplitude in all leads.

D. echocardiographic examination shows the enlargement of the cavities of both atria with relatively small ventricles.

E. endomyocardial biopsy may be useful in the RCM diagnostics.

Question nr **33**

Complete blood count: WBC 126,2 G/L, LY 33,61 G/L, MO 82,95 G/L, NE 9,62 G/L, RBC 3,82 T/L, Hgb 10,8 g/dL, MCV 84,6 fl, PLT 48 G/L suggests the diagnosis of:

A. chronic lymphocytic leukemia.

B. chronic myelocytic leukemia.

C. acute myeloid leukemia.

D. polycythemia vera.

E. inflammatory reaction.

Question nr **34**

Indicate the true statements concerning rapidly progressive glomerulonephritis mediated by anti-glomerular basement membrane antibodies (anti-GBM):
1) peak of morbidity occurs in elderly patients of age 60 or more;
2) autoantibodies against the alpha-3 chain of type IV collagen are found in patients' serum;
3) induction treatment includes pulses of glucocorticosteroids and cyclophosphamide;
4) clinical course is characterized by frequent relapses;
5) renal lesions may be accompanied by pulmonary complications in the form of alveolar hemorrhage.
The correct answer is:

A. 2,3,4.

B. 1,3,4.

C. 1,2,4.

D. 2,3,5.

E. 3,4,5.

Question nr **35**

Which of the following are recommended as the first-line treatment for maintenance therapy after achieving remission in mesangial proliferative lupus nephritis?
1) mycophenolate mofetil + prednisone;
2) cyclosporine + prednisone;
3) oral cyclophosphamide + prednisone;
4) azathioprine + prednisone;
5) methotrexate + prednisone.
The correct answer is:

A. 1,2.

B. 4,5.

C. 1,5.

D. 1,4.

E. 3,4.

Question nr **36**

A 45-year-old female with liver cirrhosis related to HCV infection complains of marked fatigue and dyspnea aggravating after standing up from a lying position. Laboratory tests excluded anemia and sideropenia. The CRP concentration is normal. The chest X-ray is normal. Which of the following should be performed to explain the probable cause of the complaints?

A. doppler ultrasonography of abdominal blood vessels and electrocardiography (ECG).

B. spirometry and stress test.

C. echocardiography and cardiac catheterization.

D. arterial-blood gas test and echocardiography with the use of shaken normal saline solution.

E. ferritin concentration and magnetic resonance of the abdomen.

Question nr **38**

In a 75-year-old woman in a check-up a serum sodium of 132 mmol/l has been found. The woman does not complain about any symptoms and does not take any drugs. Indicate the proper way of treatment:

A. intravenous infusion of 10% NaCl.

B. intravenous infusion of 3% NaCl.

C. intravenous infusion of 0.9% NaCl.

D. oral NaCl administration.

E. recommend only a healthy and balanced diet.

Question nr **39**

In which of the following types of glomerulonephritis the deposition of immunologic complexes in the glomeruli is found?
1) membranous nephropathy;
2) IgA nephropathy;
3) focal segmental glomerulosclerosis (FSGS);
4) minimal change disease;
5) acute post-infectious glomerulonephritis.
The correct answer is:

A. 1,2,5.

B. 1,3,4.

C. 1,4,5.

D. 2,3,5.

E. 2,5.

Question nr **40**

Infliximab (anti-TNF alfa antibodies) is used for the treatment of inflammatory bowel diseases in the following cases, **except for**:

A. steroid refractoriness.

B. thiopurine intolerance (azathioprine, 6-mercaptopurine).

C. steroid dependency.

D. rescue therapy in severe ulcerative colitis.

E. management of perianal fistulas in Crohn disease.

Question nr **41**

Indicate **the false** statement concerning proton-pump inhibitors (PPIs):

A. all PPIs must be taken 15-30 minutes before the morning meal.

B. mechanism of PPI action consists in an irreversible inhibition of H+/K+-ATPase of the gastric parietal cells.

C. chronic use of PPIs in patients with *Helicobacter pylori* infection may lead to atrophic gastritis.

D. PPIs increase moderately serum gastrin concentrations.

E. in patients with Zollinger-Ellison syndrome PPIs are recommended at a dose several fold higher than the standard one.

Question nr **42**

Indicate clinical situations in which chronic tubulointerstitial nephritis develops:
1) hyperuricemia;
2) chronic lithium treatment;
3) primary Sjögren's syndrome;
4) hypercalcemic nephropathy;

5) hypokalemic nephropathy.
The correct answer is:

A. 2,3,4.

B. 1,2,3.

C. 1,2,4,5.

D. 2,3,4,5.

E. all the above.

Question nr **43**

Implantable cardiac pacemakers are marked with a three-letter code (XYZ), in which each letter means:

A. X - paced chamber; Y - sensed chamber; Z - mode of pacing.

B. X - sensed chamber; Y - paced chamber; Z - mode of pacing.

C. X - mode of pacing; Y - sensed chamber; Z - paced chamber.

D. X - mode of pacing; Y - paced chamber; Z - sensed chamber.

E. X - paced chamber; Y - mode of pacing; Z - sensed chamber.

Question nr **44**

Indicate clinical conditions presenting with ‘sterile pyuria’:
1) tuberculosis of the urinary tract;
2) drug-induced acute tubulointerstitial nephritis;
3) *Chlamydia trachomatis* infection;
4) lupus nephropathy;
5) Sjögren syndrome.
The correct answer is:

A. 1,2,3,4.

B. 1,4,5.

C. 1,2,3,5.

D. 3,4,5.

E. all the above.

Question nr **45**

Numerous interactions between vitamin K antagonists (VKA) and other medications or food must be considered in patients chronically treated with VKA. Which of the following intensify the action of VKA?
1) carbamazepine;
2) ciprofloxacin;
3) amiodarone;
4) spinach;
5) grapefruit juice;
6) mesalazine.
The correct answer is:

A. 1,2,3,6.

B. 1,4,6.

C. 2,3,4.

D. 1,3,5,6.

E. 2,3,5.

Question nr **46**

A 30-year-old male complains of colic pain in the left lumbar region with macroscopic hematuria, chills and fever 40 Celsius. Indicate the most probable diagnosis:

A. kidney stones.

B. kidney stones with accompanying urinary tract infection.

C. acute pyelonephritis.

D. IgA nephropathy.

E. renal papillary necrosis.

Question nr **48**

A patient presenting symptoms of acute heart failure class II according to Forrester hemodynamic classification was referred to the cardiac intensive care unit. What kind of treatment will be the most appropriate?

A. beta-blocker.

B. only fluid transfusion.

C. diuretics and vasodilators.

D. diuretics and vasoconstrictors.

E. fluid transfusion with beta-blocker administration.

Question nr **49**

In chronic kidney disease there is a propensity for:

A. bleeding disorders.

B. thrombosis.

C. cardiovascular diseases.

D. A, B and C are true.

E. A and C are true.

Question nr **50**

Which of the following test should be performed in order to qualify the patient to the nephrectomy due to hydronephrosis without recurrent infections but accompanied by treatment-resistant hypertension?

A. abdominal ultrasonography with kidney size assessment.

B. Doppler ultrasonography with the assessment of the blood flow in the renal arteries.

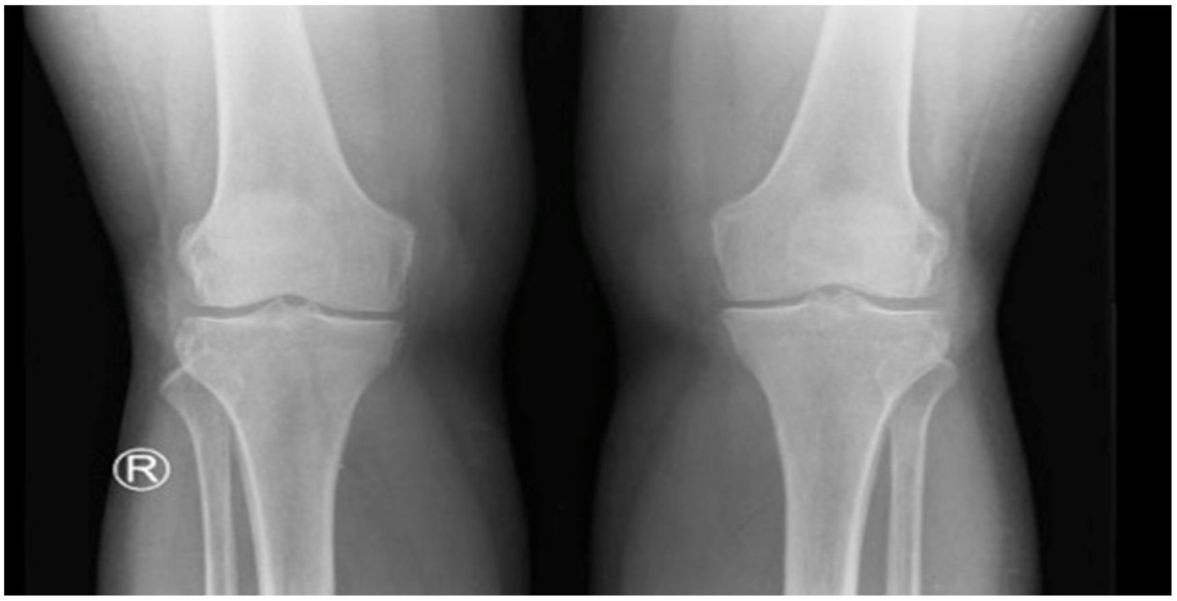
C. computed tomography of the abdomen.

D. urography.

E. renoscintigraphy.

Question nr **51**

A 65-year-old male complains of knee joint pains, particularly on physical exercise. The pain subsides upon the rest. The anteroposterior radiograph of his knee joints is shown below:
Indicate the cause of the observed symptoms:



A. gout.

B. alkaptonuria.

C. pseudogout.

D. osteoarthritis.

E. rheumatoid arthritis.

Question nr **52**

A 76-year-old female patient complaints of persistent diarrhea. For one year she has been taken lansoprazole at a dose of 30 mg daily due to persistent pyrosis. Recently she has been treated with ciprofloxacin together with probiotics because of urinary tract infection. You should widen diagnostic procedures in order to exclude:
1) celiac disease;
2) SIBO (small intestine bacterial overgrowth);
3) microscopic colitis;
4) *Clostridium difficile* infection;
5) diverticular disease.
The correct answer is:

A. 1,2.

B. 2,3.

C. 3,4.

D. 4,5.

E. 3,4,5.

Question nr **54**

A 66-year-old male patient with an attack of atrial fibrillation has TSH 0.1 mIU/L (N 0.27 - 4.2) and FT4 1.98 ng/dL (N 0.7-1.7). The patient has been taking 100 µg of thyroxine once a day because he was diagnosed with hypothyroidism three years ago. Indicate the optimal treatment of thyroid disease:

A. reduce the dose of thyroxine to 75 µg/day and check TSH in 4-6 weeks.

B. totally stop thyroxine and check TSH in three days.

C. totally stop thyroxine and check TSH in three months.

D. start to implement thyrostatic treatment.

E. refer the patient to radioiodine treatment.

Question nr **55**

The indications for the creation of transjugular intrahepatic portosystemic shunt (TIPS) in the course of liver cirrhosis **do not** include:
1) hepatic encephalopathy;
2) recurrent bleeding from esophageal varices or the gastric fundus;
3) recurrent ascites;
4) type 2 hepatorenal syndrome with refractory ascites;
5) type 1 hepatorenal syndrome.
The correct answer is:

A. 1,2.

B. 2,3.

C. 1,5.

D. 3,4.

E. only 1.

Question nr **56**

In what situation should the electric cardioversion of atrial fibrillation be performed immediately in a patient with Wolff-Parkinson-White syndrome?

A. coexisting hypokalemia.

B. fibrillation with rapid ventricular rate.

C. there are documented numerous additional electrical conduction pathways.

D. in every case.

E. none of the above-mentioned case.

Question nr **57**

Which of the following signs and symptoms, occurring with variable intensity, may suggest acute tubulo-interstitial nephritis?
1) dull lumbar pain;
2) oliguria;
3) maculopapular rash;
4) hematuria;
5) fever.
The correct answer is:

A. all the above.

B. 1,2,4.

C. only 1.

D. 3,4,5.

E. 2,3.

Question nr **58**

The monoclonal protein (M protein) in multiple myeloma is usually an immunoglobulin of the class:

A. IgG.

B. IgA.

C. IgM.

D. IgE.

E. IgD.

Question nr **59**

The factors defining a dynamic course of COPD include:
1) FEV1 value;
2) degree of dyspnea according to MRC;

3) smoking habit;
4) frequency of aggravations;
5) patient's age.
The correct answer is:

A. 1,2.

B. only 2.

C. 3,4.

D. only 4.

E. 4,5.

Question nr **60**

A 40-year-old man with type 1 diabetes comes to the office because of more frequent incidents of hypoglycaemia. He decreased the dose of insulin. What might be the cause of hypoglycaemia in this patient?

A. increased alcohol consumption.

B. increased physical activity.

C. decreased calorie intake.

D. impaired renal function.

E. all the above.

Question nr **61**

Indicate **the false** statement concerning the treatment of bleeding from esophageal varices:

A. treatment should include antibiotics.

B. somatostatin and glypressin show similar efficacy in stopping the bleeding.

C. patient needs blood transfusion until reaching hemoglobin concentrations of 7-8 g/dL.

D. transfusions of large volumes of frozen plasma to normalize INR should be avoided.

E. endoscopy should be performed after 24 hours of hospitalization.

Question nr **64**

Indicate **the false** statement concerning syndrome of inappropriate antidiuretic hormone secretion - SIADH:

A. diagnosis of SIADH is not possible without the exclusion of adrenal insufficiency.

B. risk of central pontine myelinolysis increases with too a rapid correction of hyponatremia.

C. urine sodium determination is diagnostically significant only if the patient does not take diuretics.

D. correction of hyponatremia requires the administration of a concentrated (3%) saline solution in the majority of patients.

E. serum osmolarity is lower than 280 mOsm/kg, while urine osmolarity should be above 100 mOsm/kg.

Question nr **65**

A 28-year-old man comes to the doctor complaining of an epigastric pain that radiates to his back. Serum amylase concentration is 10-fold higher than the normal limit. What is the most probable diagnosis?

A. acute pancreatitis.

B. aortic dissection.

C. peptic ulcer disease.

D. acute myocardial infarction.

E. celiac disease.

Question nr **66**

Which of the following **is not** included in diagnostic criteria for adult-onset Still's disease?

A. fever >39°C lasting > 1 week;.

B. joint pain lasting > 2 weeks;.

C. typical rash;.

D. leukocytosis > 10 000/mm^3, neutrophils > 80%;.

E. presence of mononuclear cells in blood smear.

Question nr **67**

Chronic obstructive pulmonary disease can be diagnosed based on the symptoms and spirometry results. Which component of spirometry is used to diagnose chronic obstructive pulmonary disease?

A. forced expiratory volume in 1 second (FEV1) and forced vital capacity (FVC).

B. inspiratory capacity (IC).

C. tidal volume (TV).

D. expiratory reserve volume (ERV).

E. inspiratory reserve volume (IRV).

Question nr **68**

Acquired hemophilia A can occur in:

A. woman two months after childbirth.

B. systemic lupus erythematosus.

C. elderly for no apparent reason, the so-called idiopathic form.

D. prostate cancer.

E. all the above.

Question nr **69**

Eisenmenger’s syndrome diagnosed in a 28-year-old patient may be a complication of the following uncorrected congenital heart defects:
1) atrial septal defect;
2) ventricular septal defect;
3) Ebstein’s anomaly;
4) aortic coarctation;
5) patent ductus arteriosus.
The correct answer is:

A. 1,2,3,5.

B. 2,3,5.

C. 1,2,5.

D. 2,4.

E. 3,4.

Question nr **71**

Medications that may induce arterial hypertension **do not** include:

A. theophylline.

B. cyclosporine.

C. erythropoietin.

D. glucocorticosteroids.

E. testosterone preparations.

Question nr **72**

A 42-year-old patient, suffering from type 1 diabetes mellitus since 7 years of age, notices the increase in his systolic blood pressure up to 150-160 mmHg by home measurements. He has undergone several treatments with laser therapy for proliferative retinopathy in the last years. For several months he has usually woken up 2-3 times in the night to void urine. The described signs and symptoms suggest with the highest probability the diagnosis of:

A. benign prostatic hyperplasia.

B. urinary tract infection.

C. renal artery stenosis.

D. diabetic nephropathy.

E. aortic valve stenosis.

Question nr **73**

Indicate true statements on the pathogenesis and treatment of edemas in nephrotic syndrome:
1) in the majority of patients with albumin concentration of 2.0-3.0 g/l edemas occur with hypervolemia and are caused by sodium retention in renal tubules;
2) in some patients with hypoalbuminemia < 2.0 g/l edemas occur with hypovolemia;
3) regardless of an underlying pathomechanism in all patients 100 mL of 20% albumin should be infused before diuretic administration;

4) in patients with hypervolemia sodium supply should be limited to 3-6 g of NaCl daily;
5) increased doses of intravenous furosemide are recommended because of hypoalbuminemia.
The correct answer is:

A. 1,2,4,5.

B. 1,2,5.

C. 2,3,4.

D. 1,4,5.

E. 2,3,4,5.

Question nr **74**

Indicate true statements on contrast nephropathy:
1) contrast nephropathy is an acute kidney injury occuring within 7-10 days after the intraarterial administration of a contrast agent;
2) increased risk is observed in elderly patients;
3) diuretic administration is a risk factor;
4) prevention measures include intravenous hydration of risk group patients with 0.9% saline solution;
5) in patients with renal failure hemodialysis should be prophylactically performed before and after the administration of a contrast agent.
The correct answer is:

A. 1,2,3,4.

B. 2,3,4,5.

C. 1,3,4.

D. 2,3,4.

E. 3,4,5.

Question nr **75**

Indicate the result of an arterial blood gas test which shows decompensated respiratory acidosis:

A. pH - 7.30, pCO_2 - 55 mmHg, HCO_3 - 24 mmol/L.

B. pH - 7.40, pCO_2 - 40 mmHg, HCO_3 - 25 mmol/L.

C. pH - 7.50, pCO_2 - 30 mmHg, HCO_3 - 23 mmol/L.

D. pH - 7.30, pCO_2 - 50 mmHg, HCO_3 - 19 mmol/L.

E. pH - 7.48, pCO_2 - 28 mmHg, HCO_3 - 31 mmol/L.

Question nr **76**

What kind of damage to the kidneys can be observed in the course of multiple myeloma?
1) AL. amyloidosis;
2) focal segmental glomerulosclerosis (FSGS);
3) monoclonal immunoglobulin deposition disease;
4) cast nephropathy;
5) membranous nephropathy.
The correct answer is:

A. 1,3,5.

B. 1,3,4.

C. 1,2,3,5.

D. 2,4,5.

E. 3,4.

Question nr **77**

The most common type of mesangial glomerulonephritis is:

A. minimal change disease.

B. IgA nephropathy.

C. membranous glomerulonephritis.

D. focal segmental glomerulosclerosis.

E. membranoproliferative glomerulonephritis.

Question nr **78**

Metabolic acidosis in advanced chronic kidney disease is caused by:

A. administration of calcium bicarbonate.

B. inhibition of tubular HCO_3^- reabsorption.

C. accumulation of organic acids.

D. A, B, and C are true.

E. B and C are true.

Question nr **79**

Which of the following **<u>is not</u>** considered as a complication of the long-term therapy with proton pump inhibitors?

A. small intestinal bacterial overgrowth (SIBO).

B. intestinal infection with *Clostridium difficile*.

C. vitamin B_{12} insufficiency.

D. gastric lymphoma.

E. hypomagnesemia.

Question nr **80**

A 36-year-old patient with type 2 diabetes and recently diagnosed arterial hypertension complains about changes in the face appearance and an enlargement of the feet.
Which of the following tests should be carried out first of all?

A. growth hormone at 8 a.m.

B. growth hormone at any time of the day.

C. FGF-23 (fibroblast growth factor 23).

D. IGF-I (insulin-like growth factor 1).

E. IGF-2 (insulin-like growth factor 2).

Question nr **81**

Which of the following accelerates the progression of chronic kidney disease?

A. cigarette smoking.

B. obesity.

C. excessive dietary protein.

D. A, B, and C are true.

E. A and B are true.

Question nr **82**

Which of the following are characteristic of ECG in hypokalemia?
1) elongation of PR interval;
2) flattening of P wave;
3) widening of QRS complexes;
4) depression of ST segments;
5) increased amplitude and width of U waves.
The correct answer is:

A. 1,3,5.

B. 1,2,3.

C. 1,3,4,5.

D. 2,3,5.

E. 2,4.

Question nr **83**

The presence of which antibodies **is not** one of the immunological criteria of the diagnosis of systemic lupus erythematosus?

A. anti-native DNA.

B. anti-Sm.

C. anti-cardiolipin.

D. against *Chlamydia trachomatis* in high titers.

E. antinuclear in the indirect immunofluorescence test.

Question nr **84**

The typical rheumatological signs of inflammatory bowel disease **do not** include:

A. inflammation of large joints, especially of the lower limbs.

B. non-symmetrical metacarpophalangeal arthritis.

C. erythema nodosum.

D. sacroiliitis, usually non-symmetrical.

E. perichondritis of the pinna and the nose.

Question nr **85**

The classical side-effects of non-steroidal anti-inflammatory drugs include:
1) mucosal ulcerations and gastrointestinal bleeding;
2) cardio-vascular complications;
3) photophobia;
4) kidney injury;
5) elevation of hepatic enzyme activity.
The correct answer is:

A. all the above.

B. 1,2,5.

C. 1,2,4,5.

D. 2,3,4.

E. 2,3,5.

Question nr **86**

Which of the following predispose towards the loud first heart sound?
1) slim body;
2) tachycardia;
3) mitral insufficiency;
4) short PR interval;
5) myocardial infarction.
The correct answer is:

A. 1,2,5.

B. 1,2,3.

C. 1,2,4.

D. 1,2,3,4.

E. all the above.

Question nr **87**

Signs and symptoms of superior vena cava syndrome may be seen in the course of:

A. lymphoma.

B. lung cancer.

C. thrombosis.

D. A and B are true.

E. A, B and C are true.

Question nr **88**

The post-bronchodilator test assesses possible reversibility of bronchoconstriction. It is performed after the administration of bronchodilators. Which of the following drugs are used in this test?
1) ipratropium bromide;
2) salbutamol or fenoterol;
3) salmeterol;
4) formoterol;
5) clenbuterol.
The correct answer is:

A. 1,5.

B. 2,5.

C. 1,2.

D. 3,4.

E. 4,5.

Question nr **89**

An 80-year-old resident of the nursing home was brought to the Emergency Room because of the deterioration of contact and decreased strength of her right lower limb lasting for 5 hours. There are no reports on the fever nor abdominal pain. The urinalysis revealed proteinuria 0.1 mg/dL, leukocytes 15-20 per hpf with numerous bacteria present. She has CRP 10 ng/mL (n < 5 ng/ml), normal complete blood count and eGFR 39 mL/min. Indicate the most probable cause of the symptoms:

A. acute pyelonephritis.

B. acute glomerulonephritis.

C. renal colic caused by nephrolithiasis.

D. bladder infection (cystitis).

E. described changes in the urea are typical of elder patients and should not be an indication for antibacterial treatment if they are not accompanied by clinical symptoms.

Question nr **90**

The typical management of acute tumour lysis syndrome includes:

A. hydration and forced diuresis.

B. allopurinol administration.

C. corticosteroid administration.

D. A and B are true.

E. A, B and C are true.

Question nr **91**

The risk factors of hyperglycemia in pregnancy **do not** include:
1) gestational diabetes during previous pregnancy;
2) giving birth to a neonate with a malformation;
3) first pregnancy;
4) pregnancy at the age of over 35 years;
5) arterial hypertension before the pregnancy;
6) overweight before the pregnancy.
The correct answer is:

A. 1,3.

B. 2,3.

C. 4,5,6.

D. 3,6.

E. only 3.

Question nr **92**

The disorders associated with chronic kidney disease include all of the following **except for**:

A. secondary hyperparathyroidism.

B. hypogonadotropic hypogonadism.

C. renal anemia.

D. renal parenchymal hypertension.

E. cystine kidney stones.

Question nr **93**

A 68-year-old patient came to the Infectious Diseases Outpatient Clinic with a diagnosis of chronic hepatitis C, and F3 fibrosis confirmed in elastographic examination. He also suffers from ischemic heart disease. Indicate the adequate statement on the recommended treatment and prognosis:

A. treatment of chronic HCV infections is limited to pegylated interferon which allows full recovery in 90% of patients, but such treatment is contraindicated in the patient because of their ischemic heart disease.

B. the patient will not be treated because in Poland antiviral treatment of chronic hepatitis C is not covered by the National Health Fund for patients older than 65.

C. treatment with pegylated interferon α associated with ribavirin and telaprevir for 11 months, which leads to sustained virologic response (SVR) in 80% of all treated, is optimal treatment currently recommended for the majority of patients, regardless of any comorbidities.

D. patient does not need any antiviral treatment because of an early stage of liver fibrosis.

E. oral therapy with two or three medications directly inhibiting HCV replication, which is aimed at curing HCV infection (genotype 1) in over 90% of cases.

Question nr **94**

The contraindications to kidney biopsy include:
1) acute kidney injury requiring dialysis;
2) absence of one kidney;
3) in kidney ultrasound, the size is approximately 7 cm, and the cortical layer is 5-7 mm wide;
4) acute bacterial tubulointerstitial nephritis;
5) acute drug-induced tubulointerstitial nephritis.
The correct answer is:

A. 2,3,4.

B. 1,2,4.

C. 2,3,4,5.

D. 1,2,3,4.

E. 1,2,4,5.

Question nr **95**

Macroscopic haematuria occurs in a 65-year old smoking man with no accompanying pain, and the ultrasound shows a solid tumour with a diameter above 4 cm located in the pole of the left kidney. What should be done next?
1) follow-up of the tumour with ultrasound every 6 months;
2) urine analysis and urine cytology;
3) kidney function analysis, whole blood count, alkaline phosphatase, calcium level;
4) abdomen, pelvis and chest CT scan to establish the stage of the neoplastic disease;
5) partial or total (radical) nephrectomy depending on the stage of the disease.
The correct answer is:

A. only 1.

B. 1,2.

C. 1,2,3.

D. 2,3,4.

E. 2,3,4,5.

Question nr **96**

Oral anticoagulant drugs are all of the following, **except for**:

A. apixaban.

B. warfarin.

C. dabigatran.

D. eptifibatide.

E. rivaroxaban.

Question nr **97**

An 28-year-old woman was admitted to the hospital complaining of diffuse abdominal pain, nausea, vomiting accompanied by constipation, all of which occurred after drinking two glasses of wine. Additionally she was febrile, complained of increased sweating, had problems with urination, felt dizzy and feared. There were no symptoms of anemia. In the differential diagnostics the crucial question should be:

A. Have you seen blood in your stools?.

B. Have you had black vomiting?.

C. Has your urine turned red?.

D. Have you failed in anything in life recently?.

E. Has abdominal pain occurred before?.

Question nr **98**

The main laboratory features of the anemia of chronic diseases are:

A. decreased serum iron, increased transferrin level, decreased transferrin saturation, decreased ferritin.

B. elevated serum iron level, elevated transferrin saturation, decreased ferritin.

C. decreased serum iron level, decreased or normal transferrin level, decreased transferrin saturation, normal or increased ferritin level.

D. red blood cell macrocytosis, decreased serum iron level, elevated transferrin level, decreased ferritin level.

E. red cell normo- or microcytosis, decreased iron level, elevated transferrin saturation, increased ferritin level.

Question nr **99**

Which pathogen is the most common cause of community-acquired urinary tract infections?

A. *Escherichia coli*.

B. *Proteus mirabilis*.

C. *Klebsiella pneumoniae*.

D. *Serratia marcescens*.

E. *Pseudomonas aeruginosa*.

Question nr **100**

Which of the following tests is used to diagnose COPD?

A. spirometry.

B. chest x-ray.

C. CT scan of the chest with contrast.

D. C-reactive protein.

E. complete blood count.

Question nr **101**

Typical signs and symptoms of rheumatoid arthritis **do not** include:

A. pain in joints at night with their morning rigidity lasting over 1 hour.

B. arthritis of the intercarpal joints and small joints of the hand.

C. isolated arthritis of the knee.

D. increased ESR and/or increased concentration of CRP.

E. presence of rheumatoid factor and/or anti-citrulline antibodies.

Question nr **102**

A 82-year-old woman has been cured with amlodipine 5 mg daily and ramipril 5 mg per day. She feels well and she has no comorbidities. If the blood pressure in repeated measurements are above 160/85 mmHg, the physician should:

A. discontinue ramipril.

B. not change treatment.

C. consider this as resistant hypertension and include a diuretic.

D. increase the dose of amlodipine and ramipril.

E. refer the patient to renal artery denervation.

Question nr **103**

A 50-year-old man comes to the ER because of vomiting for the last 24 hours. The first and immediate step should be the intravenous transfusion of:

A. 5% glucose solution.

B. 10% glucose solution.

C. 20% glucose solution.

D. 0.9% saline solution.

E. 3% saline solution.

Question nr **104**

In patients with acute tumor lysis syndrome laboratory abnormalities include increasing serum level of:

A. uric acid.

B. potassium.

C. phosphates.

D. A and B are true.

E. A, B and C are true.

Question nr **105**

A 75-year-old patient comes to the cardiology outpatient clinic because of the aggravation of the right ventricular failure. He has an ischemic cardiomyopathy and had a biventricular cardioverter defibrillator implanted 5 years ago. The patient complains of recurrent fever and lower respiratory tract infections for the last 6 months. Indicate the correct management:

A. at present the patient needs no further cardiac diagnostics, a pulmonologist consultation is urgently needed.

B. after excluding a vegetation with the transthoracic echocardiogram the treatment of the heart failure should be intensified, and the patient needs no further cardiac diagnostics.

C. transthoracic and transesophageal echocardiograms should be performed as the infectious endocarditis is suspected.

D. absence of pacemaker pocket infection signs excludes electrode lead endocarditis so the only needed interventions are the pacemaker checkup and the intensification of heart failure treatment.

E. antibiotic prophylaxis of electrode lead endocarditis should be started and the treatment of the heart failure should be intensified.

Question nr **106**

Which of the following rheumatic diseases is accompanied by skin changes?
1) lupus erythematosus;
2) systemic sclerosis;
3) polymyalgia rheumatica;
4) IgA-dependent vasculitis (Henoch and Schönlein).
The correct answer is:

A. only 1.

B. 1,2.

C. 1,2,3.

D. 1,2,4.

E. all the above.

Question nr **107**

In the morning a 52-year-old patient comes to the emergency room because of weakness. He suffered from diarrhea and vomiting the last night just like his wife a few days earlier. He is not able to drink any fluids, his tongue is dry, the heart rate is 95 per minute and the blood pressure is 90/60 mm Hg. What should be the first step of the treatment?

A. intravenous infusion of glucose 5% solution.

B. intravenous infusion of multiple electrolyte solution.

C. intravenous infusion of sodium bicarbonate solution.

D. intravenous infusion of calcium gluconate solution.

E. intravenous infusion of magnesium sulfate solution.

Question nr **108**

An 81-year-old patient was admitted to the hospital because of dyspnoea and swelling

of the legs. His blood pressure is 120/70 mm Hg, serum creatinine level is in a normal range and serum sodium is 130 mmol/L. Which is the first step of the treatment?

A. intravenous infusion of furosemide.

B. intravenous infusion of 0.9% sodium chloride.

C. intravenous infusion of 5% glucose solution.

D. intravenous infusion of 20% glucose solution.

E. intravenous infusion of 0.45% sodium chloride.

Question nr **109**

Indicate the **false** statement about resistant arterial hypertension:

A. blood pressure is above 140/90 mmHg despite appropriate lifestyle changes and combination therapy with calcium channel blocker, sartan and thiazide diuretic at optimal doses.

B. blood pressure is elevated during visits at the doctor's but is normal during home/ ambulatory measurements.

C. patients with resistant hypertension face an increased cardiovascular risk.

D. in patients with resistant hypertension you should consider therapy with aldosterone antagonist or alpha-blocker.

E. in the case of inefficiency of pharmacotherapy in a patient with resistant hypertension invasive procedures may be considered, such as renal denervation or a stimulation of cervical baroreceptors.

Question nr **110**

Physical examination of a patient with glomerular filtration rate 25 mL/min/1.73 m^2 and potassium level 6.2 mmol/L showed: heart rate 68/min, blood pressure 145/80 mmHg, signs of significant heart failure. Which of the following should be a first-line treatment?

A. infusion of 500 mL 10% glucose + 32 u. short-acting insulin.

B. β_2-mimetic inhalation.

C. 10% solution of calcium chloride - 20 mL *i.v*.

D. furosemide 40 mg *i.v*.

E. acute hemodialysis.

Question nr **111**

A 51-year-old man with bronchial asthma presents at GP because of recurrent episodes of food impaction, pyrosis, and chest pain increased after meals, and not associated with physical activity. The clinical picture suggests that the first strategy should be:

A. pharmacological treatment with proton pump inhibitors (PPIs).

B. gastroscopy with urease test.

C. gastroscopy with urease test and oesophageal biopsies from the whole length of the oesophagus for histopathological evaluation.

D. CT scans of the thorax.

E. radiography of the upper part of the gastrointestinal tract.

Question nr **112**

Which of the following is the least probable cause of the unilateral dilation of the renal pelvis and calyces:

A. bladder cancer.

B. benign prostatic hyperplasia.

C. ureteral stenosis.

D. ureterolithiasis (calculus located in the ureter).

E. vesicoureteral reflux.

Question nr **113**

Which of the following statements referring to a patient in the acute phase of brain hemorrhagic stroke is correct?
1) supratentorial intracerebral hematoma should be treated with surgery in each case;
2) systolic blood pressure should be quickly reduced to less than 180 mm Hg in each patient with intracerebral hemorrhage, optimally during the first day;
3) posterior fossa hemorrhages need urgent neurosurgery in the case of the deterioration of the neurological condition, such as worsening cerebellar symptoms, hydrocephalus, or awareness disorders;
4) antiepileptic drug should be administered prophylactically in each patient with intracerebral hemorrhage (optimally valproic acid 500-800 mg twice daily) for fear of high risk of epileptic seizures;

5) in the treatment of cerebral oedema secondary to intracerebral hemorrhage intravenous osmotic agents are most commonly used, e.g. mannitol with furosemide or hypertonic salt (usually 3% NaCl).
The correct answer is:

A. 1,3,5.

B. 1,3,4.

C. 2,3,5.

D. 2,3,4.

E. all the above.

Question nr **114**

Cancers of unknown origin:
1) represent 3-10% of all malignant tumours;
2) do not require detailed diagnostics, because the primary site may be identified in 5% of cases only;
3) are most frequently adenocarcinomas;
4) are more frequent in women;
5) are indication for positron emission tomography.
The correct answer is:

A. 1,2.

B. 1,3.

C. 1,3,5.

D. 2,3,4.

E. 2,4.

Question nr **115**

Which of the following is the most common localization of bacterial infections in patients with decompensated liver cirrhosis?

A. subcutaneous tissues.

B. respiratory tract.

C. urinary tract.

D. ascitic fluid and the peritoneum.

E. gallbladder.

Question nr **116**

How should a sudden attack of dyspnea be managed in a 25-year-old woman in 28th week of gestation, who was diagnosed with asthma at the age of 5-6, who has had no asthma attacks for at least 15 years, and has normal respiratory sounds and the heart rate 130/min?

A. give 2 inhalations of salbutamol asap.

B. give 2 inhalations of salbutamol and inject 100 mg of hydrocortisone i.v.

C. urgently refer the patient to the hospital and give heparin.

D. calm the patient with psychotherapeutic measures.

E. subject the patient to outpatient observation for at least 6 hours.

Question nr **117**

Which of the following should be used in a 26-year-old woman with the diagnosis of gonococcal urethritis?

A. trimethoprim 2 x 100 mg for 5 days orally.

B. doxycycline 2 x 100 mg for 7 days orally.

C. azithromycin 1 g in a single dose orally.

D. ciprofloxacin 2 x 500 mg for 7 days orally.

E. fluconazole 400 mg in a single dose orally.

Question nr **118**

During physical examination, the auscultation revealed a diastolic murmur, best audible on the left parasternal line, radiating to Erb’s point and exaggerating while sitting and leaning forward. Which cardiac defect should be suspected?

A. mitral regurgitation.

B. aortic regurgitation.

C. aortic stenosis.

D. ventricular septal defect.

E. atrial septal defect.

Question nr **119**

The determination of creatinine clearance with the MDRD formula requires:
1) patient's weight;
2) patient's gender;
3) patient's age;
4) serum creatinine concentration;
5) urinary creatinine concentration;
6) urine 24-hour volume.
The correct answer is:

A. 1,2,3,4.

B. 2,3,4.

C. 2,3,4,5.

D. 1,3,4,5.

E. 3,4,5,6.

Question nr **120**

Which of the following is the most common cause of hyperandrogenism in women:

A. virilizing ovarian tumor.

B. congenital adrenal hyperplasia.

C. polycystic ovary syndrome.

D. Cushing syndrome.

E. hyperprolactinemia.

Question nr **121**

The characteristic feature of myelodysplastic syndromes is:

A. presence of cytopenia in peripheral blood.

B. increased leukocytosis with the presence of erythroblasts in peripheral blood.

C. common transformation into acute myeloblastic leukemia.

D. A and C are true.

E. B and C are true.

Question nr **122**

According to ISCD the assessment of bone mineral density is indicated in the following cases, **except for**:

A. woman at the age > 65 years.

B. postmenopausal woman at the age < 65 years with fracture risk factors.

C. male aged > 70 years.

D. adult patient who had a low-energy fracture.

E. woman after the labor to assess contraindications to breastfeeding.

Question nr **123**

Indicate the most frequent etiology of the purulent meningitis in adults:

A. *Streptococcus pneumoniae* and *E. coli*.

B. *Streptococcus pneumoniae* and *Haemophilus influenzae t. b*.

C. *Streptococcus pneumoniae* and *Neisseria meningitidis*.

D. *Neisseria meningitidis* and *Haemophilus influenzae t. b*.

E. *Listeria monocytogenes* and group D streptococci.

Question nr **124**

A 76-year-old smoker with arterial hypertension and type 2 diabetes came to the Emergency Department because of exercise intolerance, severe dyspnea and lower limb edema that have been aggravating for 3 weeks. The patient reports that the symptoms occurred after the episode of acute strong chest pain. The physical examination reveals bibasilar crackles and pitting peripheral edema. The most probable cause of the above disorders is:

A. intercostal neuralgia.

B. pulmonary embolism.

C. aggravation of chronic obstructive pulmonary disease (COPD).

D. aggravation of asthma.

E. aggravation of heart failure, probably as a result of myocardial infarction.

Question nr **125**

Which of the following are important for selection of chemotherapy in pulmonary cancer?
1) general condition of the patient;
2) stage of the disease;
3) organ damages;
4) histological type of the cancer;
5) familial history of cancer.
The correct answer is:

A. 1,2,5.

B. only 2.

C. 1,2,3,4.

D. only 3.

E. all the above.

Question nr **126**

Indicate the true statement concerning non-alcoholic steatohepatitis (NASH):

A. NASH is an intermediate stage between isolated hepatic steatosis and advanced types of non-alcoholic fatty liver disease.

B. the best examination to diagnose NASH is ultrasound elastography.

C. diagnosis of NASH in histopathological examination is based on the presence of liver steatosis and fibrosis.

D. NASH is related to 50% risk of the development of cirrhosis over 5 years.

E. there is no connection between NASH and type 2 diabetes mellitus.

Question nr **127**

A 84-year-old patient was referred to a hospital emergency department by a medical emergency team because of the sudden deterioration of his general condition,

hypotension, delirium and a subsequent loss of contact (unconsciousness). A resident of the nursing care unit, he was suffering from dementia and was persistently catheterized because of benign prostate hyperplasia. There was visible cloudy urine in the bag. The workup for the diagnosis of urosepsis includes bacteriological examination of the following samples:

A. blood and urine obtained directly from the catheter.

B. urine obtain from the bag after its replacement.

C. blood and urine taken after catheter rinsing with physiological saline solution.

D. urine obtained through bladder puncture.

E. blood and urine after re-catheterization.

Question nr **128**

Which of the following abnormalities in laboratory tests should be expected in a patient with clinical symptoms of hyperthyroidism?

A. decreased TSH concentration, increased FT4 and FT3 concentrations, anemia, hypercholesterolemia.

B. decreased TSH concentration, increased FT4 and FT3 concentrations, hypocholesterolemia, hypercalcemia.

C. decreased TSH concentration, decreased FT4 and FT3 concentrations, hypocholesterolemia, hypocalcemia.

D. increased TSH concentration, increased FT4 and FT3 concentrations, polycythemia, hypercalcemia.

E. increased TSH concentration, decreased FT4 and FT3 concentrations, anemia, increase ALT activity, hypertriglyceridemia.

Question nr **129**

A 68-year-old patient for several weeks has complained of abdominal cramps, watery diarrhoea with the bowel movements 4-8 daily and bloating. Since then she has lost 4 kg. Periodically she has suffered from lumbar backache and takes diclofenac together with PPI as a gastroprotection. Routine laboratory tests were within normal limits. Ileocolonoscopy did not show any abnormalities. Biopsies taken during colonoscopy from the right half of the colon revealed lymphocyte and plasmocyte infiltration in lamina propria of the colon mucosa. The most probable diagnosis of the patient’s complaints is:

A. microscopic colitis.

B. exudative enteropathy.

C. small intestine bacterial overgrowth (SIBO).

D. Whipple's disease.

E. hyperthyroidism.

Question nr **130**

Which of the following **is not** an indication for liver biopsy?

A. evaluation of the transplanted liver condition or the condition of the donor's liver before the planned transplantation.

B. monitoring of drug hepatotoxicity or treatment effectiveness in some liver diseases.

C. abdominal pain located in the right upper quadrant with a fever and a suspicion of cholangitis.

D. diagnostics of biochemical features of liver damage that has not been successfully assessed with other examinations.

E. diagnosis, the evaluation of the activity and stage of chronic liver diseases.

Question nr **131**

Indicate the criteria for the diagnosis of chronic hepatitis type C:

A. presence of anti-HCV in serum and increased ALT activity.

B. presence of HCV RNA in serum for at least 6 months and inflammatory-necrotic lesions with fibrosis in the liver.

C. presence of anti-HCV in serum for at least 6 months and features of hepatitis present in the biopsied material.

D. presence of anti-HCV in serum and thrombocytopenia.

E. any presence of HCV RNA in serum.

Question nr **132**

Peripheral cyanosis **is not** a consequence of:

A. significant hypothermia.

B. aortic stenosis.

C. Buerger's disease.

D. methemoglobinemia.

E. cardiogenic shock.

Question nr **133**

A 72-year-old woman in the 4th stage of chronic kidney disease and with severe back pain was admitted to the department of nephrology with the suspicion of monoclonal immunoglobulin deposition disease in the course of multiple myeloma. Indicate the examinations that allow to confirm the diagnosis:
1) presence of plasmocytes in the bone marrow > 10%;
2) nephrotic proteinuria;
3) presence of monoclonal immunoglobulins in the serum and in the urine;
4) haematuria;
5) deposits of light or heavy immunoglobulin chains in the kidney glomeruli.
The correct answer is:

A. 1,2,5.

B. 1,2,4.

C. 1,3,5.

D. 1,3,4.

E. 2,4,5.

Question nr **134**

The following complete blood count results: WBC 51.2 G/L, LY 2.1 G/L, MO 5.0 G/L, NE 43.2 G/L, EO 0.4 G/L, BA 0.5 G/L, RBC 4.1 T/L, Hgb 12.8 g/dL, MCV 88 fL, PLT 335 G/L suggest the diagnosis of:

A. chronic lymphocytic leukemia.

B. acute myeloblastic leukemia.

C. acute lymphoblastic leukemia.

D. polycythemia vera.

E. chronic myelogenous leukemia.

Question nr **135**

Which of the following **is not** characteristic of typical angina?

A. pain feels like pressure, heaviness, or tightness.

B. pain is usually retrosternal.

C. pain is provoked by exercise and relieves at rest.

D. pain relieves after nitroglycerin is taken sublingually.

E. pain is triggered by a change in body position or by putting pressure on.

Question nr **136**

A 70-year-old patient called his family doctor because of the increasing exercise-induced dyspnea and repeated fainting. He has arterial hypertension and prostatic hypertrophy in his medical history. On physical examination the doctor noted the distinct systolic murmur in the second right intercostal space that radiated to the neck, normal breathing sounds over the lungs and moderate edemas of the crura. The ECG showed sinus bradycardia 55/min with first degree atrioventricular block. Which of the following should be included in the management of this patient?
1) patient should be referred to the cardiologist with the suspicion of mitral insufficiency with the secondary heart failure;
2) patient should be referred to the cardiologist with the suspicion of aortal stenosis with the secondary heart failure;
3) because of the presence of first degree atrioventricular block and fainting in the medical history, the patient should have a pacemaker implanted;
4) transthoracic echocardiogram should be performed in order to confirm the valvular heart disease, and to assess its significance and the systolic function of the left ventricle;
5) 24h Holter ECG monitoring should be performed in order to diagnose syncope.
The correct answer is:

A. 1,3,4.

B. 2,3,4.

C. 1,3,5.

D. 1,4,5.

E. 2,4,5.

Question nr **137**

The classical set of skin and mucosal signs of reactive arthritis following sexual exposure includes:
1) psoriasis-like lesions on the soles of the feet and the palms of the hands;
2) erythema nodosum;
3) aphtous stomatitis;
4) finger skin reddening ('sausage digit');
5) erythema migrans.
The correct answer is:

A. all the above.

B. 1,2,3,4.

C. 1,2,4,5.

D. 1,2,3,5.

E. 3,4,5.

Question nr **138**

The chronic cough is defined as:

A. cough chronically accompanying respiratory system disease.

B. long-lasting paroxysmal nighttime cough.

C. cough present for at least 6 months.

D. cough present for at least 8 weeks.

E. cough which does not subside after therapy with antibiotics or β-agonist with glucocorticoid.

Question nr **139**

A 22-year-old male came to the hospital because of recurrent hyperthermia and articular pain in knees and wrists. The maculopapular rash was noted on the skin of the trunk and thighs which caused no itching. Similar signs occurred 3 months ago. He denied taking any drugs or diet supplements. ALT activity was 160 IU/L, AST = 90 IU/L, and ferritin concentration = 750 μg/L (normal values < 200 μg/L). Transferrin saturation was normal. Abdominal ultrasonography showed hepatosplenomegaly. Which of the following is the most probable diagnosis?

A. Behçet’s disease.

B. primary sclerosing cholangitis (PSC).

C. adult-onset Still's disease.

D. rheumatoid arthritis.

E. hereditary haemochromatosis.

Question nr **140**

The main mechanism of tricuspid regurgitation is:

A. tricuspid valve annulus distention.

B. cardiac device-related infective endocarditis.

C. rheumatic tricuspid valve disease.

D. tricuspid annular distortion due to degenerative calcification.

E. rupture of the tricuspid chordae tendineae in the course of acute myocardial infarction.

Question nr **141**

Indicate the proper management of the patient with type 2 diabetes mellitus treated with gliclazide retard, who presents with sweat, fatigue and trembling hands and his blood glucose concentration as measured by glucose meter is 61 mg/dL:

A. immediately give 1 mg of glucagon i.m. or s.c. and then 500 mL of 10% glucose solution in intravenous infusion and perform a control measurement of glycemia after 30 minutes.

B. give slow intravenous infusion of 20% glucose solution in 250 mL of normal saline and perform control measurements of glycemia every 30 minutes.

C. give simple carbohydrates, e.g. sweetened tea and then complex carbohydrates, e.g. a sandwich of full-grain bread and perform a control measurement of glycemia after an hour.

D. first give the patient 50 mL of 20% glucose solution i.v. and then 500 mL of 10% glucose solution with a control measurement of glycemia after 15 minutes.

E. in the case of hypoglycemia related to the use of sulfonylureas it is indicated to use the rule of 15/15.

Question nr **142**

The diagnostic criteria of rheumatic polymyalgia **do not** include:

A. pain in the shoulder and hip girdle, mainly at night.

B. morning stiffness of the musculoskeletal system lasting longer than an hour.

C. quick response to prednisone.

D. age over 50.

E. normal ESR.

Question nr **143**

A 72-year-old female patient was admitted to the hospital because of right-sided hemiparesis that occurred 3 hours earlier. The computer tomography was performed and showed no abnormalities. The ultrasound duplex imaging of the carotid, vertebral and intracranial arteries showed 90-95% stenosis of the left internal carotid artery and 50% stenosis of the right internal carotid artery. Indicate the correct management in that case:

A. endarterectomy of the left internal carotid artery as quickly as possible, but not later than 6 hours after the occurrence of the stroke.

B. immediate thrombolytic treatment in the absence of contraindications to the intravenous therapy with recombined plasminogen activator.

C. because of no abnormalities on CT scan the therapy should be postponed for at least 12 hours and then the computed tomography should be repeated to obtain more precise diagnosis.

D. because of the suspicion of ischemic stroke, immediately after the admission to the hospital (or even during prehospital period, if possible) low molecular weight heparin should be given subcutaneously in a single therapeutic dose, and then consider the indications for thrombolytic therapy.

E. because the time since the stroke in which intravenous thrombolytic therapy can be performed elapsed the patient should not be qualified to such a therapy but instead 300 mg of acetylsalicylic acid should be administered and the patient should be qualified for endarterectomy of the right internal carotid artery within 6 weeks after the stroke as a secondary prophylaxis.

Question nr **144**

Which of the following is preferred in the treatment of severe (grade III) arterial hypertension in chronic kidney disease in patients with marked proteinuria and peripheral edemas, hyperkaliemia of 6.6 mmol/L and GFR < 30 ml/min/1.73 m^2?

A. angiotensin-converting-enzyme inhibitor (ACEI) with a loop diuretic.

B. angiotensin II receptor blocker (ARB) with a thiazide diuretic.

C. angiotensin-converting-enzyme inhibitor (ACEI) with angiotensin II receptor blocker (ARB).

D. loop diuretic with a calcium channel antagonist.

E. angiotensin II receptor blocker (ARB) in monotherapy.

Question nr **145**

An 82-year-old patient was taken to the Emergency Department because of disturbances of consciousness that had been intensifying for the last 24 hours. The laboratory tests showed serum concentration of sodium - 122 mmol/L, potassium - 3.9 mmol/L, creatinine 1.6 mg/mL. Which of the following should be first ordered?

A. Ringer’s solution 500 mL - infusion for 30 min.

B. 0.9% NaCl 500 mL solution - infusion for 20 min.

C. 10% NaCl solution - infusion for 20 min.

D. 3% NaCl solution - infusion for 20 min.

E. 5% glucose 500 mL with 40 mEq 8.4% sodium bicarbonate solution - infusion for 15 min.

Question nr **146**

An identification of numerous neutrophils and sodium urate crystals in synovial fluid suggests the diagnosis of:

A. gout attack.

B. seronegative spondyloarthropathy.

C. pseudogout caused by calcium pyrophosphate.

D. psoriatic arthritis.

E. rheumatoid arthritis.

Question nr **147**

Which type of esophageal tumors may be a consequence of achalasia?

A. carcinoid.

B. squamous-cell carcinoma.

C. lymphoma.

D. adenocarcinoma.

E. sarcoma.

Question nr **148**

Antibodies taking part in the primary pathogenesis of membranous nephropathy are antibodies:

A. against the non-collagen domain of the α3 chain (collagen IV) of glomeruli.

B. against the podocyte membrane phospholipase A2 receptor (PLA2R).

C. anti-C1q.

D. against proteinase 3.

E. against myeloperoxidase.

Question nr **149**

A 30-year-old male patient came to the ER because of fever 38 °C, pharyngitis, skin rash and generalized lymph node enlargement with lymphopenia. Numerous high risk sexual contacts and syphilis in his medical history. The diagnostic procedures should proceed towards:

A. streptococcal angina.

B. recurrent syphilis.

C. mononucleosis syndrome in the course of acute retroviral infection.

D. acute lymphocytic leukemia.

E. *Herpes* infection.

Question nr **150**

Which of the following **<u>are not</u>** classified as chronic arthritis:
1) rheumatoid arthritis;
2) psoriatic arthritis;

3) ankylosing spondylitis;
4) degenerative arthritis;
5) tennis elbow.
The correct answer is:

A. 1,2,3.

B. 3,4,5.

C. 4,5.

D. only 4.

E. only 5.

Question nr **151**

A 60-year-old female patient, a current smoker, taking medication for type 2 diabetes and stage 2 hypertension, with a history of weight loss of 5 kg within the previous 4 months, presented to her family physician complaining of chest discomfort, tachycardia and shortness of breath on exertion. The day before, after coming home from work (job: shop cashier), where she had been subjected to a stress situation she had a chest pain lasting for 15-30 minutes with transient episode of weakness without a loss of consciousness. Differential diagnosis based on a patient's symptoms should include:
1) left ventricular non-compaction cardiomyopathy;
2) catecholamine cardiomyopathy;
3) acute coronary syndrome;
4) acute aortic syndrome;
5) pulmonary embolism.
The correct answer is:

A. 1,3,4.

B. 2,3,4,5.

C. 3,4.

D. 1,3,5.

E. 2,3.

Question nr **152**

Which of the following concerning malignant hypertension **is false**?

A. it is characterized by high diastolic pressure values, typically >120 mmHg.

B. it is accompanied by organ complications, such as, acute heart failure, acute kidney damage, encephalopathy.

C. it does not occur in patient with primary arterial hypertension.

D. there is retinopathy of III or IV stage according to Keith-Wagener-Barker classification.

E. it requires hospital treatment.

Question nr **153**

A 72-year-old woman comes to the office because of a pain in both knees lasting for more than one year. The pain increases when she is active, but subsides with rest. She also complains of stiffness in both knees, especially when she has been sitting for a while. What is the most probable diagnosis?

A. fibromyalgia.

B. systemic lupus erythematosus.

C. rheumatoid arthritis.

D. osteoarthritis.

E. gout.

Question nr **154**

Splenectomy resulting from a traumatic spleen rupture in a healthy adult:

A. may cause a transfer of extramedullary hematopoiesis to the liver.

B. may lead to thrombocytosis.

C. may lead to bacterial infections.

D. has no effect on the health of the patient.

E. B and C are true.

Question nr **155**

Indicate **the false** statement concerning right bundle branch block (RBBB):

A. width of QRS complex is > 120 ms.

B. QRS complex displays rsR’ pattern in leads V1-V2.

C. RBBB is accompanied by a splitting of the first heart sound.

D. it may accompany ischemic heart disease.

E. is an absolute indication for pacemaker implantation.

Question nr **156**

A 25-year-old woman reported at 20th week of her pregnancy for a prenatal examination. Her arterial pressure was measured to be 170/100 mmHg. Which of the following medications should be advised?

A. captopril.

B. losartan.

C. atenolol.

D. clonidine.

E. methyldopa.

Question nr **157**

A 56-year-old man comes to the office because of weakness, weight loss, frequent urination, dry mouth, and excessive thirst. The plasma glucose is 264 mg/dl. Indicate the most appropriate diagnostic and therapeutic strategy:

A. repeat a fasting plasma glucose.

B. perform an oral glucose tolerance test.

C. perform a HbA1c test.

D. diagnose diabetes and start the treatment with diet.

E. diagnose diabetes and start the pharmacological treatment.

Question nr **158**

The laboratory tests ordered at the ER show a high NT-proBNP concentration in a patient with dyspnea. Which of the following is **the least** probable cause of dyspnea, in light of the obtained result?

A. left ventricular heart failure.

B. pulmonary embolism with a moderate risk of death.

C. high arterial blood pressure.

D. asthma.

E. atrial fibrillation.

Question nr **159**

In a 25-year-old female patient a laboratory test performed during the hospitalization showed TSH concentration 0.1 mIU/L. Indicate the correct interpretation of this result:

A. primary hyperthyroidism.

B. pituitary insufficiency.

C. overdosage of levothyroxine.

D. glucocorticosteroid treatment.

E. the result should not be interpreted without the information on clinical data and FT4 concentration.

Question nr **160**

A urinalysis in a 45-year-old man revealed proteinuria, erythrocyturia and red blood cell casts. The most probable cause is:

A. urinary tract infection.

B. urolithiasis.

C. idiopathic arterial hypertension.

D. chronic pyelonephritis.

E. gromeluronephritis.

Question nr **161**

Which of the following is an urgent indication for the initiation of chronic renal replacement therapy - dialysis?

A. decrease in glomerular filtration rate < 15 ml/min/1.73 m^2 without signs and symptoms of uremia.

B. significant fluid retention with dyspnoea and crepitations at the bases of both lungs, despite the use of loop diuretics in high doses in a patient with chronic renal

insufficiency (glomerular filtration rate < 15 ml/min/1.73 m^2).

C. moderate hyperkalemia (6.3 mmol/l) in a subject with the glomerular filtration rate of about 20 ml/min/1.73 m^2, not receiving loop diuretics on the daily basis.

D. moderate hyperuricemia (8.5 mg/dl) in a patient with the glomerular filtration rate of about 20 ml/min/1.73 m^2 receiving allopurinol on the daily basis.

E. moderate anemia (hemoglobin concentration 9.0 g/dl) in a patient with diabetic nephropathy and the glomerular filtration rate of about 20 ml/min/1.73 m^2.

Question nr **162**

During the treatment with acenocoumarol/warfarin a dose of the drug should be adjusted based on:

A. INR (international normalized ratio).

B. APTT (activated partial thromboplastin time).

C. clothing time.

D. bleeding time.

E. platelet count.

Question nr **163**

Typical signs of gout **do not** include:

A. redness of the skin above the affected joint;.

B. joint pain lasting > 14 days;.

C. breaking through the skin or chalky tophi;.

D. high serum concentration of uric acid;.

E. destruction of joints induced by uric acid crystals.

Question nr **164**

Indicate the true statement concerning clinical symptoms in patients with heart defects:

A. high arterial pressure amplitude is observed in mitral insufficiency.

B. late-diastolic heart murmur is present in mitral valve prolapse.

C. in aortic stenosis the volume of the murmur does not correlate with the severity of valve stenosis.

D. in mitral stenosis you don't observed ascites, hepatomegaly and jugular vein distension.

E. in patent ductus arteriosus the murmur is of decrescendo character.

Question nr **165**

"Easy dosage, causing neither hypoglycemia (when used in monotherapy) nor weight gain; there are proofs of reducing the cardiovascular and death risks, as well as delaying diabetic nephropathy" - is a description of the advantages of:

A. long-acting insulin analogues.

B. metformin.

C. incretin mimetics.

D. sulfonylureas.

E. sodium-glucose cotransporter 2 inhibitors, so-called gliflozins.

Question nr **166**

A 53-year-old female patient was admitted to the hospital because of headache worsening for the last few days, fever (38.8 Celsius), nausea. On examination: lethargy and drowsiness, nuchal rigidity 3 fingers, Kernig's sign present. Cerebrospinal fluid (CSF) testing: cloudy, opalescent, protein level 220 mg/dL (0.22 g/L), cytosis 390 white cells per mm^3 (granulocytes 70%), glucose level 40 mg/dL (2.2 mmol/L). Serum glucose level 100 mg/dL (5.55 mmol/L). Which of the following should be done during the first 24-hour in-hospital stay?

A. order bacteriological examination of the cerebrospinal fluid (CSF) and immediately start empirical wide-spectrum, intravenous antibiotic at a maximum dose (e.g. 3^{rd} generation cephalosporin).

B. order bacteriological examination of the cerebrospinal fluid (CSF), but due to the lack of information about the etiological factor and stable condition of the patient start antipyretic (paracetamol - acetaminophen) and antioedematous (mannitol) treatment till you get the CSF culture result and antibiogram.

C. order neuroimaging of the head with computed tomography or magnetic resonance technique and decide about treatment after you get the report.

D. start antiviral drug intravenously (optimally acyclovir) at a maximum dose, because

the result of CSF testing indicates viral meningitis.

E. order digital angiography because the clinical situation described above may suggest subarachnoid hemorrhage.

Question nr **167**

Which of the following **is not** a risk factor for chronic pancreatitis?

A. azathioprine therapy.

B. alcohol abuse.

C. hyperparathyroidism.

D. trypsinogen *PRSS1* gene mutation.

E. autoimmune IgG_4-dependend pancreatitis.

Question nr **168**

Bone marrow aplasia is characterized by:

A. peripheral blood pancytopenia and myelodysplasia.

B. peripheral blood bipenia and myelodysplasia.

C. peripheral blood pancytopenia, decreased bone marrow cellularity and the absence of neoplastic disease.

D. peripheral blood pancytopenia and lymphopenia.

E. erythrocytopenia and thymus function disorders.

Question nr **169**

Indicate the true statement on the treatment of first episode of mild pseudomembranous colitis:

A. first choice treatment is metronidazole and/or vancomycin, administered i.v.

B. first choice treatment is metronidazole or vancomycin, administered orally.

C. treatment should be started from pulses of vancomycin (10 times every third day, for 27 days).

D. treatment should always include the proton pump inhibitor.

E. first choice medicament is clindamycin.

Question nr **170**

Please indicate the results of arterial blood gases measurement corresponding to the exacerbation of chronic hypercapnic respiratory failure:

A. pH 7.32; $PaCO_2$ 60.4 mmHg; PaO_2 43.8 mmHg; HCO_3 31.6 mmol/l; SaO_2 75.5%.

B. pH 7.15; $PaCO_2$ 80.6 mmHg; PaO_2 24.1 mmHg; HCO_3 16.3 mmol/l; SaO_2 51%.

C. pH 7.38; $PaCO_2$ 59.6 mmHg; PaO_2 49.1 mmHg; HCO_3 38 mmol/l; SaO_2 80.1%.

D. pH 7.47; $PaCO_2$ 31 mmHg; PaO_2 60.1;mmHg; HCO_3 21.1 mmol/l; SaO_2 92.8%.

E. pH 7.42 $PaCO_2$ 41 mmHg; PaO_2 51.6 mmHg; HCO_3 22.6 mmol/l; SaO_2 85.2%.

Question nr **171**

Which of the following concerning autosomal dominant polycystic kidney disease (ADPKD) is true?
1) ADPKD is the commonest genetically determined kidney disease;
2) liver cysts are often a non-renal manifestation of ADPKD;
3) in the course of ADPKD, significantly more often than in general population, clear cell renal cell carcinoma develops;
4) vasopressin V2 receptor antagonist turned out to be effective in delaying cyst enlargement;
5) calcium channel blockers are first choice drugs in the treatment of arterial hypertension.
The correct answer is:

A. 1,2,3,4.

B. 1,2,4,5.

C. 2,3,4.

D. 1,2,4.

E. all the above.

Question nr **172**

A 28-year-old man complains about bloating after intake of dairy products for the last 5 years. Which of the following is the most appropriate diagnostic and therapeutic strategy?

A. avoid dairy products which cause bloating.

B. perform gastroscopy.

C. perform colonoscopy.

D. perform tests for cow's milk allergy.

E. gluten-free diet should be started.

Question nr **173**

A 47-year-old woman comes to the office because of weight gain of 10 kg during the last 6 weeks. She is hungry all the time. Sometimes she does not remember what happened a few minutes before. What is the most probable diagnosis that has to be **excluded first**?

A. insulinoma.

B. reactive hypoglycaemia.

C. type 2 diabetes.

D. type 1 diabetes.

E. adrenal insufficiency.

Question nr **174**

The choice of the drugs in COPD patients depends on:

A. risk of COPD exacerbation only.

B. severity of symptoms only.

C. risk of COPD exacerbation and the severity of symptoms.

D. risk of COPD exacerbation and the diffusion capacity of the lung.

E. severity of symptoms and the diffusion capacity of the lung.

Question nr **175**

In the acute phase of pulmonary embolism the following can be used **except for**:

A. low-molecular-weight heparin.

B. recombinant tissue plasminogen activator.

C. acetylsalicylic acid.

D. coagulation factor Xa inhibitors.

E. unfractionated heparin.

Question nr **176**

The first episode of reactive arthritis should be treated with:
1) nonsteroidal anti-inflammatory drugs;
2) sulfasalazine;
3) glucocorticosteroids;
4) antibiotics;
5) biologics.
The correct answer is:

A. 1,4.

B. 1,2,4.

C. 1,5.

D. 3,4.

E. 1,2.

Question nr **177**

A 46-year-old woman comes to the office because of painful joints in her both hands and wrists. She complains of the morning stiffness of these joints which lasts longer than one hour. What is the most probable diagnosis that has to be **excluded first**?

A. fibromyalgia.

B. systemic lupus erythematosus.

C. rheumatoid arthritis.

D. osteoarthritis.

E. gout.

Question nr **178**

Which of the following **is not** one of the signs of osteomalacia caused by vitamin D insufficiency?

A. high serum calcium concentration.

B. decreased calcium urinary excretion.

C. increased serum PTH concentration.

D. increased serum ALP activity.

E. low serum phosphate concentration.

Question nr **179**

Which of the following medications **does not** increase the risk of type 2 diabetes?

A. hydrochlorothiazide.

B. metformin.

C. atorvastatin.

D. bisoprolol.

E. prednisone.

Question nr **180**

Indicate **the false** statement concerning autoimmune pancreatitis:

A. IgG4 blood concentration is elevated.

B. disease may affect other organs (e.g. bile ducts, thyroid).

C. duct of Wirsung is markedly dilated.

D. it may resemble pancreatic cancer.

E. glucocorticosteroids are the treatment of choice.

Question nr **182**

Bronchoscopy in a patient with a suspicion of lung cancer:
1) is one of the basic diagnostic examinations;
2) should be applied to peripheral lesions only;
3) may include tissue sampling for histologic examination;
4) provides cellular material sampling for cytological examination;
5) may be performed only in patients with the normal values of respiratory function tests.

The correct answer is:

A. 1,2.

B. 1,3,4.

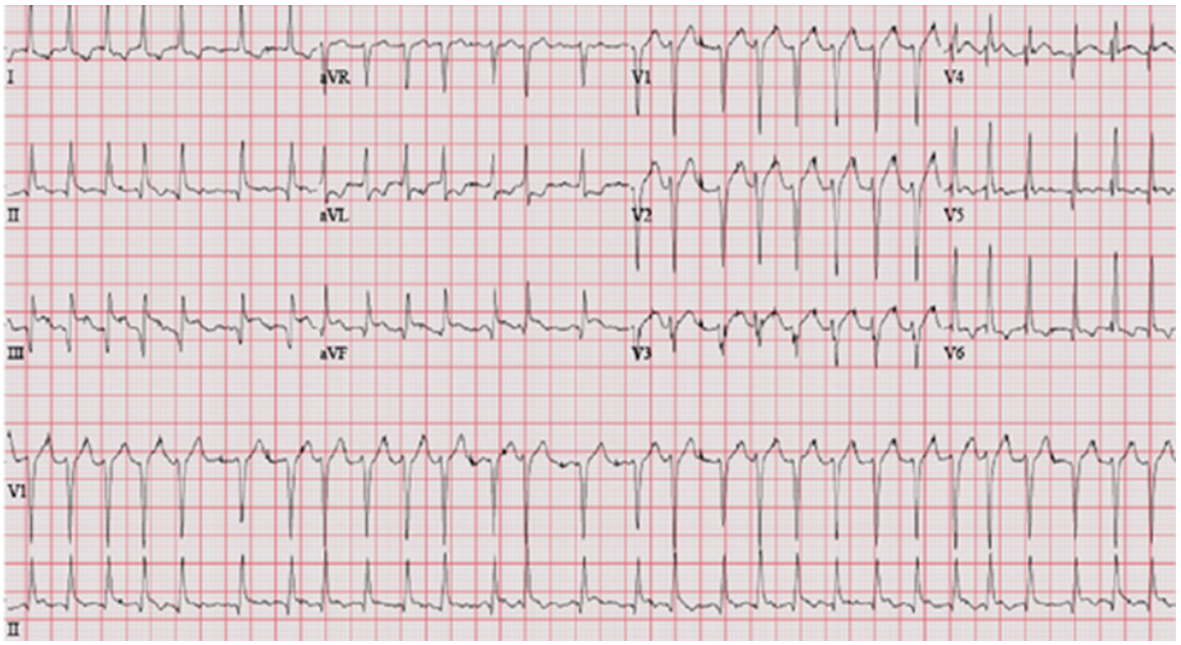
C. 2,4,5.

D. 1,2,5.

E. all the above.

Question nr **183**

A 72-year-old patient complains of palpitations for the last 3 days, chest pain and dyspnea. He has never been treated cardiologically. HR 150/min, RR 100/60 mmHg, SaO_2 96% while receiving oxygen therapy with the flow rate of 10 L/min. On auscultation there are crepitations at the base of both lungs. ECG shows:
Indicate the optimal treatment apart from heparin administration:



A. maneuvers stimulating the vagus nerve, alternatively adenosine 6 mg iv in a bolus.

B. amiodarone 300 mg iv for 60 minutes, and then amiodaron 900 mg iv in a 24-hour infusion.

C. bisoprolol 5 mg iv.

D. propafenone 2 mg/kg for 10 min.

E. electrical cardioversion.

Question nr **184**

Which of the following statements concerning trauma brain hematomas **is false**?

A. epidural hematoma is when blood accumulates between the skull bone and the lamina dura.

B. subdural hematoma is when blood accumulates between the lamina dura and the arachnoid membrane.

C. damaged bridge veins spanning the areas of the brain cortex with dural venous sinuses are the source of subdural hematoma.

D. damaged meningeal arteries, especially medial meningeal artery are the most frequent source of epidural hematoma.

E. hemiparesis and papillary distension can be seen ipsilateral to the epidural hematoma.

Question nr **185**

A 24-year-old man has been transported to the ER because of a coma. The physical examination shows low blood pressure and tachycardia and the results of lab tests are as follows: plasma glucose 432 mg/dL, pH 7.1, HCO_3^- 9 mmol/L, Na 141 mmol/L, K 6.1 mmol/L, serum creatinine 106 µmol/L (1.2 mg/dL). What is the most probable diagnosis?

A. acute kidney injury.

B. chronic kidney disease.

C. ketoacidosis.

D. cirrhosis of the liver.

E. potassium intoxication.

Question nr **186**

A 68-year-old patient came by the doctor office because of cough lasting for 2 months. He smokes one pack of cigarettes daily for 50 years. The physical examination shows no abnormalities. What should be the next diagnostic step?

A. none, the patient needs no further diagnostics.

B. spirometry.

C. bronchoscopy.

D. magnetic resonance imaging of the chest.

E. chest X-ray.

Question nr **187**

Superior vena cava syndrome:

A. most commonly occurs in the course of lung cancer.

B. may be associated with vessel thrombosis.

C. is a contraindication to the use of corticosteroids.

D. A and B are correct.

E. A, B and C are correct.

Question nr **188**

Inferior wall ST segment elevation myocardial infarction (STEMI) in a 48-year-old male can be recognized in the case of a typical chest pain and persistent ST-segment elevation in J point of ≥ 0.1 mV in leads:

A. V1-V3.

B. V3-V5.

C. III, aVF.

D. I, aVL.

E. Vr3-Vr4.

Question nr **189**

A 44-year-old woman comes to the doctor because of the stiffness of her hands occurring in mornings for several months. The stiffness usually subsides after more than one hour. What is the most probable cause of these symptoms?

A. osteoarthritis.

B. rheumatoid arthritis.

C. gout.

D. psoriasis.

E. ankylosing spondylitis.

Question nr **190**

A simultaneous increase in prothrombin time (PT) and in activated partial thromboplastin time (APTT) is characteristic of:

A. factor VIII deficiency.

B. factor XIII deficiency.

C. defect of the so-called final common pathway - (factors X, V, II, fibrinogen).

D. hemophilia A.

E. factor VII deficiency.

Question nr **191**

The cause of isolated arterial hypertension **is not**:

A. hyperthyroidism.

B. aortic valve stenosis.

C. anemia.

D. arteriovenous fistula.

E. increased aortic stiffness in the elderly.

Question nr **192**

What is the most frequent adjustment of insulin dose needed in a type 1 diabetes patient as chronic kidney disease progresses to end-stage kidney disease?

A. insulin dose should be increased.

B. insulin dose should be decreased.

C. insulin dose should not be changed.

D. short acting insulin dose should be increased but long acting insulin dose should be decreased.

E. long acting insulin dose should be increased but short acting insulin dose should be decreased.

Question nr **193**

A 40-year-old patient with newly diagnosed arterial hypertension, treated for two months with amlodipine and indapamid, came for a control visit. Her blood pressure is 120/80 mmHg. She complains of weakness and is anxious because she defecates only once a week. Which of the following should be advised first:

A. fiber-rich diet and calming the patient down.

B. potassium concentration test.

C. fecal occult blood test.

D. colonoscopy.

E. abdominal ultrasound.

Question nr **194**

Which of the following features **does not** belong to Zollinger-Ellison syndrome?

A. multiple gastric and duodenal ulcers.

B. erosive esophagitis.

C. steatorrhea.

D. low blood calcium levels (hypoparathyroidism).

E. high levels of gastrin in the blood.

Question nr **195**

Indicate **the false** statement concerning the use of loop diuretics in patients with arterial hypertension and chronic kidney disease:

A. loop diuretics are effective even in patients with glomerular filtration rate (GFR) < 15 ml/min/1,73 m^2.

B. use of large doses of loop diuretics may lead to dehydration and a decrease of GFR.

C. loop diuretics should not be used in patients without hyperkaliemia.

D. use of diuretics combined with angiotensin-converting-enzyme inhibitors decreases albuminuria.

E. use of large doses of loop diuretics may lead to hearing impairment.

Question nr **196**

The clinical symptoms of chronic (end-stage) renal failure indicating the necessity to start renal replacement therapy (dialysis) **do not** include:

A. lack of appetite, nausea and possible development of malnutrition.

B. significant fluid retention with dyspnoea and crepitations at the bases of both lungs despite loop diuretics being used chronically in high dose.

C. systolic blood pressure > 200 mmHg despite high doses of antihypertensive drugs from 5 groups (beta-blocker, alpha-blocker, calcium channel blocker, loop diuretic and clonidine).

D. gout.

E. pruritus not responding to hydroxyzine.

Question nr **197**

Which of the following characterizes pulsus bisferiens?

A. pulse when premature ventricular depolarization occurs after each normal cardiac systole; it is observed in ectopic depolarization accompanying the sinus rhythm, in Wenckebach periodicity - atrioventricular 3:2 block or when additional atrial action potential is blocked after every second sinoatrial node action potential.

B. pulse with two positive waves during systole, caused by the presence of an additional wave of blood flow, that occurs in hypertrophic cardiomyopathy with narrowing of the outflow tract and in mixed aortic stenosis and regurgitation.

C. pulse in which one wave occurs in systole and the other at the beginning of diastole, usually observed in cardiac tamponade, severe heart failure or hypovolemic shock.

D. quick and hypokinetic pulse that occurs in the shock, rarely in fever or cardiac tamponade.

E. pulse of low amplitude or even absent accompanied by a decrease in systolic pressure >10 mmHg on inspiration.

Question nr **198**

The diagnosis of iron deficiency anemia in an otherwise asymptomatic 75-year-old male should suggest the need to exclude:

A. gastrointestinal cancer.

B. lung cancer.

C. prostate cancer.

D. thyroid cancer.

E. bladder cancer.

Question nr **199**

In all patients with chronic coronary syndrome, irrelatively of a cardiovascular risk, comorbidities and the presence of symptoms of ischemia, in order to improve prognosis it is recommended to administer:

A. liraglutide.

B. angiotensin-converting-enzyme inhibitor (ACE-I).

C. beta-adrenergic receptor antagonist.

D. long-acting nitrate.

E. statin.

Question nr **200**

A 44-year-old women with lupus nephritis diagnosed 20 years earlier comes to the emergency room because of a head injury, without any other symptoms. She is treated with prednisone 10 mg/d and azathioprine 50 mg/d. The urinalysis revealed proteinuria - 0.1 mg/dL, many white blood cells and bacteria per field view. Which of the following should be ordered?

A. urine culture.

B. quinolone for 3 days.

C. quinolone for 7 days.

D. nitrofurantoin for 7 days.

E. none, as the patient does not require any diagnostic tests and any antibacterial treatment.

Question nr **201**

Indicate the feature characteristic of chronic lymphocytic leukemia:

A. increased lymphocytosis in the peripheral blood.

B. presence of lymphoblasts in the peripheral blood.

C. osteolytic bone lesions.

D. megaloblastic anemia.

E. thrombocytosis.

Question nr **202**

A 45-year-old professionally active woman was diagnosed with arterial hypertension. The blood pressure measured at home was 160/100 mmHg. The pharmacological therapy should be started with:

A. angiotensin-converting-enzyme inhibitor.

B. thiazide or thiazide-like diuretic.

C. calcium channel blocker.

D. combination therapy - angiotensin-converting-enzyme inhibitor with thiazide diuretic.

E. angiotensin II receptor blocker.

Question nr **203**

Which of the following has the least use in the treatment of small-cell lung cancer?

A. chemotherapy.

B. radiotherapy.

C. radiochemotherapy.

D. surgery.

E. B and D are correct.

Question nr **204**

A 72-year-old man comes to emergency unit because of diarrhoea and vomiting. The blood pressure is 90/50 mm Hg. The patient takes ramipril and indapamide because of arterial hypertension. Which of the following is the most appropriate next step?

A. continue the treatment both with ramipril and indapamide.

B. stop the treatment with ramipril and continue with indapamide.

C. continue the treatment with ramipril and stop with indapamide.

D. stop the treatment with both ramipril and indapamide.

E. lower the dose of ramipril and indapamide.

Question nr **205**

Which of the following **does not** contribute to the symptoms of sarcoidosis?

A. arthritis.

B. skin lesions.

C. hypocalcaemia.

D. shortness of breath.

E. blurry vision.

Question nr **206**

The indications for the treatment of *Helicobacter pylori* infection according to Maastricht IV recommendations include:
1) MALT gastric lymphoma;
2) patient's wish caused by the fear of gastric cancer;
3) first line relatives with gastric cancer;
4) unexplained sideropenic anaemia;
5) vitamin B12 deficiency.
The correct answer is:

A. 1,3.

B. 2,3.

C. 1,3,5.

D. 1,2,3,4.

E. all the above.

Question nr **207**

Which of the following medications may be used in a pregnant woman treated for arterial hypertension?

1) angiotensin receptor antagonist - valsartan;
2) beta blocker - metoprolol;
3) centrally acting antiadrenergic agent - methyldopa;
4) aldosterone receptor antagonist - spironolactone;
5) calcium channel blocker - amlodipine.
The correct answer is:

A. 1,3.

B. 2,3.

C. 2,4,5.

D. only 1.

E. only 3.

Question nr **208**

In which of the following conditions the pulmonary transplantation may be a considerable therapeutic option?
1) idiopathic pulmonary fibrosis (IPF);
2) cystic fibrosis;
3) limited type of pulmonary cancer (T3);
4) sarcoidosis at the stage III;
5) moderate COPD.
The correct answer is:

A. 1,2,3,4.

B. 1,2,3.

C. all the above.

D. only 2.

E. 1,2.

Question nr **209**

Which of the following tests is used to confirm the diagnosis of acute pancreatitis?

A. serum amylase.

B. serum bilirubin.

C. serum alanine aminotransferase.

D. serum aspartate aminotransferase.

E. serum gamma-glutamyl transpeptidase.

Question nr **210**

The method of choice in the imaging of osteoarthritis is:

A. classic x-ray image.

B. high resolution computed tomography.

C. doppler ultrasound imaging.

D. magnetic resonance imaging.

E. bone scintigraphy.

Question nr **211**

The treatment of acute hyperkalemia includes the administration of:
1) spironolactone;
2) sodium bicarbonate;
3) furosemide;
4) potassium chloride;
5) heparin;
6) calcium chloride.
The correct answer is:

A. 1,5,6.

B. 2,4,5.

C. 3,5,6.

D. 2,3,6.

E. 1,3,6.

Question nr **212**

Which of the following diseases have genetic background and are caused by a single gene mutation?
1) anti-GBM disease;
2) adult-type polycystic kidney disease;
3) Alport syndrome;

4) von Hippel-Lindau disease;
5) horseshoe kidney;
6) struvite nephrolithiasis.
The correct answer is:

A. 1,2,3.

B. 2,3,4.

C. 1,2,4.

D. 1,2,5.

E. 2,4,6.

Question nr **213**

Indicate the **false** statement on vaccinations against influenza:

A. pregnancy is a contraindication to the vaccination.

B. patients older than 50 should be vaccinated.

C. patients with coronary heart disease should be vaccinated.

D. medical staff should be vaccinated.

E. allergy to chicken egg white is not an absolute contraindication to the vaccination.

Question nr **214**

Indicate the true statement:

A. the goal blood pressure in chronic kidney disease is < 140/75 mmHg.

B. the most rational combination of three antihypertensive drugs is: angiotensin-converting enzyme inhibitor or angiotensin II receptor blocker + beta-blocker + thiazide or thiazide-like diuretic.

C. gestational hypertension develops after the 10^{th} week of pregnancy and resolves within a few hours after delivery.

D. in a patient with suspected secondary hypertension caused by primary hyperaldosteronism a useful diagnostic test is the overnight 1-mg dexamethasone suppression test.

E. loop diuretics are not a first-line class of anti-hypertensive drugs.

Question nr **215**

In a 20-year-old female patient typical symptoms of rheumatoid arthritis were found. The symptoms started 6 months ago. Which laboratory tests should be performed to confirm the diagnosis of rheumatoid arthritis?

A. uric acid concentration, ESR.

B. rheumatoid factor and uric acid concentration.

C. rheumatoid factor and anti-CCP antibody.

D. ANA and CRP.

E. CRP, ESR.

Question nr **216**

A 20-year-old male complains of pain and morning rigidity in the backbone that diminish after exercises. Laboratory tests show ESR = 44 mm/h, CRP = 23 mg/L, rheumatoid factor absent, HLA B27 antigen present. For the last 2 years he has complained of recurrent inflammation and swelling of the left knee. His medical history reveals also recurrent uveitis and Achilles tendinitis. The described clinical picture suggests the diagnosis of:

A. osteoporosis.

B. goat.

C. seronegative spondyloarthropathy.

D. pseudogout caused by calcium pyrophosphate.

E. acute arthritis.

Question nr **217**

In a 49-year old patient after multiple organ trauma, acute renal failure occurred.
Indicate which of the following parameters show the 2nd stage of acute renal failure:
1) urine sodium < 20 mmol/L;
2) double increase in serum creatinine compared to the initial value;
3) decrease in diuresis < 0.3 mL/kg/hour for more than 24 hours;
4) urea level increase of 50% as compared to the initial value;
5) decrease in diuresis <0.5 mL/kg/hour for at least 12 hours.
The correct answer is:

A. 1,3.

B. 1,4.

C. 1,5.

D. 2,3.

E. 2,5.

Question nr **218**

The first-choice drug used in treatment of acute liver failure related to paracetamol (acetaminophen) overdose is:

A. N-acetylcysteine.

B. BAL.

C. vitamin E (high doses).

D. glutathione.

E. barbiturate.

Question nr **219**

A 54-year-old women with diabetes mellitus t. 2 came to the emergency room because of a head injury, without any other symptoms. The urinalysis revealed proteinuria - 0.1 mg/dl, 50 WBC/HPF and numerous bacteria. You will order:

A. urine culture.

B. quinolone for 3 days.

C. quinolone for 7 days.

D. nitrofurantoin for 7 days.

E. the patients does not require any diagnostic tests or any antibacterial treatment.

Question nr **220**

Which of the following disorders are causes of secondary arterial hypertension:
1) primary hyperaldosteronism;
2) renal artery stenosis;
3) obstructive sleep apnea;

4) hypo- or hyperthyroidism;
5) acromegaly;
6) coarctation of the aorta.
The correct answer is:

A. 1,2,4.

B. 1,2,6.

C. 1,2,4,5.

D. 1,2,4,5,6.

E. all the above.

Question nr **221**

Cancer staging:

A. is important to determine the prognosis for patients.

B. helps to select the best method of treatment.

C. is based on TNM classification for all malignant tumours.

D. A and B are true.

E. A, B and C are true.

Question nr **222**

The loudest murmur related to mitral insufficiency is located:

A. at the second right intercostal space near the sternum.

B. at the second left intercostal space near the sternum.

C. at the fourth right intercostal space near the sternum.

D. at the fourth left intercostal space near the sternum.

E. at the fifth intercostal space medially from the left midclavicular line.

Question nr **223**

A 45-year-old woman, healthy so far, was admitted to the ER because of severe headache radiating to the neck. The pain began after lifting a heavy object. According to witnesses she became unconscious for a few minutes after the headache started (no

convulsions, no urination). On physical examination: GCS (Glasgow Coma Scale) 15 points, arterial blood pressure 140/85 mmHg, Kernig's sign present, nuchal rigidity 3 fingers. Which of the following is the first testing of choice that enables the diagnosis?

A. electroencephalography (EEG).

B. computed tomography scan of the head, without contrast.

C. MRI of the cervical spine.

D. examination of the cerebrospinal fluid.

E. continuous, at least 24-hour video-EEG monitoring.

Question nr **224**

The treatment of choice in anaphylactic shock includes:

A. oxygen administration, i.v. dextran and norepinephrine.

B. i.v. administration of norepinephrine and hydrocortisone.

C. oxygen administration, i.v. hydrocortisone and clemastine.

D. i.v. administration of hydrocortisone and calcium, salbutamol inhalation.

E. administration of epinephrine i.m., oxygen, 0.9% NaCl i.v.

Question nr **225**

Which of the following are useful in the treatment of hemodynamically stable tachycardia with narrow QRS complexes?
1) Valsalva maneuver;
2) face immersion in the cold water;
3) carotid sinus massage;
4) ivabradine administration;
5) adenosine administration.
The correct answer is:

A. 1,5.

B. 1,3,5.

C. 3,4,5.

D. 1,2,3,5.

E. all the above.

Question nr **226**

A 52-year-old, obese male patient was admitted to the hospital with the symptoms of acute pancreatitis. According to the patient, he does not drink alcohol regularly. Ultrasonographic examination showed no deposits in the gallbladder. ALT and alkaline phosphatase activities are normal. The patient does not take any drugs known for the possibility to cause pancreatitis. Which of the following tests should be performed to confirm the most probable cause of acute pancreatitis in this patient?

A. calcium serum concentration.

B. serum concentration of triglycerides.

C. magnetic resonance cholangiopancreatography.

D. calprotectin concentration in pancreatic juice.

E. sphincter of Oddi manometry.

Question nr **227**

A 51-year-old patient suffers from recurrent exudates in the left knee, treated by the orthopedic surgeon with repeated joint fluid evacuation and the intra-articular administration of glucocorticosteroids. His family doctor ordered the X-ray of the knee joints which showed linear shadows in the cartilages and triangle deposits in the menisci. The described signs and symptoms suggest:

A. osteoporosis.

B. gout.

C. seronegative spondyloarthropathy.

D. pseudogout caused by calcium pyrophosphate crystals.

E. acute arthritis.

Question nr **228**

A 67-year-old patient came to the doctor complaining of an unspecific chest pain. Clinical examination found the following abnormalities: waist circumference 104 cm; BMI 29.5 kg/m^2. Available laboratory tests: glucose 108 mg/dL; total cholesterol 223 mg/dL; triglycerides 138 mg/dL, ALT 91 U/L. Indicate the true statement:

A. available data allow to diagnose metabolic syndrome.

B. patient presents absolute contraindications to statins.

C. patient can be diagnosed with impaired glucose tolerance.

D. BMI value allows to diagnose obesity in the patient.

E. there is an increased cardio-vascular risk related to the waist circumference.

Question nr **229**

A 82-year-old man was brought to the ER by his son because of the swollen and painful left leg. The patient was diagnosed with pulmonary cancer 2 months ago. Which is the most probable cause of the swelling and the pain in the leg?

A. deep vein thrombosis.

B. peripheral artery disease.

C. gout.

D. congestive heart failure.

E. hypoalbuminemia.

Question nr **231**

Which of the following drugs are used in the treatment of overt hepatic encephalopathy?
1) probiotics;
2) L-ornithine L-aspartate;
3) neomycin;
4) rifaximin;
5) lactulose.
The correct answer is:

A. 1,2,3.

B. 2,3,4.

C. 2,4,5.

D. 1,4,5.

E. 3,4,5.

Question nr **232**

A 19-year-old man comes to the office because of yellowish whites of his eyes. Serum bilirubin concentration was 2.9 mg/dL (50 μmol/L). Following tests were normal: abdominal ultrasound, blood count, urine test, LDH, ALT, AST, GGT, ALP, HBS antigen and anti-HCV antibodies. The patient complains of stress associated with his oncoming secondary school-leaving examination. What should be the next step in diagnosis and treatment?

A. liver biopsy.

B. abdominal computer tomography scan.

C. abdominal magnetic resonance imaging.

D. endoscopic retrograde cholangiopancreatography.

E. only healthy lifestyle should be recommended without any further diagnostics.

Question nr **233**

Patient with the following set of viral markers: HBsAg plus, HBeAg plus, anti-HBc IgM minus, anti-HCV minus should be regarded as:

A. hepatitis B carrier with features suggesting exposition to HCV.

B. infected with HBV, with probable high replication of HBV, without features suggesting exposition to HCV.

C. carrier of HCV, without immunity after vaccination against hepatitis B.

D. recoverer from hepatitis B, with features of acquired immunity against HBV and HCV.

E. none of the above.

Question nr **234**

Which of the following is characteristic of the inflammatory low back pain occurring in the axial spondyloarthropathy?

A. pain appears after 40.

B. sudden onset.

C. pain decreases after physical exercise.

D. pain does not occur at night.

E. pain subsides while resting.

Question nr **235**

In a 30-year old woman with spontaneous abortions, recurrent pain in her joints, feverishness, symptoms of nephrotic syndrome occurred. Urine sediment exam shows haematuria and leukocyturia. Indicate the correct diagnosis:

A. acute glomerulonephritis.

B. submicroscopic nephritis.

C. lupus nephritis.

D. acute interstitial nephritis.

E. IgA nephropathy.

Question nr **236**

A 57-year-old patients came to the emergency room due to strong pain in the lumbar region lasting for two days and radiating to the right groin, with nausea, vomiting, with no fever. The urinalysis revealed proteinuria - 0.1 mg/dl, haematuria, and 6-8 white blood cells in the field of view. The most likely cause of these symptoms is:

A. acute pyelonephritis.

B. acute glomerulonephritis.

C. renal colic caused by urolithiasis.

D. cystitis.

E. IgA nephropathy.

Question nr **237**

A 18-year-old patient without a medical history was self-referred to a family doctor due to progressive weakness, pitting edema of both lower limbs appearing in the evening, and hematuria. He had an episode of erysipelas about 3 weeks before. In the physical examination: high blood pressure and swelling of the ankles. Urinalysis revealed albuminuria 0.8 g/L and numerous erythrocytes. The symptoms most likely suggest:

A. recurrent erysipelas.

B. nephritic syndrome in the course of acute glomerulonephritis.

C. renal cell cancer.

D. nephrotic syndrome in the course of amyloidosis.

E. nephrotic syndrome in the course of chronic glomerulonephritis.

Question nr **238**

Which of the following is an **absolute contraindication** to lumbar puncture?

A. suspicion of subarachnoid hemorrhage.

B. cerebral edema with a risk of brain herniation and CNS tumors (particularly those located in the posterior cranial fossa).

C. number of platelets under 100,000/μL.

D. scoliosis in the lumbar region.

E. absent papilledema.

Question nr **239**

The diagnosis of osteoarthritis is based on clinical signs and symptoms. In the case of a non-characteristic clinical picture the imaging examinations are recommended, of which the examination of choice is:
1) magnetic resonance scan, as it allows the imaging of all joint structures, including the marrow;
2) ultrasonography of knee joints, as it allows the imaging of soft tissues of the joints;
3) computed tomography of the affected joint, as it allows the precise imaging of bone structures;
4) classical X-ray of the affected joint;
5) bony scintigraphy that allows the evaluation of blood flow related to inflammation in all the joints.
The correct answer is:

A. all the above.

B. only 1.

C. 1,2,3.

D. only 4.

E. only 5.

Question nr **240**

A 40-year-old patient came by the ER because of a strong chest pain on the left side, aggravating on inspiration, accompanied by dyspnea. On physical examination: tachypnoe, no respiratory sounds and hyperresonance on percussion in the left supraspinous region. The chest X-ray revealed a lack of bronchovascular markings in the upper area of the left lung. The above clinical data suggest the diagnosis of:

A. atelectasis.

B. lobar pneumonia.

C. bronchopneumonia.

D. pneumothorax.

E. pleural effusion.

Question nr **241**

A 25-year-old female came to the doctor because of elevated temperature of 38.7°C, weakness, palpitations and a painful enlargement of the thyroid. The pain radiated to the mandible. A week earlier she noticed mild symptoms of upper respiratory tract infection, but she did not report to the doctor. On physical examination: blood pressure 145/65 mmHg, pulse 100/min, a goiter painful on palpation, pale skin in the neck region. Abnormal laboratory test results were: ESR 95 mm/h, leukocytosis 14500/μL, TSH 0.009 mU/L. Which of the following should be suspected?

A. subacute thyroiditis.

B. thyroid cancer.

C. acute thyroiditis.

D. autoimmune thyroiditis.

E. hyperthyroidism in the course of Graves' disease.

Question nr **242**

The CHA_2DS_2-VASc scale is related to assessment of:

A. risk of ischemic stroke in patients with nonvalvular atrial fibrillation.

B. risk of death in patients with the history of myocardial infarction.

C. risk of all cardiovascular incidents in patients with atrial fibrillation.

D. risk of bleeding in patients with atrial fibrillation.

E. clinical probability of deep venous thrombosis.

Question nr **243**

Indicate the true statement concerning diffuse large B-cell lymphoma:

A. it is a potentially curable neoplasm.

B. the treatment of choice is monotherapy with a cytostatic agent, independently on the staging of the disease.

C. the progression is always slow.

D. allotransplantation of hematopoietic stem cells is a preferred method in the first-line treatment.

E. it is one the least common lymphomas.

Question nr **244**

The SCORE chart for assessing a 10-year risk for fatal cardiovascular disease consists of the following risk factors:

A. age, gender, total cholesterol, diastolic blood pressure, smoking status.

B. gender, total cholesterol, systolic blood pressure, smoking status, BMI.

C. age, gender, LDL-cholesterol, systolic blood pressure, smoking status.

D. age, gender, total cholesterol, systolic blood pressure, smoking status.

E. age, gender, LDL-cholesterol, diastolic blood pressure, smoking status.

Question nr **245**

A 78-year-old patient was admitted to the hospital for the treatment of community-acquired pneumonia. Which is the most appropriate medication in this case?

A. vancomycin.

B. metronidazole.

C. fosfomycin.

D. amoxicillin with clavulanic acid.

E. gentamicin.

Question nr **246**

A 72-year-old man has been taken to the emergency unit because of a severe retrosternal pain lasting for 40 minutes. Anterior ST elevation myocardial infarction is recognized. What is the most preferred method of treatment in this patient?

A. oral administration of nitroglycerine.

B. intravenous administration of nitroglycerine.

C. fibrinolytic treatment with streptokinase.

D. fibrinolytic treatment with tissue plasminogen activator.

E. percutaneous coronary intervention as soon as possible.

Question nr **247**

The first-line medications in primary arterial hypertension **do not** include:

A. aldosterone antagonists.

B. calcium channel blockers.

C. β-blockers.

D. angiotensin converting enzyme inhibitors.

E. thiazide diuretics.

Question nr **248**

The expansion of extracellular fluid volume is an inevitable consequence of diminished salt and water excretion in renal failure. Indicate the **false** consequence of overhydration:

A. weight gain.

B. oedema.

C. raised jugular venous pressure.

D. hypernatremia.

E. anaemia.

Question nr **249**

Charcot’s triad is a set of signs typical of:

A. bleeding from a duodenal ulcer.

B. chronic pancreatitis.

C. hepatic steatosis.

D. colon cancer.

E. cholangitis.

Question nr **250**

An 82-year-old patient was transported to the emergency department because of general condition deterioration, decreased blood pressure, delirium. She has been a resident of the nursing home since the stroke that caused hemiparesis. Because of urine incontinence the patient is chronically catheterized. The bag contains cloudy urine. Which of the following is necessary to confirm urosepsis?

A. increased serum CRP concentration.

B. increased serum creatinine concentration.

C. bacteriuria in the urine sampled after catheter replacement.

D. increased serum procalcitonin concentration.

E. bacteremia.

Question nr **251**

The most common locations of a gastrinoma tumor include:
1) stomach;
2) duodenum;
3) gallbladder;
4) pancreas;
5) appendix.
The correct answer is:

A. 1,3.

B. 1,4.

C. 2,4.

D. 2,5.

E. 4,5.

Question nr **252**

A patient receiving lithium for psychiatric indications reported to a GP. Medical history revealed no other chronic disorders. The patient complained of fatigue, decreased exercise tolerance, feeling cold, increased sensitivity to cold and constipation. What could be the reason for the patient's complaints?

A. hypothyroidism as a side effect of lithium treatment.

B. hypoparathyroidism as a side effect of lithium treatment.

C. adrenal insufficiency as a side effect of lithium treatment.

D. A and B are true.

E. A and C are true.

Question nr **253**

In order to evaluate kidney damage in a patient with type 2 diabetes mellitus one should assess:

A. proteinuria and glomerular filtration rate every 5 years.

B. proteinuria and glomerular filtration rate every year.

C. glycosuria and glomerular filtration rate every year.

D. glycosuria and glomerular filtration rate every 5 years.

E. urinalysis and glomerular filtration rate every 6 months.

Question nr **254**

Indicate the true information on Alport's syndrome of sex-linked inheritance:
1) it is caused by inherited defect in alpha 5 collagen IV chain synthesis and leads to end-stage renal disease;
2) women (heterozygotes) are healthy gene carriers or they have only mild symptoms;
3) haematuria and proteinuria occur in men at around 10 years of age;
4) therapy with cyclosporine inhibits the development of the disease;
5) angiotensin converting enzyme inhibitors are used to decrease proteinuria.
The correct answer is:

A. 1,3,5.

B. 1,3,4.

C. 1,4,5.

D. 1,2,5.

E. 2,4,5.

Question nr **255**

Indicate factors predisposing for contrast nephropathy:
1) chronic kidney disease, eGFR< 60 mL/min/1.73 m^2;
2) dehydration;
3) multiple myeloma;
4) use of proton-pump inhibitors;
5) use of non-steroidal anti-inflammatory drugs.
The correct answer is:

A. 1,2,3,5.

B. 1,2,4,5.

C. 1,2,3.

D. 2,3,5.

E. all the above.

Question nr **256**

A 29-year-old female patient has had a fever of 38˚C for the last two weeks despite NSAIDs treatment, complains of a neck pain radiating into the ear. On additional tests: ESR 70 mm/h (N up to 12), TSH 0.11 mlU/l (N 0.27 - 4.2), leukocytes - 5600/mm^3.
Which of the following should be suspected first of all?

A. thyroid cancer.

B. acute purulent inflammation of the thyroid gland.

C. subacute thyroiditis.

D. Graves-Basedow disease.

E. Hashimoto disease.

Question nr **257**

Which blood test should be performed first in a person with tetany attacks?

A. magnesium.

B. sodium.

C. potassium.

D. calcium.

E. zinc.

Question nr **258**

Which of the following concerning automatic blood pressure monitoring (ABPM) **is false**?

A. indication for ABPM is suspected white coat hypertension.

B. indication for ABPM is suspected hidden hypertension.

C. indication for ABPM is suspected treatment-resistant hypertension.

D. mean arterial blood pressure considered as normal is: day <140/90 mmHg, night <125/75 mmHg, 24 hours <135/85 mmHg.

E. arterial blood pressure is monitored automatically, usually every 15-20 min during the day and every 30 min at night.

Question nr **259**

Indicate unfavorable prognostic factors of acute glomerulonephritis:
1) urine erythrocyturia and blood casts;
2) high antistreptolysin 0 titer;
3) persistent proteinuria above 2 g/day;
4) decreased glomerular filtration < 40 mL/min;
5) decreased hemolytic complement activity and its fraction C3.
The correct answer is:

A. 1,2,3.

B. 1,3,5.

C. 1,2,5.

D. 2,5.

E. 3,4.

Question nr **260**

The GRACE risk score facilitates decision making in the management of patients with:

A. ST-segment elevation myocardial infarction (STEMI).

B. non-ST-segment elevation myocardial infarction (NSTEMI).

C. pulmonary embolism.

D. cardiogenic shock.

E. pulmonary edema.

Question nr **261**

Which of the following conditions predisposes towards recurrent acute pancreatitis?

A. *HFE* gene mutation (C282Y).

B. regular consumption of drinks rich in fructose.

C. hyperaldosteronism.

D. hypertriglyceridemia.

E. ectopic pancreatic tissue in the stomach.

Question nr **262**

A 52-year-old male with arterial hypertension - correctly treated was admitted to the ER because of the severe headache radiating to the neck, which occurred during extensive physical work. On admittance: GSC (Glasgow Coma Scale) 15 points, blood pressure 140/85 mmHg, Kernig’s sign, nuchal rigidity 3 fingers. In this clinical situation from among additional tests you should order first:

A. cervical spine X-ray.

B. electroencephalography (EEG).

C. CT scan with contrast.

D. lumbar puncture and cerebrospinal fluid examination.

E. CT scan without contrast.

Question nr **263**

Which of the following are used in the first-line treatment of acute uncomplicated cystitis:
1) norfloxacin;
2) cefuroxime;
3) furagin;
4) fosfomycin;
5) co-trimoxazole.
The correct answer is:

A. 1,3,4.

B. 1,2,3,5.

C. 4,5.

D. 2,3,4,5.

E. 3,4,5.

Question nr **264**

A 25-year-old woman comes to her doctor because of palpitations occurring for 6 weeks. TSH concentration is below the normal range and FT4 concentration is over the normal limit. Which of the following diagnoses is the most probable?

A. euthyreosis.

B. primary hyperthyroidism.

C. primary hypothyroidism.

D. secondary hyperthyroidism.

E. secondary hypothyroidism.

Question nr **265**

Spondyloarthritis may occur in the course of:
1) Crohn’s disease;
2) psoriasis;
3) gastrointestinal tract infection with coliform bacteria of *Enterobacteriaceae* group;
4) infection with *Chlamydia trachomatis*.
The correct answer is:

A. only 1.

B. 1,2.

C. 3,4.

D. 1,3,4.

E. all the above.

Question nr **266**

A 54-year-old woman treated with atorvastatin (40 mg daily) for hyperlipidemia for several years came for a control examination. She takes ramipril 10 mg because of arterial hypertension. She is not diabetic, her history is positive for TIA (transient ischemic attack). The examination shows: BMI 27.8 kg/m^2, RR 138/76 mmHg. Lab tests: total cholesterol 6.62 mmol/L (255 mg%), LDL-cholesterol 4.34 mmol/L (166 mg%), HDL-cholesterol 0.9 mmol/L (35 mg%), triglycerides 1.8 mmol/L (160 mg%), ALT in the normal range. Indicate the optimal management of her lipid disorders:

A. addition of fibrates.

B. addition of ezetimibe.

C. addition of ion-exchange resins.

D. addition of nicotinic acid.

E. continuation of the pharmacological treatment, dietary counseling, body mass reduction.

Question nr **267**

Which of the following **<u>is not</u>** characteristic of chronic obstructive pulmonary disease (COPD)?

A. chronic cough.

B. chronic coughing up of sputum.

C. dyspnea, usually every day.

D. large daily and interdaily variation in symptom intensity.

E. history of exposure to the risk factors of COPD, especially the tobacco smoke.

Question nr **268**

Red rash occurring after an exposure to sunlight and complete heart block in children of mothers suffering from systemic lupus erythematosus are related to the antibodies reacting to the antigen called:

A. Scl-70.

B. SS-A.

C. Jo-1.

D. RNP.

E. PM100.

Question nr **269**

An increase in the mean corpuscular volume (MCV) may be caused by:

A. vitamin B_{12} insufficiency.

B. folic acid insufficiency.

C. iron insufficiency.

D. A and B are true.

E. A and C are true.

Question nr **270**

Which of the following **<u>is not</u>** characteristic of chronic renal failure:

A. blood volume expansion.

B. hyperkalemia.

C. hypernatremia.

D. hyperphosphatemia.

E. acidosis.

Question nr **271**

A 34-year-old patient complains of nausea and pressure-like sensation behind the sternum, especially after solid meals. The symptoms occur intermittently for 3 years,

mainly in summer and autumn. He underwent the standard treatment for gastroesophageal reflux disease but without any improvement. He was diagnosed with asthma in the childhood. The gastroscopy revealed no macroscopic lesions and biopsy of the esophageal mucosa was performed. Which of the following is the most probable cause of the symptoms?

A. esophagitis in the course of gastroesophageal reflux disease.

B. esophageal cancer.

C. eosinophilic esophagitis.

D. esophageal achalasia.

E. diffuse esophageal spasm.

Question nr **272**

A 32-year-old woman in 14 week of pregnancy presented with severe nausea and emesis accompanied with weight loss, dyselectrolytemia and elevated transaminases. Which predisposing factors for severe morning sickness in pregnancy (hyperemesis gravidarum) one should consider in differential diagnosis?
1) hyperthyreosis;
2) *H. pylori* infection;
3) obesity;
4) previous psychiatric disorders;
5) age.
The correct answer is:

A. 1,2.

B. 2,4.

C. 1,2,4.

D. only 2.

E. all the above.

Question nr **273**

Indicate the medication which **<u>should not</u>** be used in the first-line treatment of hypertension:

A. amlodipine.

B. losartan.

C. ramipril.

D. clonidine.

E. indapamide.

Question nr **274**

A 45-year-old female with type 2 diabetes visited her family doctor to obtain prescriptions to continue her anti-hypertensive therapy. Occasionally performed urinalysis showed leucocytes, 20-30 per high power field and numerous bacteria. Which of the following should be advised?

A. urine culture.

B. empirical therapy with antibiotic for 3-5 days.

C. bactericide for 3 days.

D. disregarding the test result - the patient needs no treatment.

E. imaging diagnostics of the urinary tract.

Question nr **275**

The typical symptoms of systemic scleroderma **do not** include:

A. autoimmune hemolytic anemia.

B. swelling and hardening of the skin of fingers.

C. heart arrhythmia and heart conduction abnormalities.

D. Raynaud’s phenomenon.

E. pulmonary fibrosis.

Question nr **276**

A first-degree atrioventricular block could be recognized on ECG on the basis of:

A. prolongation of the PQ interval (PR interval).

B. absence of the P wave.

C. absence of the Q wave.

D. absence of the QRS complex after each P wave.

E. widened QRS complex.

Question nr **277**

Indicate the site of auscultation of the aortic valve:

A. right second intercostal space at the sternal border.

B. left second intercostal space at the sternal border.

C. right fourth or fifth intercostal space at the sternal border.

D. left fifth intercostal space medially from the midclavicular line.

E. location of the apex beat.

Question nr **278**

Which of the following medications **should not** be used in monotherapy to start the treatment of recent deep venous thrombosis?

A. rivaroxaban.

B. apixaban.

C. warfarin.

D. enoxaparin.

E. fondaparinux.

Question nr **279**

Which of the following drugs is used to alleviate an acute gout attack?

A. indapamide.

B. furosemide.

C. allopurinol.

D. spironolactone.

E. colchicine.

Question nr **280**

Which of the following diseases is the most common cause of bilateral pelvicalyceal dilation in an elderly male with lower urinary tract symptoms?

A. cancer of the bladder.

B. benign prostatic hyperplasia.

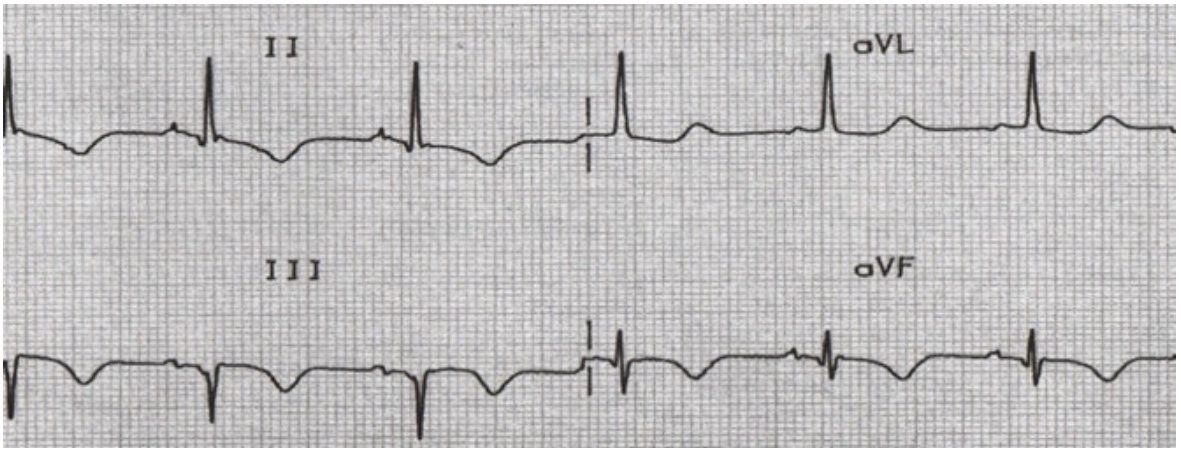
C. bilateral ureteral stricture.

D. bilateral ureteral stones.

E. vesicoureteral reflux.

Question nr **281**

A 62-year-old patient was admitted to the hospital complaining of retrosternal pain lasting for approx. 1 hour. ECG revealed negative T waves in leads II, III and aVF (as seen on the picture below). The patient's condition could be assessed with the use of the following grading scale:



A. EHRA.

B. NYHA.

C. CCS.

D. A and C are true.

E. none of the above.

Question nr **282**

Carcinoembryonic antigen level assessment is of most value in:

A. breast cancer.

B. lung cancer.

C. colorectal cancer.

D. pancreatic cancer.

E. stomach cancer.

Question nr **283**

A 29-year-old female patient came to the emergency department because of abdominal pain, high fever up to 40°C with chills and nausea. Laboratory test showed CRP 120 mg/L (N<5 mg/L), leucocytes 16 G/L, and the following results of urinalysis: specific gravity 1.030 g/mL; protein - 1.2 g/L; leucocytes 30-50 per HPF + numerous leucocytes in packs; intact erythrocytes 10-20 per HPF. The most probable diagnosis in this patient is:

A. acute glomerulonephritis.

B. chronic glomerulonephritis.

C. bladder infection.

D. acute pyelonephritis.

E. systemic lupus erythematosus.

Question nr **284**

Which of the following is used in an acute attack of gout?

A. allopurinol.

B. furosemide.

C. colchicine.

D. β-blockers.

E. fenoterol.

Question nr **285**

A 38-year-old patient is admitted to the hospital because of headache, confusion, right hemiparesis and dysphasia lasting 24 hours. Additionally herpes is present, temperature 38.6 Celsius, nuchal rigidity 3 fingers. Cerebrospinal fluid examination shows: pleocytosis 250 leukocytes/mm^3 - 90% of them are lymphocytes, protein level 70 mg/dL, glucose level 60 mg/dL (serum glucose level 85 mg/dL). Head MRI shows

enhanced signal FLAIR in the medial left temporal lobe. Until you get microbiology and PCR tests, the first-choice drug against the most probable etiological factor in this situation is:

A. acyclovir.

B. cephalosporin III generation e.g. ceftriaxone.

C. steroids.

D. 20% mannitol.

E. amoxicillin and clavulanic acid.

Question nr **286**

Asymptomatic bacteriuria is an indication for antibiotic therapy in:

A. patients with concomitant leukocyturia.

B. patients with diabetes mellitus.

C. pregnant women.

D. patients with spinal cord dysfunction.

E. patients with bladder catheterization.

Question nr **287**

Which of the following is an indication for the temporal insulin therapy in a patient with type 2 diabetes mellitus treated with metformin and saxagliptin?
1) each glycemia exceeding 300 mg/dL;
2) each pharyngitis;
3) ischemic stroke;
4) surgery;
5) travel across time zone boundaries.
The correct answer is:

A. 1,3.

B. 2,4.

C. 2,3.

D. 2,5.

E. 3,4.

Question nr **288**

In rheumatoid arthritis typically the following joints **<u>are not</u>** affected:

A. carpal.

B. metacarpophalangeal.

C. proximal interphalangeal.

D. distal interphalangeal.

E. knee.

Question nr **289**

Acute nephritis syndrome **<u>is not</u>** presented with:

A. oedema.

B. haematuria.

C. heavy proteinuria.

D. red blood cell casts.

E. hypertension.

Question nr **290**

Which of the following medications is **<u>not recommended</u>** in the first-line empiric therapy of uncomplicated urinary tract infections in non-pregnant women?

A. cotrimoxazole.

B. trimethoprim.

C. ciprofloxacin.

D. furazidine.

E. fosfomycin.

Question nr **291**

Which of the following does not influence (neither positively or negatively) the risk of

colon cancer?

A. tobacco smoking.

B. age > 50 years.

C. aspirin.

D. obesity.

E. angiotensin convertase inhibitors or angiotensin receptor antagonists.

Question nr **292**

A 77-year-old patient treated for urolithiasis for many years complains of a generalized bone pain. Laboratory tests show: calcium concentration 12.3 mg/dL (N: 8.5-10.5 mg/dL), daily calcium excretion 480 mg/24h (N: 150-300 mg/24h), PTH 227 pg/ml (N: 15-65 pg/mL). The most probable diagnosis is:

A. hypercalcemia of malignancy.

B. primary hyperparathyroidism.

C. secondary hyperparathyroidism.

D. pseudohypoparathyroidism.

E. vitamin D overdose.

Question nr **293**

In a 65-year-old man who is treated with 4 drugs because of hypertension an acute gout attack has been observed for the first time in his life. Which of the drugs used for treatment of hypertension is most probably responsible for the acute gout attack?

A. bisoprolol.

B. amlodipine.

C. indapamide.

D. losartan.

E. none of the above-mentioned drugs increases the risk of an acute gout attack.

Question nr **294**

What are the indications for corticosteroid treatment in tuberculosis?

1) adrenal insufficiency caused by adrenal tuberculosis;
2) caseous pneumonia;
3) acute pericarditis;
4) tuberculous meningoencephalitis with the signs of increased intracranial pressure;
5) tuberculous spondylitis.
The correct answer is:

A. 1,2.

B. 2,3,5.

C. 1,3,4.

D. 2,4,5.

E. 2,5.

Question nr **295**

The diagnosis of which type of purpura is suggested by the following coagulation test results: PT 8.5 s (N: 12-16 s), APTT 66.4 s (N: 28-30 s), fibrinogen 334 mg/dL (N: 180-350 mg/dL), D-dimers 417 ng/mL (N: 100-500 ng/mL)?

A. hemophilia.

B. caused by acenocoumarol.

C. chronic disseminated intravascular coagulation.

D. antiphospholipid syndrome.

E. aspirin-induced platelet dysfunction.

Question nr **296**

The symptoms of hypercalcemic syndrome **do not** include:

A. arterial hypertension.

B. acute pancreatitis.

C. peptic ulcer disease.

D. coma.

E. overhydration.

Question nr **297**

Pancytopenia is defined based on:

A. white blood cell count.

B. whole blood cell count.

C. percentage of CD34+ in bone marrow aspiration biopsy.

D. absence of blasts in myelogram.

E. red blood cell count in peripheral blood.

Question nr **298**

A 45-year-old man was transported to the hospital because of a strong chest pain not responding to nitrates. The pain radiates to the lumbar region. The patient has a history of poorly controlled arterial hypertension. Which of the following murmurs should be expected in this patient on auscultation?

A. diastolic murmur over the second intercostal space at the left sternal border.

B. systolic murmur over the second intercostal space at the left sternal border.

C. diastolic murmur over the second intercostal space at the right sternal border.

D. systolic murmur over the second intercostal space at the right sternal border.

E. diastolic murmur over the cardiac apex.

Question nr **299**

How should potassium be supplemented intravenously in a patient with ketoacidosis?

A. potassium should not be supplemented intravenously in a patient with ketoacidosis.

B. potassium should be supplemented intravenously only when its serum concentration drops below 4.0 mmol/L.

C. potassium should be supplemented intravenously only when its serum concentration drops below 3.5 mmol/L.

D. potassium should be supplemented intravenously only when its serum concentration drops below 3.0 mmol/L.

E. intravenous potassium supplementation should be started even when its serum

concentration is higher than 4.0 mmol/L.

Question nr **300**

Which of the following is the most common cause of death due to neoplastic disease in women in Poland?

A. lung cancer.

B. breast cancer.

C. cervical cancer.

D. ovarian cancer.

E. colon cancer.

Question nr **301**

Thrombophilia is most probable in a patient:

A. who does not respond to acenocoumarol/warfarin treatment.

B. who had excessive bleeding after tooth extraction.

C. who had deep vein thrombosis and pulmonary embolism without any known risk factors.

D. who had myocardial infarction before 50 years of age.

E. who has an abdominal aortic aneurysm with intraluminal thrombus.

Question nr **302**

The rescue team’s doctor or paramedic on arrival to the patient with left-side hemiparesis of sudden origin and the blood pressure of 180/110 mmHg, after examining the patient and , if needed, securing of basic life functions, should immediately:

A. take the medical history (from the patient or from the witnesses) about the hour and minute when the symptoms occurred, previous diseases and find out if and what drugs the patient takes and put it in the medical record.

B. administer acetylsalicylic acid at the dose of 300 mg orally, because ischemic stroke is the most frequent cause of sudden hemiparesis.

C. administer acetylsalicylic acid at the dose of 300 mg orally and low-molecular weight heparin (e.g. enoxaparin sodium) at prophylactic dose 20-40 mg subcutaneously, but

not at the therapeutic dose (e.g. 80 mg) in order not to exclude the possibility of thrombolytic therapy later on.

D. low the blood pressure as quickly as possible to the level below 140/90 mmHg by administering calcium channel blocker (ex. nifedipine) 5 mg sublingually or with intravenous drugs (e.g. furosemide 20 mg i.v).

E. administer low-molecular weight heparin (e.g. enoxaparin sodium) at prophylactic dose 20-40 mg subcutaneously, but not at therapeutic dose (e.g. 80 mg) in order not to exclude the possibility of thrombolytic therapy later on.

Question nr **303**

Which of the following disturbances of calcium and phosphate homeostasis occur in chronic kidney disease?
1) elevated serum PTH concentration;
2) decreased serum FGF-23 (phosphatonin) concentration;
3) decreased calcium concentration;
4) increased phosphate concentration;
5) increased concentration of $1,25(OH)_2D_3$.
The correct answer is:

A. 1,3,4.

B. 2,3,4.

C. 2,3,5.

D. 1,3,5.

E. 3,4,5.

Question nr **304**

A 64-year-old woman with psoriasis complains of abdominal cramps, watery diarrhoea and weight loss in the last three months since the symptoms first occurred (about 6 kg). She has not been diagnosed with any chronic diseases before. On physical examination increased intestinal peristalsis was noted. In routine laboratory tests no abnormalities were found. Colonoscopy - macroscopically the colon and terminal ileum looked normal. In biopsies obtained from the right half of the colon mild infiltration of lymphocytes and plasmocytes in the lamina propria was found. The most probable diagnosis is:

A. chronic pancreatitis.

B. coeliac disease.

C. irritable bowel syndrome (IBS).

D. microscopic colitis.

E. *Campylobacter jejuni* infection.

Question nr **305**

Systolic „crescendo-decrescendo” murmurs, radiating to the carotid arteries and the clavicles are characteristic of:

A. mitral stenosis.

B. mitral valve insufficiency.

C. aortic valve insufficiency.

D. aortic stenosis.

E. tricuspid valve insufficiency.

Question nr **306**

Screening programs are scientifically justified in practice for the detection of:
1) breast cancer;
2) prostate cancer;
3) cervical cancer;
4) lung cancer;
5) colorectal cancer;
6) melanoma.
The correct answer is:

A. 1,3,5.

B. 1,2,3,5.

C. 1,3,4,5.

D. 1,2,3,4,5.

E. 1,3,5,6.

Question nr **307**

The most common diverticula in the colon are:

A. acquired diverticula located in the sigmoid.

B. hereditary diverticula located in the cecum.

C. hereditary diverticula located in the sigmoid.

D. hereditary diverticula located in the transverse colon.

E. acquired diverticula located in the cecum.

Question nr **308**

Which of the following **is not** typical of subacute thyroiditis of the deQuervain type?

A. transient decrease in TSH concentration.

B. good response to treatment with antibiotics.

C. presence of giant multinuclear cells in cytological smear.

D. high CRP concentration.

E. marked pain in the neck.

Question nr **309**

When should asymptomatic bacteriuria be treated?
1) in patients with permanent urinary catheterization;
2) in patients with a neurogenic bladder;
3) in pregnant women;
4) before urologic procedures related to a rupture of the urothelium;
5) in the recipients of a kidney transplant for the whole post-transplant period.
The correct answer is:

A. 2,3,4.

B. 1,3,4.

C. 1,2,4.

D. 3,4.

E. 3,4,5.

Question nr **310**

A spirometry result showing reduced vital capacity (VC) below the lower reference limit with normal or increased FEV_1/VC_{max} value suggests restriction. Which of the following should be performed in order to clarify the cause of the VC reduction?

A. exercise test.

B. post bronchodilator test.

C. impulse oscillometry.

D. lung diffusion testing.

E. body plethysmography.

Question nr **311**

Which test should be perform to confirm the diagnosis of rheumatoid arthritis?

A. antinuclear antibodies.

B. anti-cyclic citrullinated peptide antibodies.

C. anti-mitochondrial antibodies.

D. anti-neutrophil cytoplasmic antibodies.

E. serum uric acid concentration.

Question nr **312**

Autoimmune pancreatitis may present with the increased concentration of:

A. IgG1.

B. IgG2.

C. IgG3.

D. IgG4.

E. IgG5.

Question nr **313**

Please indicate diseases that may cause the accumulation of pleural fluid characterized by a low pH (< 7.3):
1) congestive heart failure;
2) complicated parapneumonic effusion;
3) nephrotic syndrome;
4) neoplastic pleural effusion;
5) tuberculous pleural effusion.

The correct answer is:

A. 1,2,5.

B. 2,3,4.

C. 3,5.

D. 2,4,5.

E. 1,2,4.

Question nr **314**

A 52-year-old woman comes to the office because of strong contractions of the hands for the last two weeks. A month ago she had a thyroidectomy because of retrosternal goiter. The most probable cause of these symptoms is:

A. hypothyroidism.

B. hyperparathyroidism.

C. hyperthyroidism.

D. hypoparathyroidism.

E. hypercalcemia.

Question nr **315**

Fever in a patient with breast cancer who recently received a subsequent course of adjuvant postoperative chemotherapy:

A. may be due to treatment-induced neutropenia.

B. is always an indication for the use of granulocyte-colony stimulating agents.

C. is always an indication for the primary use of antifungal agents.

D. A and B are true.

E. A, B and C are true.

Question nr **316**

Alfa-fetoprotein is a laboratory indicator of:

A. gastrointestinal stromal tumor (GIST).

B. fetal renal cancer.

C. gastric sarcoma.

D. hepatocellular carcinoma.

E. pancreatic islet tumor.

Question nr **317**

Diagnostic criteria for rheumatoid polymyalgia **do not** include:

A. ESR > 40 mm/h.

B. symmetrical edema and pain of the small joints of the hand.

C. pain in the shoulder girdle and/or the pelvic girdle.

D. age > 50 years.

E. rapid effect of the treatment with prednisone at a dose of 12.5-25 mg daily.

Question nr **318**

Which of the following are characteristic of hemolytic-uremic syndrome?
1) thrombocytopenia;
2) elevated serum creatinine concentration;
3) thrombocytosis;
4) anemia;
5) presence of schistocytes in peripheral blood;
6) presence of lymphoblasts in peripheral blood.
The correct answer is:

A. 1,2,4,6.

B. 1,2,4,5.

C. 2,3,4,5.

D. 3,4,5,6.

E. 2,3,5,6.

Question nr **319**

What cardiologic complications may be expected in the course of hyperthyroidism?

1) arrhythmia;
2) aggravation of heart failure;
3) aggravation of coronary disease;
4) myocarditis;
5) atrioventricular blocks.
The correct answer is:

A. 1,2,3.

B. 2,3,4.

C. 3,4,5.

D. only 1.

E. all the above.

Question nr **320**

Which of the following parameters can be measured with spirometry?
1) vital capacity;
2) total lung capacity;
3) forced expiratory volume in 1 second;
4) inspiratory capacity;
5) residual volume.
The correct answer is:

A. all the above.

B. 1,2,5.

C. 1,3,4.

D. 1,3,5.

E. 2,4,5.

Question nr **321**

Indicate the **false** information on diabetic kidney disease:

A. it is the most frequent cause of end-stage renal disease.

B. it is caused by hemodynamic and metabolic changes, which lead to hyalinization of the glomeruli and to fibrosis of the interstitial tissue.

C. albuminuria above 30 mg/day is the first clinical sign of diabetic kidney disease.

D. dysmorphic haematuria and blood casts indicate the severity of diabetic kidney disease which is equal to the IV stage of chronic kidney disease.

E. activation of the renin-angiotensin-aldosterone system is among the factors that accelerate the progress of the disease.

Question nr **322**

Detemir is a hypoglycemic agent that that is one of:

A. short-acting insulin analogues.

B. short-acting insulins.

C. glucagon-like peptide-1 (GLP-1) receptor agonists.

D. long-acting insulin analogues.

E. gliflozins.

Question nr **323**

Characteristic medical signs associated with cardiac tamponade include:
1) distended neck veins;
2) high arterial blood pressure;
3) low arterial blood pressure;
4) muffled heart sounds;
5) bradycardia;
6) tachycardia.
The correct answer is:

A. 1,2,5.

B. 1,2,6.

C. 1,3,4.

D. 1,2,4.

E. 1,4,5.

Question nr **324**

A transudate with a low protein content and the low activity of lactate dehydrogenase (LDH) may accumulate in the pleural cavity in the course of:
1) pneumonia;

2) heart failure;
3) cirrhosis;
4) neoplastic disease;
5) gastrointestinal disorder.
The correct answer is:

A. 1,4.

B. 2,5.

C. 3,5.

D. 2,3.

E. 4,5.

Question nr **325**

A 27-year-old woman, nicely tanned, came to the doctor in February complaining of fatigue, nausea, lightheadedness and scotoma, especially upon standing up. She lost about 4 kg. She's going to get married in May and she's planning pregnancy. On clinical examination: blood pressure 105/60 mmHg, pulse about 90/minute, TSH concentration 7.85 μIU/mL (normal range 0.27-4.2). Indicate the correct management:

A. because of the planned pregnancy, levothyroxine should be given in a dose of at least 50 μg/daily.

B. because of the fact that free concentrations of thyroid hormones fall only at TSH concentration >10 μIU/mL the determination of TSH, fT4 and anti-thyroid peroxidase antibodies (anti-TPO) should be repeated in 3-4 months.

C. cortisol concentration in the morning, electrolytes and anti-TPO antibodies should be urgently determined.

D. ultrasound scan of the thyroid should be performed and levothyroxine in a dose of 25-50 μg daily should be immediately introduced if a hypoechoic and heterogeneous echotexture of the thyroid resembles the image typical of chronic thyroiditis.

E. because of the elevated TSH concentration and tachycardia the treatment with Thiamazole and a beta-blocker should be provided.

Question nr **326**

Which of the following medications can cause hypercalcemia?
1) calcimimetics;
2) thiazides;
3) lithium;

4) calcium receptor antagonists;
5) vitamin D.
The correct answer is:

A. 1,2,3.

B. 1,3,5.

C. 2,3,4.

D. 2,3,5.

E. 3,4,5.

Question nr **327**

Hemolytic anemia is suspected if:

A. there is normal shape and survival time of red blood cells.

B. absolute reticulocyte count is > 150 000/μl.

C. there is liver damage with an elevated haptoglobin and normal bilirubin level.

D. A and B are true.

E. B and C are true.

Question nr **328**

What is the most probable disease presented with fever, cutaneous purpura, purulent rhinorrhea, nasal ulcers, sinus pain, polyarthralgia/arthritis, cough, hemoptysis, shortness of breath, microscopic hematuria and mild proteinuria?

A. membranous nephropathy.

B. antiglomerular basement membrane disease.

C. granulomatosis with polyangiitis (Wager’s granulomatosis).

D. poststreptococcal glomerulonephritis.

E. IgA nephropathy.

Question nr **329**

Which of the following is the most characteristic abnormality in patients with multiple myeloma?

A. generalized lymphadenopathy.

B. hepatomegaly.

C. splenomegaly.

D. osteolytic bone lesions.

E. plasmacytic infiltration in the kidneys.

Question nr **330**

Antinuclear antibodies specific for Scl-70 antigen are present in patients with:

A. systemic lupus erythematosus.

B. seronegative spondyloarthropathy.

C. pseudogout caused by calcium pyrophosphate.

D. rheumatoid arthritis.

E. systemic sclerosis.

Question nr **331**

A 67-year-old woman with paroxysmal atrial fibrillation, hypertension and type 2 diabetes mellitus (CHA_2DS_2-VASc score of 4) in the prevention of ischaemic stroke requires the treatment with:

A. only acetylsalicylic acid.

B. only clopidogrel.

C. acetylsalicylic acid and clopidogrel.

D. non-vitamin K antagonist oral anticoagulant (dabigatran, rivaroxaban) or vitamin K antagonists (acenocoumarol, warfarin).

E. she does not require any anticoagulant.

Question nr **332**

A densitometric examination of a 78-year-old woman showed T-score equal to -2,8 and her calcium concentration was 13.0 mg/mL (normal range 8.5-10.5). The patient should be further diagnosed for:

A. primary hyperparathyroidism.

B. secondary hyperparathyroidism.

C. neoplastic lesions located in the bones.

D. A and C are true.

E. B and C are true.

Question nr **333**

Which of the following diseases most frequently accompanies primary sclerosing cholangitis (PSC)?

A. Hashimoto disease.

B. ulcerative colitis.

C. Sjögren's syndrome.

D. Crohn's disease.

E. psoriasis.

Question nr **334**

Which of the following should be administered to a patient with eGFR 40 mL/min/1.73 m^2 prior to performing chest computed tomography with the use of contrast agents?

A. furosemide 120 mg iv.

B. low-molecular-weight heparin - 40 mg sc.

C. unfractionated heparin - 5000 units iv.

D. 0.9% saline iv.

E. ramipril 10 mg orally.

Question nr **335**

Which statement describing Gilbert's syndrome is true?

A. transaminases level is moderately increased, and bilirubin is elevated with the prevalence of conjugated bilirubin with glucuronic acid (direct bilirubin).

B. transaminases level is normal, and bilirubin level may exceed 6 mg/dl.

C. transaminases level is strongly elevated, and bilirubin level is moderately increased with dominance of unconjugated bilirubin („indirect bilirubin”).

D. diagnosis is based on the presence of hyperbilirubinemia, thrombocytopenia and on elevated level of alkaline phosphatase.

E. transaminases level is normal, and bilirubin level elevated but not exceeding 5 mg/dl.

Question nr **336**

Angiotensin-converting enzyme inhibitors and angiotensin receptor blockers:

A. are used in renoprotection.

B. impair renal autoregulation responses.

C. may cause prerenal acute kidney injury.

D. A, B and C are true.

E. A and B are true.

Question nr **337**

Indicate the possible reason for the presence of a persistently low urine specific gravity during properly conducted dehydration tests:

A. central diabetes insipidus.

B. nephrogenic diabetes insipidus.

C. psychogenic polydipsia.

D. A and B are correct.

E. A and C are correct.

Question nr **338**

The SCORE Risk Chart, used in Poland for the assessment of a 10-year risk of cardiovascular death, includes the influence of:
1) triglyceride concentration;
2) HDL-cholesterol concentration;
3) glucose concentration;
4) total cholesterol concentration;
5) LDL-cholesterol concentration.

The correct answer is:

A. 4,5.

B. 1,2,4.

C. 3,4,5.

D. only 4.

E. only 5.

Question nr **339**

Which of the following is the cause of anemia in patients with myelodysplastic syndrome?

A. iron deficiency.

B. vitamin B_{12} deficiency.

C. folic acid deficiency.

D. ineffective erythropoiesis.

E. increased degradation of erythrocytes (hemolysis) in peripheral blood.

Question nr **340**

In a 68-year-old man after myocardial infarction the concentration of LDL cholesterol is 160 mg/dL. The patient should be treated with statin to lower LDL cholesterol concentration below:

A. 35 mg/dL.

B. 70 mg/dL.

C. 115 mg/dL.

D. 135 mg/dL.

E. 150 mg/dL.

Question nr **341**

Hypouricemia **cannot** be caused by:

A. SIADH.

B. tubular acidosis type II.

C. pregnancy.

D. renal insufficiency.

E. allopurinol administration.

Question nr **342**

A 79-year-old woman with acute kidney injury, oliguria and with severe muscle pain was admitted to the hospital. Which of the drugs taken by this patient should be immediately withdrawn?
1) lisinopril 40 mg/day;
2) simvastatin 40 mg/day;
3) metoprolol 50 mg/day;
4) amlodipine 10 mg/day;
5) telmisartan 80 mg/day.
The correct answer is:

A. 1,2,3.

B. 1,2,4.

C. 1,2,5.

D. 1,3,4.

E. 1,3,5.

Question nr **343**

The characteristic features of Crohn disease include:
1) presence of serum antibodies against *Saccharomyces cerevisiae* (ASCA);
2) toxic megacolon;
3) presence of fistulas;
4) presence of pseudopolyps;
5) perianal lesions.
The correct answer is:

A. 1,3,4.

B. 1,3,5.

C. 1,4,5.

D. 2,3,5.

E. 2,4,5.

Question nr **344**

Which of the following factors **does not** predispose to the progressive loss of renal function?

A. low birth weight.

B. hypertension.

C. inhibition of the renin-angiotensin-aldosterone system.

D. obesity.

E. cigarette smoking.

Question nr **345**

Which of the following scales are useful for the assessment of the clinical risk of pulmonary embolism?
1) EHRA score;
2) PESI;
3) TIMI risk score;
4) Wells score;
5) revised Geneva score.
The correct answer is:

A. 1,2.

B. 1,2,3.

C. 2,4.

D. only 4.

E. 4,5.

Question nr **346**

Complete blood count: WBC 4,1 G/L, LY 0,91 G/L, MO 0,18 G/L, NE 2,81 G/L, RBC 2,16 T/L, Hgb 8,6 g/dL, MCV 119,0 fl, PLT 182 G/L suggests the diagnosis of:

A. iron deficiency anemia.

B. B_{12} deficiency anemia.

C. aplastic anemia.

D. polycythemia vera.

E. thalassemia.

Question nr **347**

Acronym CRAB designates:

A. chemotherapy protocol of myeloblastic leukemia.

B. signs of plasmacytic myeloma.

C. alternative designation for blood cancer.

D. signs of lymphocytic leukemia.

E. type of blood counter.

Question nr **348**

The most common acquired valvular heart disease in adults is:

A. mitral stenosis.

B. aortic regurgitation.

C. mitral regurgitation.

D. tricuspid stenosis.

E. aortic stenosis.

Question nr **349**

Indicate first choice drugs in the treatment of uncomplicated acute cystitis:
1) ciprofloxacin;
2) fosfomycin;
3) co-trimoxazole (trimethoprim + sulfamethoxazole);
4) amoxicillin + clavulanic acid;
5) nitrofurantoin.
The correct answer is:

A. 1,3,5.

B. 2,3,5.

C. 1,2,3,5.

D. 1,2,4.

E. 3,4,5.

Question nr **350**

Hypercalcemia **does not** occur in:

A. primary hyperparathyroidism.

B. untreated postoperative hypoparathyroidism.

C. milk-alkali syndrome.

D. multiple myeloma.

E. hyperthyroidism.

Question nr **351**

What concentration of LDL cholesterol is the therapeutic goal in a 65-year-old male tobacco smoker after myocardial infarction (STEMI) managed with coronary angioplasty and DES stent implantation into the left anterior descending artery, arterial hypertension, and type 2 diabetes mellitus?

A. < 4.2 mmol/L (< 161 mg/dL).

B. < 3.6 mmol/L (< 138 mg/dL).

C. < 3.0 mmol/L (< 115 mg/dL).

D. < 2.6 mmol/L (< 100 mg/dL).

E. < 1.8 mmol/L (< 70 mg/dL).

Question nr **352**

Electrolyte disorders considered most typical of tumor lysis syndrome (found in acute kidney injury following chemotherapy of lymphoma and leukemia) include:

A. hypocalcemia, hyperphosphatemia and hyperkalemia.

B. hypercalcemia, hyperphosphatemia and hypokalemia.

C. hyponatremia, hyperchloremia and hypermagnesaemia.

D. hypernatremia, hypophosphatemia and hypomagnesaemia.

E. hypocalcemia, hypophosphatemia and hyperkalemia.

Question nr **353**

Which medications are preferred in the treatment of asthma as drugs controlling the course of the disease?

A. inhaled short-acting beta$_2$-mimetics.

B. inhaled long-acting beta$_2$-mimetics.

C. oral glucocorticoids.

D. inhaled glucocorticoids.

E. theophylline.

Question nr **354**

A 32-year-old man running a fever of up to 40 °C visited his doctor. The physical examination revealed otitis media and pneumonia of the right lung confirmed with an X-ray. Laboratory tests showed proteinuria and erythrocyturia with predominance of dysmorphic erythrocytes. Which of the following tests should be performed to confirm the probable diagnosis?

A. ear swab.

B. ANA.

C. antibodies against *Chlamydia trachomatis*.

D. antibodies against Jo-1.

E. ANCA.

Question nr **355**

Which of the following concerning scales, scores and classifications used in cardiovascular diseases **is false**?

A. GRACE score is used for estimating the risk of death or myocardial infarction in patients with NSTEMI.

B. NYHA classification shows the degree of functional capacity in patients with chronic heart failure.

C. CHDA2DS2-VASc score is used for estimating the risk of ischemic stroke in patients with venous thromboembolism.

D. CCS grading scale concerns the intensity of angina.

E. EHRA score serves to classify the intensity of symptoms associated with atrial fibrillation.

Question nr **356**

Which of the following **is not** considered in the assessment of the thromboembolic complication risk in patients with non-valvular atrial fibrillation, according to CHA_2DS_2VASc scale:

A. congestive heart failure.

B. age > 75 years.

C. diabetes mellitus.

D. ischemic stroke in the history.

E. hyperlipidemia with LDL concentration > 150 mg%.

Question nr **357**

Pheochromocytoma can have a genetic background. Which of the following clinical data suggest germinal mutation in the patient with *pheochromocytoma*?
1) tumor diagnosed at the age of 17;
2) bilateral tumors;
3) coexisting hyperparathyroidism;
4) patient with the history of papillary thyroid cancer;
5) paroxysmal hypertension.
The correct answer is:

A. all the above.

B. 1,2.

C. 1,2,3.

D. 4,5.

E. 1,3.

Question nr **358**

Which of the following tests may be used to assess the efficacy of *Helicobacter pylori* eradication therapy without the need to perform endoscopy?
1) serological test with the quantitative measurement of IgG antibodies against *Helicobacter pylori*;
2) breath test with urea traced with C13;
3) examination of *Helicobacter pylori* antigen in stool;
4) urease test (CLO-test);
5) histological examination of gastric mucosa.
The correct answer is:

A. 1,2,3.

B. 1,2,4.

C. 2,3.

D. 2,3,4,5.

E. all the above.

Question nr **359**

How should vitamin B_{12} be supplemented in patients with pernicious anaemia (Addison-Biermer anaemia)?

A. orally on an empty stomach for the rest of their life.

B. orally after a meal for the rest of their life.

C. intramuscular or deep subcutaneous injection for the rest of their life.

D. intramuscular or deep subcutaneous injection for 3 months.

E. vitamin B_{12} should not be supplemented.

Question nr **360**

The aldosterone-to-renin ratio is used as a screening test in the diagnostics of:

A. renal artery stenosis.

B. Conn syndrome.

C. pheochromocytoma.

D. effectiveness of aldosterone antagonist therapy.

E. A and D are true.

Question nr **361**

In the treatment of rheumatoid arthritis drugs modifying the course of the disease are used. They **do not** include:

A. COX-2 selective NSAIDs.

B. methotrexate.

C. leflunomide.

D. sulfasalazine.

E. biological drugs, e.g., anti-TNF alpha and anti-IL-6.

Question nr **362**

Which of the following drug combinations **is not** recommended in the treatment of hypertension?

A. perindopril and amlodipine.

B. ramipril and indapamide.

C. amlodipine and hydrochlorothiazide.

D. losartan and ramipril.

E. losartan and indapamide.

Question nr **363**

Which of the following endocrinopathies are elements of multiple endocrine neoplasia type 2A (MEN2A syndrome)?
1) primary hypoparathyroidism;
2) medullary cancer of the thyroid;
3) adrenal adenomas;
4) primary hyperparathyroidism;
5) pituitary adenomas;
6) pheochromocytoma.
The correct answer is:

A. 1,2,3,5.

B. 1,5,6.

C. 2,3,4,6.

D. 2,4,6.

E. 1,2,5,6.

Question nr **364**

Which of the following drugs is contraindicated in the treatment of hypertension in a pregnant woman?

A. perindopril.

B. long-acting nifedipine.

C. methyldopa.

D. verapamil.

E. labetalol.

Question nr **365**

Antinuclear antibodies (ANA), specifically reactive with Jo-1 antigen can be found mainly in patients with:

A. polymyositis.

B. systemic lupus erythematosus.

C. rheumatoid arthritis.

D. seronegative spondyloarthropathy.

E. degenerative arthritis.

Question nr **366**

A glomerulopathy that manifests itself as a nephritic syndrome and is characterized by the presence of so-called crescents in over 50% of glomeruli in the light microscopy histopathological image is:

A. minimal change disease.

B. IgA nephropathy.

C. membranous glomerulonephritis.

D. focal segmental glomerulosclerosis.

E. rapidly progressive glomerulonephritis.

Question nr **367**

Which of the following is the recommended management of acute bronchitis in adults?

A. levofloxacin.

B. amoxicillin.

C. amoxicillin/clavulanic acid.

D. cefuroxime axetil.

E. refraining from antibiotic therapy in most cases.

Question nr **368**

The first-choice drugs that inhibit the progress of rheumatic arthritis are:

A. non-steroidal anti-inflammatory drugs.

B. glucocorticoids.

C. synthetic drugs that modify the course of the disease (e.g. methotrexate).

D. biological drugs that modify the course of the disease (e.g. TNF inhibitors).

E. A and B are true.

Question nr **369**

Which of the following drugs **<u>should not</u>** be used to treat arterial hypertension in pregnant women?

A. labetalol.

B. methyldopa.

C. nifedipine.

D. enalapril.

E. all the above drugs can be used to treat hypertension in pregnant woman.

Question nr **370**

A 18-year-old man comes to the doctor because of a persistent pain of the lumbar spine. He has been diagnosed with spinal disc herniation. Currently, the patient complains of inguinal and gluteal pain and edema of the right Achilles tendon. What examination should be performed to confirm the diagnosis?

A. antinuclear antibodies.

B. ANCA.

C. aCCP.

D. HLA B-27.

E. anti-Sa antibodies.

Question nr **371**

Which of the following is characteristic of acute glomerulonephritis?

A. increased concentration of anti-glomerular basement membrane antibodies (anti-GBM).

B. increased concentration of anti-neutrophil cytoplasmic antibodies (ANCA).

C. increased concentration of anti-streptolysin O (ASO).

D. increased concentration of anti-double stranded DNA antibodies (dsDNA).

E. B and C are true.

Question nr **372**

Indicate the **false** statement on Lynch syndrome:

A. it is the most common cause of hereditary colon cancer.

B. in the majority of cases it is related to familial adenomatous polyposis.

C. it usually develops in the right part of the colon.

D. it is associated with other malignant tumours, e.g. endometrial cancer, urinary system cancer and gastrointestinal system cancer.

E. Amsterdam II criteria, which include family history, are useful in diagnosis.

Question nr **373**

HLA B-27 antigen is characteristic of:

A. systemic lupus erythematosus.

B. degenerative arthritis of the hand.

C. rheumatoid arthritis.

D. seronegative spondyloarthropathy.

E. Ehlers-Danlos syndrome.

Question nr **374**

Indicate the true statements on myocarditis:
1) the most frequent cause of myocarditis is a bacterial infection;
2) ventricular fibrillation may be the first sign of myocarditis;
3) MRI of the heart can be used to confirm the diagnosis of myocarditis;
4) patients with myocarditis should not be advised to limit their physical activity;
5) antibiotics are the primary line of treatment of myocarditis.
The correct answer is:

A. 1,2,5.

B. 2,3.

C. 2,3,4.

D. 1,2,4,5.

E. 1,3,5.

Question nr **375**

Which of the following scales is used to evaluate a severity of symptoms in patients with atrial fibrillation?

A. EHRA.

B. HAS-BLED.

C. CCS.

D. CHA_2DS_2-VASc.

E. EuroSCORE.

Question nr **376**

Which of the following can cause spurious hyperkalemia?

A. acidosis.

B. crush syndrome.

C. long immobilization.

D. blood sampling 20-30 min. after insulin administration.

E. disintegration of blood cells during centrifugation.

Question nr **377**

In obese patients with diabetes type 2 and chronic diabetic kidney disease stage 2 the first line antihypertensive drug therapy is:

A. doxazosin.

B. perindopril.

C. torasemide.

D. amlodipine.

E. spironolactone.

Question nr **378**

Which of the following should be done in a patient with adrenal incidentaloma of 1.3 cm in diameter, +13 Hounsfield units, in order to exclude pheochromocytoma?
1) determination of the 24-hour urinary methoxy-catecholamines excretion;
2) FNAB of the tumor;
3) 1 mg dexamethasone test;
4) determination of aldosterone and renin;
5) androstenedione determination.
The correct answer is:

A. 1,2,3.

B. 2,3,4.

C. 3,4,5.

D. only 1.

E. all the above.

Question nr **379**

Lung cancer:

A. is the commonest cause of cancer deaths in women in Poland.

B. is associated with tobacco smoking in around 50% of the patients.

C. most often has a small-cell carcinoma histological pattern.

D. B and C are correct.

E. A, B and C are correct.

Question nr **380**

Which of the following groups of medications should be preferred for the therapy of hypertension in a patient with co-occurring albuminuria?

A. beta-blockers.

B. sartans (ARBs).

C. diuretics.

D. calcium channel blockers.

E. alpha-blockers.

Question nr **381**

A 66-year-old male who has been treated only for hypertension and had no previous diagnosis of atrial fibrillation, checked into emergency dept. because he had heart palpitations for the last 3 days. The patient was haemodynamically stable. ECG showed atrial fibrillation, with ventricle rate of ca. 135/min. Under these conditions, apart from initiating the anticoagulation treatment, you should:

A. stop atrial fibrillation by electrical cardioversion, regardless of arrhythmia duration, due to high HR.

B. stop atrial fibrillation by pharmacotherapy, regardless of arrhythmia duration, due to

high HR, and if ineffective, perform electrical cardioversion.

C. slow down HR to the safe and well-tolerated level, without breaking arrhythmia.

D. slow down HR to the safe and well-tolerated level only after excluding the presence of thrombi in the heart chambers through transoesophageal echocardiography.

E. refer the patient to cardiology dept. for urgent ablation, in view of no previous diagnosis of atrial fibrillation and the high efficacy of ablation procedure when performed shortly after the onset of arrhythmia before it becomes persistent.

Question nr **382**

An **absolute** contraindication to fibrynolysis is:

A. ischaemic stroke within the last six months.

B. pregnancy.

C. infectious endocarditis.

D. active peptic ulcer disease.

E. all of the above.

Question nr **383**

Hypercalcemia related to malignancy:

A. is most frequent in patients with chronic myeloid leukaemia.

B. may be related to parathormone secretion.

C. should always be treated with oral biphosphonates.

D. answers A and B are correct.

E. answers A, B, and C are correct.

Question nr **384**

Lung cancer in Poland:

A. is the most common malignant disease in men.

B. is the most common cause of cancer-related deaths in men.

C. is the most common cause of cancer-related deaths in women.

D. answers B and C are correct.

E. answers A, B, C are correct.

Question nr **385**

Cancer of unknown primary site:

A. is found in 30% of all cases of malignant diseases.

B. at least half of the cases have morphology of adenocarcinomas.

C. should be diagnosed using immunochemistry.

D. answers B and C are correct.

E. answers A, B, and C are correct.

Question nr **386**

Indicate which of the following characteristics of submicroscopic glomerulonephritis (minimal lesion nephropathy) are true:
1) nephrotic syndrome dominates in clinical picture;
2) light microscopy shows normal histopathology of kidney tissue;
3) in most patients, hypertension is present;
4) the clinical course is progressive, with up to 40% of patients developing renal failure within five years;
5) the first-line treatment is administration of glycocorticosteroids.
The correct answer is:

A. 1,2,3,5.

B. 1,2,5.

C. 2,3,4.

D. 1,2,3.

E. all of the above.

Question nr **387**

Neutropenic fever in cancer patients:

A. in 80% of patients is caused by Gram-negative pathogens.

B. is diagnosed in patients with neutrophil count of less than 500/µl.

C. is more frequent in solid tumours than in leukemias.

D. answers A and B are correct.

E. answers A, B, C are correct.

Question nr **388**

Indicate which of the following diseases are characterised by secondary IgA nephropathy:
1) multiple sclerosis;
2) psoriasis;
3) HIV infection;
4) aristocholic acid nephropathy;
5) inflammatory spondyloarthropathies.
The correct answer is:

A. 2,3,5.

B. 1,2,4,5.

C. 2,5.

D. 2,3,4,5.

E. 1,2,3.

Question nr **389**

When diagnosing acute kidney injury, the renal function should be assessed based on:

A. GFR changes, using Cockroft and Gault equation.

B. GFR changes, using MDRD equation.

C. GFR changes, using CKD-EPI equation.

D. daily changes in creatininemia and diuresis.

E. all of the above is true.

Question nr **390**

Chronic myeloid leukemia is characterised by:

A. high leukocytosis due to eosinophilia, enlarged spleen, enlarged lymph nodes.

B. lymphocytosis, enlarged spleen and lymph nodes.

C. leukocytosis (increased WBC) with blasts, immature forms of neutrophils and neutrocytes (“blood smear like bone-marrow smear”), enlarged spleen.

D. pancytopenia, enlarged lymph nodes.

E. pancytopenia, enlarged spleen.

Question nr **391**

The classification criteria for systemic lupus erythematosus **do not** include:

A. dermal and mucosal lesions.

B. renal lesions.

C. polyserositis.

D. neuropsychiatric symptoms.

E. normal or high concentrations of C3 and C4 components of the complement.

Question nr **392**

Which of the following are used to reduce proteinuria in the course of chronic kidney disease?

1) beta-blockers;
2) ACEI - angiotensin -converting-enzyme inhibitors;
3) ARB - angiotensin receptor blockers;
4) calcium channel blockers;
5) doxazosin.

The correct answer is:

A. 1,2.

B. 1,2,3.

C. 2,3,4,5.

D. 2,3.

E. 2,3,4.

Question nr **393**

The Beck's Triad in cardiac tamponade includes:
1) distension of the jugular veins;
2) tachycardia;
3) muffled heart sounds;
4) hypotension;
5) leftward shift of the apex beat.
The correct answer is:

A. 1,2,3.

B. 2,3,4.

C. 1,3,5.

D. 1,3,4.

E. 2,4,5.

Question nr **394**

Indicate the nephropathy the specific marker for which is the presence of serum antibodies against phospholipase A2 receptor (PLA2R):

A. lupus nephritis.

B. focal segmental glomerulosclerosis.

C. primary membranous glomerulonephritis.

D. membranous proliferative glomerulonephritis.

E. cryoglobulinemic glomerulonephritis.

Question nr **395**

Indicate true statements regarding autosomal dominant polycystic kidney disease (ADPKD):
1) it is most frequently due to polycystin gene mutation;
2) the course of the disease is progressive, leading to end-stage renal failure;
3) ACEI/ARB are the treatment of choice for comorbid hypertension;
4) the use of vasopressin V2 receptor antagonist slows down the cyst growth;
5) the most frequent non-renal manifestation are hepatic cysts.
The correct answer is:

A. 1,2,3.

B. 2,3,4.

C. 2,4,5.

D. 2,3,4,5.

E. all of the above.

Question nr **396**

Indicate phosphocalcium metabolism disorders in secondary hyperparathyroidism in the course of chronic kidney disease:
1) decreased alkaline phosphatase concentration;
2) hypocalcemia;
3) hyperphosphatemia;
4) increased parathormone (PTH) concentration;
5) decreased phosphatonin (FGF-23) concentration.
The correct answer is:

A. 2,3,4.

B. 1,2,3,4.

C. 1,3,5.

D. 2,4,5.

E. 2,3,4,5.

Question nr **397**

The diagnostic criteria for polymyalgia rheumatica **do not** include:

A. shoulder girdle and/or pelvic girdle pain.

B. increased ESR > 40 mm/h.

C. age > 50 years.

D. rapid response to medium prednisone doses (< 30 mg/d).

E. presence of the rheumatoid factor (RF).

Question nr **398**

In Poland, malignant neoplasms:

A. are the cause of the highest number of deaths.

B. are the primary cause of mortality in people aged 20-64 years.

C. are diagnosed in about 50 000 persons per year.

D. answers A and B are correct.

E. answers A, B and C are correct.

Question nr **399**

The screening is scientifically justified in the case of:

A. breast cancer and cervical cancer.

B. colon cancer.

C. melanoma.

D. answers A and B are correct.

E. answers A, B and C are correct.

Question nr **400**

In women with adenocarcinoma metastasis to peritoneal cavity, the diagnostics of the cancer’s primary site includes:

A. computer tomography of the abdominal cavity and the pelvis.

B. gynaecological examination.

C. determination of the CA-125 marker concentration.

D. answers A and B are correct.

E. answers A, B and C are correct.

Question nr **401**

Hormonal drugs can be used for the causal treatment in patients with:

A. endometrial cancer.

B. colon cancer.

C. melanoma.

D. liver cancer.

E. Ewing's sarcoma.

Question nr **402**

Indicate true statements regarding complications associated with using chemotherapy in cancer treatment:
1) the most frequent haematological complication is neutropenia (found in 60-88% of the patients treated);
2) neutropenic fever is found in ca. 10-50% of patients treated for solid tumours and in over 80% of patients treated for haematological malignancies;
3) the G-CSF prophylaxis is recommended only in radical and palliative treatment.
The correct answer is:

A. 1,2.

B. all of the above.

C. 1,3.

D. 2 only.

E. 3 only.

Question nr **403**

When visiting the primary care unit, a 55-year-old woman told her general practitioner that she could feel some palpable lumpy abnormality, of ca. 3 cm in size, in her right breast. The appropriate management in this case should be:

A. physical examination and ordering a screening mammography (patient aged over 50 years).

B. physical examination and ordering tumour biopsy.

C. issue the DiLO card (cancer diagnostics and treatment card) referring the patient to an outpatient cancer clinic.

D. ordering breast ultrasound.

E. ordering urgent breast MRI (magnetic resonance).

Question nr **404**

Indicate which of the cancers are treated with hormone therapy:

A. melanoma and kidney cancer.

B. breast cancer and colorectal cancer.

C. lung cancer and thyroid cancer.

D. prostate cancer and carcinoma of uterine body.

E. squamous cell cervical cancer and liver cancer.

Question nr **405**

Anuria **is not caused** by:

A. bladder tumour.

B. post-radiation bilateral ureteral obstruction.

C. aortic dissection involving renal arteries.

D. severe hypoperfusion in the course of the hepatorenal syndrome.

E. right-sided ureterolithiasis.

Question nr **406**

The risk factors for urinary tract infection include:
1) prostatic hypertrophy;
2) diabetic neuropathy;
3) permanent urinary catheterisation;
4) urolithiasis;
5) urethral stenosis.
The correct answer is:

A. all of the above.

B. 1,2,4,5.

C. 1,3,4,5.

D. 1,3,4.

E. 3,5.

Question nr **407**

Indicate which factors should be considered when assessing the need for

hospitalization in a patient diagnosed with pneumonia:
1) patient's age;
2) breath rate;
3) arterial blood pressure;
4) body temperature;
5) type of cough.
The correct answer is:

A. 2,3,5.

B. 1,2,3.

C. 2,3.

D. 1,5.

E. all of the above.

Question nr **408**

Hypokalaemia may be caused by:
1) severe vomiting;
2) laxative-induced diarrhoea;
3) loop diuretics;
4) alkalosis;
5) acidosis.
The correct answer is:

A. 1,2,3,4.

B. 1,2,3,5.

C. 3 only.

D. 1,2,3.

E. all of the above.

Question nr **409**

Indicate true causes of left ventricular dysfunction:
1) arterial hypertension;
2) dilated cardiomyopathy;
3) hypertrophic cardiomyopathy;
4) constrictive pericarditis;
5) diabetes.
The correct answer is:

A. 1,2,3,4.

B. 1,3,4,5.

C. 1,2,4.

D. 1,3.

E. all of the above.

Question nr **410**

Which of the factors listed below **<u>does not</u>** increase the risk of community-acquired pneumonia?

A. old age.

B. tobacco smoking.

C. treatment with systemic glucocorticoids or other immunosuppressants.

D. working outdoors.

E. periodontal diseases.

Question nr **411**

A 60-year-old man with a long history of arterial hypertension with comorbid type 2 diabetes mellitus was admitted to Emergency Dept. because of massive oedema, dyspnoea, malaise, weakness, nausea and vomiting. Laboratory tests showed creatinine 8 mg/dl, urea 220 mg/dl, gasometry: pH 7.2, pCO_2 30 mmHg, pO_2 280 mmHg, HCO_3 16 mmol/l, abdominal ultrasound revealed both kidneys with a longitudinal axis of 6 cm, with decreased corticomedullary differentiation. Indicate appropriate measures to be taken:

A. intravenous Solu-Medrol pulse dosing.

B. insertion of dialysis catheter and permanent dialysis.

C. insertion of dialysis catheter and management of acute renal failure.

D. kidney biopsy and taking relevant measures according to biopsy findings.

E. intravenous fluid therapy.

Question nr **412**

The diagnostic criteria for acute kidney injury (AKI) include:

A. an increase in the serum creatinine by ≥ 0.3 mg/dL within 48 hours.

B. an increase in the serum creatinine above 0.4 mg/dl within 72 hours.

C. a glomerular filtration rate decrease by ≥ 50% within 3 weeks.

D. a glomerular filtration rate decrease by ≥ 50% within 3 months.

E. a ≥ 1.5-fold increase in the serum creatinine within the last 3 days.

Question nr **413**

The characteristic clinical changes in IgA nephropathy **do not** include:

A. erythrocyturia with proteinuria.

B. macroscopic haematuria accompanying a respiratory infection.

C. nephrotic or nephritic syndrome.

D. leukocytosis with fever and a CRP increase.

E. progressive chronic kidney disease.

Question nr **414**

The cause(s) of focal segmental glomerulosclerosis (FSGS) might be:

A. diarrhoea.

B. significant obesity.

C. antineutrophil cytoplasmic antibodies (ANCA).

D. rhabdomyolysis.

E. degenerative facet disease.

Question nr **415**

The drugs that might trigger acute pyelonephritis include:

A. non-steroidal anti-inflammatory drugs (NSAIDs) e.g. ibuprofen.

B. antibiotics e.g. ciprofloxacin.

C. proton pump inhibitors (PPIs) e.g. omeprazole.

D. allopurinol.

E. all of the above.

Question nr **416**

The risk of contrast-induced nephropathy in a patient with risk factors can be reduced by:

A. the use of a diuretic 24h before the administration of a contrast medium and for 48h after its administration to increase micturition.

B. appropriate intravenous hydration for 3-6h before the examination and 6-12h after the examination.

C. performing haemodialysis to remove the contrast medium.

D. the use of nephroprotective drugs (ACE inhibtors, ARBs) 24h before the administration of a contrast medium and for 48h after its administration.

E. the administration of a high-osmolar contrast medium.

Question nr **417**

A screening test in diabetic kidney disease is:

A. a urine glucose test.

B. a 24-hour urine protein test.

C. a urine albumin test.

D. a haemoglobin glycated test (HbA1C).

E. a WBC casts presence in urine test.

Question nr **418**

A high lactate concentration that triggers severe acidosis might be present in the case of intoxication with:
1) metformin;
2) carbon monoxide;
3) salicylates;
4) methanol;
5) ethanol.

A. ,2.

B. 1,3.

C. 1,4.

D. 1,5.

E. none of the above.

Question nr **419**

The macrovascular (macroangiopathic) complications of diabetes include:
1) myocardial infarction;
2) stroke;
3) intermittent claudication;
4) retinopathy;
5) nephropathy.

A. 1,2,3.

B. 1,2,4.

C. only 1.

D. 1,2,5.

E. all of the above.

Question nr **420**

Ectopic overproduction of vasopressin (ADH) by a tumour will cause:

A. polycythaemia.

B. hyperkalaemia.

C. hypernatraemia.

D. hyponatraemia.

E. hypercalcaemia.

Question nr **421**

The conditions associated with the presence of antinuclear antibodies (ANA) include:

A. systemic lupus erythematosus (SLE).

B. systemic sclerosis (scleroderma).

C. dermatomyositis.

D. mixed connective tissue diseases (MCTD).

E. all of the above.

Question nr **422**

Liver enlargement might be caused by:
1) ADPKD;
2) haemochromatosis;
3) amyloidosis;
4) late-stage hepatic cirrhosis;
5) metastases to the liver;

A. 2,3,4,5.

B. 1,2,3,5.

C. 2, 3.

D. 1, 5.

E. all of the above.

Question nr **423**

Erythema nodosum (EN) might be a symptom of all the diseases listed below **except**:

A. sarcoidosis.

B. chronic inflammatory bowel disease.

C. degenerative arthritis.

D. systemic diseases of connective tissue.

E. malignant tumours.

Question nr **424**

The endocrine function of the kidneys includes the production of:
1) phosphatonin (FGF23);

2) erythropoietin (EPO);
3) 25-$(OH)_2$ D (calcidiol);
4) 1,25-$(OH)_2$ D (calcitriol);
5) vasopressin.
The correct answer is:

A. 2, 4.

B. 2, 3, 4.

C. 1, 2, 3.

D. 2, 5.

E. 1, 4.

Question nr **425**

Anti-phospholipase A2 receptor antibodies (anti-PLA2R) are present in:

A. Minimal Change Disease (MCD).

B. lupus nephritis.

C. primary membranous nephropathy.

D. secondary membranous nephropathy.

E. both in primary and secondary membranous nephropathy.

Question nr **426**

High CA-125 antigen level might be present in:
1) ascites;
2) peritonitis;
3) a patient undergoing peritoneal dialysis;
4) ovarian cancer.
The correct answer is:

A. only 1.

B. all the above.

C. only 2.

D. only 3.

E. only 4.

Question nr **427**

In the TNM classification M0 means:

A. there are no distant metastases.

B. distant metastases are present.

C. distant metastases cannot be assessed.

D. there are metastases to regional lymph nodes.

E. there is no tumour.

Question nr **428**

Which of the statements below are true about the symptoms of superior vena cava syndrome (SVCS):
1) dyspnoea is present;
2) facial oedema is present;
3) jugular veins are dilated;
4) SVCS cannot be diagnosed on the basis of physical examination - imaging techniques are necessary;
5) facial veins are dilated.
The correct answer is:

A. 2,3,4,5.

B. 1,2,3,5.

C. 2,3.

D. 1,5.

E. all the above.

Question nr **429**

PSA serine protease is increased in:
1) prostate gland enlargement;
2) prostate cancer;
3) prostatitis;
4) testicular teratoma;
5) seminoma.
The correct answer is:

A. 1,2,4.

B. 1,2,3.

C. 1,2,5.

D. only 2.

E. all the above.

Question nr **430**

Which is **false** about colorectal cancer?

A. histologically, adenocarcinoma constitutes most cases.

B. the most important diagnostic examination that helps detect the cancer is colonoscopy.

C. surgery is the main treatment of colorectal cancer.

D. preoperative treatment is used in all patients.

E. carcinoembryonic antigen (CEA) plays a role in monitoring the treatment rather than diagnosing the disease.

Question nr **431**

The symptoms of sarcoidosis include:
1) skin lesions (erythema nodosum, typically in the front part of the lower leg; papular exanthema, subcutaneous nodules, alopecia);
2) enlarged hilar, cervical, inguinal and axillary lymph nodes;
3) respiratory symptoms (dyspnoea, cough, chest pain);
4) joint pain;
5) liver enlargement;
6) heart abnormalities (pericardial effusion, arrhythmias);
7) enlarged and painful parotid salivary glands;
8) cranial neuropathy with severe pain and disturbances of the autonomic nervous system;
9) pyrexia.
The correct answer is:

A. 1,2,3,6.

B. 4,9.

C. 2,3,9.

D. 3,6,8,9.

E. all the above.

Question nr **432**

Which statement is **false** about kidney cancer?

A. in most cases it is detected accidentally.

B. smoking is a significant risk factor.

C. it affects males more often than females.

D. histopathologically, urothelial carcinoma is its most common type.

E. the stage of development of kidney tumour is defined based on contrast CT.

Question nr **433**

Which of the following clinical situations are β-blockers used in?

A. acute left ventricular failure.

B. heart failure with bradycardia.

C. cardiogenic shock.

D. chronic systolic dysfunction of the left ventricle.

E. heart failure with an increased cardiac output.

Question nr **434**

An MRI scan revealed a pituitary tumour in a 55-year-old female. A high concentration of which of the following hormones would justify pharmacological treatment as the first-line treatment of a pituitary macroadenoma?

A. ACTH.

B. GH.

C. LH.

D. prolactin.

E. TSH.

Question nr **435**

Echocardiography revealed a previously undiagnosed solid lesion in the lumen of the left atrium of a hypertensive patient. Which of the following heart tumours is the most likely diagnosis in this case?

A. angiosarcoma.

B. atrial myxoma.

C. fibroma.

D. elastofibroma.

E. lipoma.

Question nr **436**

A 22-year-old female presents with vomiting and an increased abdominal perimeter. Which diagnosis should be ruled out first?

A. ascites.

B. ileus.

C. constipation.

D. obesity.

E. pregnancy.

Question nr **437**

A 29-year-old male patient with diabetes type 1 treated with insulin and poor glycaemic control for 6 months complains of vomiting occurring around 1 hour after a meal. The most probable diagnosis is:

A. inflammation of the gastric cardia.

B. gastroparesis.

C. *H. pylori* infection.

D. drug-induced vomiting.

E. increased intracranial pressure.

Question nr **438**

Which of the following is the most probable location of a malignant tumour caused by inhaled carcinogens found in cigarette smoke?

A. the urinary bladder.

B. the breast.

C. the central nervous system.

D. the colon.

E. the ovary.

Question nr **439**

All the drugs below are disease-modifying antirheumatic drugs **except for**:

A. methotrexate.

B. cyclophosphamide.

C. NSAIDs.

D. cyclosporine A.

E. sulfasalazine.

Question nr **440**

Which of the following tumour marker-organ pairs is/are matched **incorrectly**:
1) AFP - the liver;
2) CA-125 - the ovary;
3) CA-19.9 - the pancreas;
4) CEA - the testis;
5) PSA - the thyroid.
The correct answer is:

A. 1,4,5.

B. 4,5.

C. 3,4,5.

D. 2,3,5.

E. only 5.

Question nr **441**

The complications of diabetes include:
1) Charcot foot;
2) a neuropathic ulcer;
3) claw toes;
4) toe gangrene;
5) gastroparesis.
The correct answer is:

A. 1,4,5.

B. 2,3,4.

C. 2,3,4,5.

D. 3,4,5.

E. all the above.

Question nr **442**

The main substances required in the process of haematopoiesis include:
1) erythropoietin;
2) iron;
3) vitamin B12;
4) thioacetic acid;
5) vitamin C.
The correct answer is:

A. 1,2.

B. 1,2,3.

C. 1,2,4,5.

D. 1,2,5.

E. all the above.

Question nr **443**

HPV-16 and HPV-18 are the recognised aetiological factors of:

A. cervical cancer.

B. basal cell carcinoma.

C. Kaposi sarcoma.

D. testicular cancer.

E. malignant melanoma.

Question nr **444**

In the treatment of anaphylactic shock the drug(s) of choice is/are:

A. adrenalin.

B. hydrocortisone.

C. antihistamine drugs.

D. noradrenalin.

E. B and C are correct.

Question nr **445**

A sedentary lifestyle of a patient with heart failure where the patient's physical activity is limited to maximum rest corresponds with:

A. NYHA I.

B. NYHA II.

C. NYHA III.

D. NYHA IV.

E. NYHA V.

Question nr **446**

The typical symptoms of massive pulmonary embolism include:
1) decreased PaO_2;
2) decreased $PaCO_2$;
3) LBBB;
4) $S_1Q_3T_3$;
5) sinus tachycardia.
The correct answer is:

A. 1,2,3,4.

B. 1,2,3,5.

C. 1,2,4,5.

D. 3,4,5.

E. all the above.

Question nr **447**

Ethylene glycol and methanol are still the causes of life-threatening poisonings. Which of the following remains an effective treatment method?

A. multiple doses of activated carbon.

B. haemodialysis.

C. haemoperfusion.

D. urine alkalinization.

E. B and D are correct.

Question nr **448**

Which of the following sets of hormone levels might indicate primary hypothyroidism?

A. TSH - 0.0001 mIU/l, normal FT3, normal FT4.

B. TSH - 0.0001 mIU/l, increased FT3, normal FT4.

C. TSH - 0.0001 mIU/l, increased FT3, increased FT4.

D. TSH - 40.0 mIU/l, low FT3, low FT4.

E. normal TSH, low FT3, normal FT4.

Question nr **449**

Superior vena cava syndrome (SVCS) is a common cancer complication. The symptoms of SVCS include all of the following **except for**:

A. dyspnoea.

B. swelling of the head and face.

C. hiccups.

D. cough.

E. venous distention in the neck.

Question nr **450**

Which of the following metastasises to the brain most frequently?

A. lung cancer.

B. colorectal cancer.

C. melanoma.

D. pancreatic cancer.

E. kidney cancer.

Question nr **451**

Erythrocytosis (excess of red blood cells) **does not** result from:

A. smoking.

B. staying at high altitudes.

C. testosterone therapy.

D. excessive water intake.

E. diseases of the kidney.

Question nr **452**

The main aetiological factor of hepatocellular carcinoma in Europe is:

A. liver cirrhosis.

B. hepatitis B.

C. hepatitis C.

D. steatotic liver disease.

E. autoimmune hepatitis.

Question nr **453**

The dietary factors that increase the risk of colorectal cancer include:

A. saturated fatty acids.

B. omega-3 acids.

C. the presence of fibre in the diet.

D. the intake of high-calcium foods.

E. folic acid.

Question nr **454**

The most typical symptoms of oesophageal cancer include:

A. gastro-intestinal bleeding.

B. chest pain.

C. hoarseness.

D. odynophagia.

E. painless dysphagia.

Question nr **456**

The most common extranodal location of non-Hodgkin lymphoma is:

A. the mediastinum.

B. the stomach.

C. the lungs.

D. the liver.

E. the spleen.

Question nr **457**

Select the correct diagnosis in a patient with massive swelling of the lower limbs and groin, daily proteinuria of 8 g/24 h, hypoalbuminemia, dyslipidaemia and negative anti-PLA2R antibody:

A. cardio-renal syndrome.

B. antiphospholipid syndrome.

C. nephritic syndrome.

D. nephrotic syndrome.

E. Addis triad.

Question nr **458**

In a 56-year-old patient with heart failure, left ventricular ejection fraction (LVEF) of 55%, diabetes mellitus type 2 treated with metformin and proteinuria of 0.9 g/L detected on urinalysis it is recommended to add:

A. pioglitazone.

B. saxagliptin.

C. insulin glargine.

D. exenatide.

E. empagliflozin.

Question nr **459**

Select the correct statements about Sjögren syndrome:
1) Homans test result of 7 mm favours the diagnosis;
2) it is recommended to monitor the patient for the development of lymphoma;
3) approximately 80% of patients develop hypergammaglobulinaemia;
4) Congo red is used for the corneal evaluation.
The correct answer is:

A. 1,2.

B. 1,3.

C. 2,3.

D. 2,4.

E. 3,4.

Question nr **460**

Select the suspected diagnosis in a 34-year-old female patient with human immunodeficiency virus infection detected in 2012 who for the past 3-4 weeks has had a dry cough, frequent sensation of cold and chills:

A. *Klebsiella pneumoniae* infection.

B. pneumocystosis.

C. chronic bronchitis.

D. *Staphylococcus aureus* infection.

E. *Pseudomonas aeruginosa* infection.

Question nr **461**

Select the suspected diagnosis in a 65-year-old male patient with a history of severe right-sided chest pain, chronic dry cough, progressive fatigue and clinical evaluation findings of dull percussion with asymmetric chest expansion:

A. herpes zoster.

B. pericarditis.

C. mesothelioma.

D. discopathy with root compression of nerves T5-T11.

E. tuberculosis.

Question nr **462**

Select the correct statements about treatment of oesophageal achalasia:
1) pharmacotherapy is the first-line treatment in young patients;
2) treatment involves the use of prokinetic agents;
3) endoscopic management is used, such as mechanical oesophageal dilation and myotomy;
4) botulin toxin injections into the muscles is the first-line treatment;
5) surgical management additionally involves fundoplication.
The correct answer is:

A. 1,2.

B. 1,3.

C. 2,3.

D. 3,4.

E. 3,5.

Question nr **463**

A 23-year-old female patient with a history of ulcerative colitis for the past few months has had pruritus and sporadic right-sided subcostal pain. In the previous month she had an episode of jaundice with a fever up to 38°C. Ultrasound examination performed at that time did not show cholecystitis and the patient was disqualified from surgery. Considering the patient's history, the suspected diagnosis is:

A. primary sclerosing cholangitis.

B. cytomegalovirus infection.

C. acute hepatitis E.

D. lymphoma confined to the liver.

E. Gilbert syndrome.

Question nr **464**

Monitoring of persistent thyroid cancer involves measurements of the titres/levels of:

A. thyroid-stimulating hormone.

B. thyroglobulin and antibodies to thyroid-stimulating hormone receptor.

C. thyroid peroxidase antibodies.

D. antibodies to thyroid-stimulating hormone receptor.

E. thyroglobulin and antibodies to thyroglobulin.

Question nr **465**

In a female patient with massive gross haematuria, recurrent episodes of acute kidney injury and stage 3 bladder cancer diagnosed first time, the gold standard for treatment is:

A. brachytherapy.

B. transurethral resection of the bladder tumour.

C. chemotherapy and tumour electroresection.

D. conservative cystectomy - sparring the reproductive organs.

E. radical cystectomy.

Question nr **466**

Select the correct statement about carcinoma of the renal pelvis and ureter:

A. accounts for the majority of diagnosed renal tumours.

B. originates in the urothelium.

C. renal colic is the dominant symptom.

D. urine cytology is the gold standard for screening.

E. frank haematuria is a rare complication.

Question nr **467**

Select the most likely suspected diagnosis in a 72-year-old male patient with fatigue, weight loss, severe bone pain and proteinuria with hypercalcaemia detected on laboratory tests:

A. renal cancer.

B. plasma cell myeloma (multiple myeloma).

C. sarcoidosis.

D. rheumatoid arthritis.

E. prostate cancer.

Question nr **468**

Select the first-line treatment in a patient with gastric adenocarcinoma without submucosal infiltration and at minimal risk for metastases:

A. gastric sleeve surgery.

B. tumour cryoablation.

C. *H. pylori* eradication with endoscopic follow-up in 6 months.

D. submucosal dissection of the tumour.

E. Nissen surgery.

Question nr **469**

Upon detecting on ultrasound a small lesion in the pancreas the recommended diagnostic method to evaluate the infiltration of adjacent vessels is:

A. abdominal computed tomography.

B. endoscopic retrograde cholangiopancreatography.

C. endoscopic ultrasound.

D. positron emission tomography.

E. magnetic resonance imaging of the biliary tract.

Question nr **470**

Colonoscopy findings that require observation and follow-up include:
1) adenomas with high-grade dysplasia;
2) serrated polyps >5 mm;
3) solitary inflammatory polyps;
4) adenomas ≥10 mm.
The correct answer is:

A. 1,2.

B. 1,4.

C. 2,4.

D. 2,3.

E. 1,3.

Question nr **471**

A 38-year-old male patient with pituitary adenoma undergoing bromocriptine treatment presents to the internal medicine ward to investigate hypercalcaemia. Abdominal ultrasonography revealed multiple stones up to 5 mm in the area of the renal pelvis in both kidneys and a focal lesion in the left adrenal gland area with a dimension of 10 mm. Select the suspected diagnosis:

A. multiple endocrine neoplasia type 1.

B. multiple endocrine neoplasia type 2.

C. autoimmune polyendocrine (polyglandular) syndrome type 1.

D. autoimmune polyendocrine (polyglandular) syndrome type 2.

E. autoimmune polyendocrine (polyglandular) syndrome type 3.

Question nr **472**

Select the correct statements about hepatocellular carcinoma:
1) liver biopsy is the gold diagnostic standard;
2) imaging studies are sufficient to make a diagnosis only in patients with a cirrhotic liver;
3) liver transplantation is reserved for patients with a solitary focal lesion in the liver;
4) hemochromatosis predisposes to the development of hepatocellular carcinoma.
The correct answer is:

A. 1,2.

B. 1,3.

C. 1,4.

D. 2,3.

E. 2,4.

Question nr **473**

Symptoms of laryngeal cancer include:
1) pain on swallowing referred to the ear;
2) hoarseness;
3) productive cough;
4) tumour in the nasopharynx.
The correct answer is:

A. 1,2.

B. only 2.

C. 1,4.

D. 2,4.

E. 1,3.

Question nr **474**

Select the correct statements about recurrent cystitis in women:
1) it is diagnosed if the patient has at least 4 cystitis episodes in the course of a year;
2) it is always necessary to perform imaging studies of the urinary tract;
3) treatment duration should not exceed 7 days;
4) prophylaxis includes a lyophilised *Escherichia coli* extract.
The correct answer is:

A. 1,2.

B. 1,3.

C. 2,3.

D. 2,4.

E. 3,4.

Question nr **475**

Secondary arterial hypertension is suspected in the following situations:
1) sudden-onset hypertension in an individual <40 years of age;
2) coexisting hyperlipidaemia;
3) vascular murmur heard on abdominal examination;
4) family history of arterial hypertension.
The correct answer is:

A. 1,2.

B. 1,3.

C. 2,3.

D. 2,4.

E. 3,4.

Question nr **476**

Select the correct statement about dabigatran:

A. dabigatran treatment requires APTT monitoring.

B. it is safe for pregnant patients.

C. dabigatran solution is used to fill the lumen and maintain the patency of dialysis catheters.

D. dabigatran dosage has to be reduced in patients >80 years of age.

E. no specific antidote for dabigatran exists.

Question nr **477**

A 54-year-old patient reported to a GP due to presence of fresh RBCs in urine, detected incidentally during a pre-employment screening test. Which cancer marker should the patient be tested for first?

A. CEA.

B. CA 125.

C. PSA.

D. CA 19-9.

E. Alpha-fetoprotein (AFP).

Question nr **478**

A typical, benign kidney cyst on an ultrasound scan is:

A. anechoic and thin-walled.

B. isoechoic.

C. hyperechoic.

D. thick-walled with septa.

E. an area of mixed echogenicity.

Question nr **479**

Indicate the true statement regarding esophageal adenocarcinoma (EAC):

A. EAC more often affects pre-menopausal women.

B. The main risk factor for EAC is alcohol consumption.

C. EAC is not associated with tobacco use.

D. The risk of EAC is nearly 30 times greater in people with achalasia.

E. Intestinal metaplasia of the lower esophagus is a precancerous condition.

Question nr **480**

The clinical presentation of hypercalcemic syndrome includes:
1) polyuria;
2) diarrhea;
3) vomiting;
4) nephrolithiasis;
5) oliguria.
The correct answer is:

A. 1, 2, 3.

B. 1, 2, 3, 4.

C. 1, 3, 4.

D. 2, 3, 5.

E. 2, 4, 5.

Question nr **481**

A 55-year-old female patient reported to a GP with her abdominal ultrasound scan results. The scan, which she had had due to suspected nephrolithiasis, revealed a polypous lesion of size 11 mm, adhering to the gall bladder wall. What should you do next?

A. refer the patient for cholecystectomy.

B. refer the patient for ultrasound-guided biopsy of the lesion.

C. refer the patient for a follow-up ultrasound scan in 12 months.

D. refer the patient for a PET-CT scan.

E. initiate ursodeoxycholic acid treatment.

Question nr **482**

Screening tests for colorectal cancer should be started at the age of 50. As a method alternative to colonoscopy every 10 years, occult blood stool tests can be used and they should be performed:

A. once every 6 months.

B. once every 12 months.

C. once every 2 years.

D. once every 5 years.

E. once every 10 years.

Question nr **483**

A very rapid growth of a thyroid nodule, which is detectable on a physical examination and associated with an extensive infiltration of the surrounding structures, is indicative of:

A. anaplastic thyroid cancer.

B. papillary thyroid cancer.

C. medullary thyroid cancer.

D. follicular thyroid cancer.

E. oncocytic thyroid cancer.

Question nr **484**

For patients on dialysis, the target parathyroid hormone level is 2-9 times the upper limit of the reference range. The persistence of lower levels may cause:

A. nodular calcification of the skin.

B. vascular calciphylaxis.

C. calcification of the aortic valve.

D. adynamic bone disease.

E. sarcoidosis.

Question nr **485**

Indicate the true statements regarding renal cell carcinoma:
1) it is more often observed in men;
2) it affects men as often as women;
3) hematuria is the typical symptom;
4) the treatment of choice is surgical treatment;
5) the treatment of choice is traditional chemotherapy.
The correct answer is:

A. 1,3,4.

B. 1,3,5.

C. 2,3,4.

D. 2,3,5.

E. 2,4.

Question nr **486**

Treatment based on the use of a statin drug is contraindicated in:

A. chronic hepatitis B.

B. acute coronary syndrome.

C. chronic kidney disease in patients receiving conservative treatment.

D. fatty liver.

E. decompensated liver cirrhosis.

Question nr **487**

In the Child-Pugh scale, decompensated cirrhosis is diagnosed from at least:

A. 5 points.

B. 6 points.

C. 7 points.

D. 8 points.

E. 9 points.

Question nr **488**

Indicate true statements regarding acute viral rhinosinusitis in adults:
1) it usually lasts <10 days;
2) it is primarily caused by coronaviruses;
3) deterioration after 5 days indicates bacterial superinfection;
4) no improvement after 72 hours indicates the need for antibiotic therapy.
The correct answer is:

A. 1, 2.

B. 1, 2, 3.

C. 1, 3.

D. 2, 4.

E. 1, 3, 4.

Question nr **489**

A 38-year-old female was administered intravenous ciprofloxacin infusion due to acute pyelonephritis. Shortly after the infusion start, the patient complained of heat sensation and scratchy throat. Physical examination revealed stridor, blood pressure of 70/58 mmHg and then below detection limits. Aside from withholding the infusion, first of all the patient should be administered:

A. adrenaline (epinephrine) 0.5 mg intramuscularly;.

B. adrenaline (epinephrine) 0.5 mg intravenously;.

C. 500 mL 0,9% NaCl intravenous bolus;.

D. clemastine 1.0 mg intravenously;.

E. hydrocortisone 100 mg intravenously.

Question nr **490**

Indicate true statements regarding spontaneous bacterial peritonitis:
1) diagnostic peritoneocentesis is indicated;
2) diagnosis requires WBC count >250 in ascitic fluid;
3) empirical antibiotic therapy includes macrolides and aminoglycosides;
4) prophylaxis includes norfloxacin.
The correct answer is:

A. 1, 2.

B. 1, 3.

C. 1, 2, 3.

D. 1, 4.

E. 3, 4.

Question nr **491**

Screening for type 2 diabetes is indicated once every 3 years in individuals who:

A. are obese.

B. are 45 years of age or older.

C. have history of gestational diabetes.

D. have dyslipidemia.

E. have cystic fibrosis.

Question nr **492**

In a patient presenting with Charcot's triad, imaging studies revealed choledocholithiasis with bile duct dilation. Indicate antibiotic of choice:

A. nitrofurantoin.

B. pivmecillinam.

C. doxycycline.

D. ciprofloxacin.

E. fosfomycin.

Question nr **493**

In a male with heart failure and left ventricular ejection fraction of 35%, the use of angiotensin-converting enzyme (ACE) inhibitors is indicated. Once introduced of ACE, we need to monitor kidney function after:

A. 3-5 days.

B. 1-2 weeks.

C. 3-4 weeks.

D. 6-8 weeks.

E. no kidney monitoring is necessary.

Question nr **494**

A 58-year-old female, during diagnostics for abnormal blood glucose levels, reported noticing a substantial increase in her shoe size. Upon further questioning she admitted

that her family noticed a change in her facial features. In this case we need to determine the level of:

A. insulin-like growth factor type 1.

B. β_2-microglobulin.

C. anti-myeloperoxidase antibodies.

D. transforming growth factor beta.

E. free testosterone.

Question nr **495**

A 64-year-old male presented at the Emergency Department due to a stabbing chest pain, accompanied by fever up to 38 degrees Celsius and a dry cough. The ECG revealed generalised ST-segment elevation with simultaneous PQ-segment depression. Indicate the first-line treatment:

A. nonsteroidal anti-inflammatory drugs (NSAIDs) and colchicine;.

B. NSAIDs and ticagrelor;.

C. NSAIDs and allopurinol;.

D. ibuprofen and budesonide;.

E. paracetamol (acetaminophen) and colchicine.

Question nr **496**

Weight loss, poor heat tolerance, psychomotor agitation, diarrhoea and heart palpitations are typical symptoms of:

A. hyperthyroidism.

B. hypothyroidism.

C. pheochromocytoma.

D. hypoadrenocorticism.

E. hyperadrenocorticism.

Question nr **497**

A 40-year-old male complains of colic-type pain located in his right lumbar region

radiating to the right inguinal region, accompanied with microhematuria (erythrocyturia) found in laboratory tests. The imaging study of choice is:

A. abdominal ultrasound.

B. retroperitoneal ultrasound.

C. abdominal CT without contrast enhancement.

D. retrograde pyelography.

E. abdominal X-ray in standing position.

Question nr **498**

A 62-year-old male was admitted to the Internal Medicine Department due to acute kidney injury and hypercalcaemia. Diagnostics revealed nephrotic proteinuria, diffuse mediastinal and abdominal lymphadenopathy and numerous osteolytic lesions in bones. The patient requires urgent consultation with:

A. urologist.

B. rheumatologist.

C. nephrologist.

D. endocrinologist.

E. haematologist.

Question nr **499**

A 62-year-old male presented at the Emergency Department due to jaundice, which appeared few days after an episode of diarrhoea. Laboratory tests revealed decreased kidney function with creatinine level of 4.34 mg/dL (N 0.52-1.2 mg/dL), thrombocytopaenia 34 G/L (N 150-400 G/L) and anaemia. Indicate the most likely diagnosis:

A. cholestasis.

B. Gilbert’s syndrome.

C. cholecystitis.

D. IgG4-related disease.

E. haemolytic-uremic syndrome.

Question nr **500**

A 75-year-old female with atrial fibrillation treated with apixaban, underwent percutaneous coronary intervention with stent implantation of the left anterior descending (LAD) artery due to myocardial infarction. Dual antiplatelet therapy with acetylsalicylic acid (ASA) and clopidogrel was implemented. In this case, after 7 days you should:

A. discontinue acetylsalicylic acid.

B. discontinue clopidogrel.

C. switch apixaban to warfarin.

D. continue the therapy for 6 months.

E. continue the therapy for 12 months.

Question nr **501**

The severity of obstruction in COPD patients is graded according to the GOLD score, which is based on the following parameter:

A. FEV_1/FVC.

B. FVC.

C. FEV_1.

D. MMEF.

E. FRC.

Question nr **502**

A 25-year-old female presented to her General Practitioner due to a fever up to 39 degrees Celsius and persistent cough. On physical examination the patient was alert and oriented, with a tachypnea (24 breaths per minute) and auscultation findings consistent with inflammation over her left lung. Blood pressure was 105/63 mmHg. The patient has no concomitant diseases. Indicate the correct management:

A. refer the patient to the hospital.

B. determine blood creatinine level.

C. start amoxicillin, follow-up in 2 days.

D. start clarithromycin, follow-up in 1 week.

E. perform a chest CT scan.

Question nr **503**

In a 45-year-old male with no history of chronic disease treatment, who underwent an arthroscopy complicated with a week-long hospital stay, lower leg deep vein thrombosis occurred. Primary anticoagulation therapy with rivaroxaban should be continued for:

A. 4 weeks.

B. 6 weeks.

C. 2 months.

D. 3 months.

E. 6 months.

Question nr **504**

In a 82-year-old female with history of rheumatoid arthritis diagnosed at the age of 20 years, severe peripheral pitting oedema appeared. Due to proteinuria found in a spot urine sample, 24-hour urine collection was ordered, which revealed proteinuria of 32 grams per day. In this situation you should suspect:

A. IgA nephropathy.

B. amyloidosis.

C. acute tubulointerstitial nephritis.

D. minimal change disease.

E. lupus nephropathy.