Contents

Chronic kidney disease

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1. How many stages of chronic kidney disease are in the KDOQI classification?
    a. 2
    b. 3
    c. 4
    d. 5
    e. 6

2. What is the main reason why scientists cannot determine the exact incidence and prevalence of chronic kidney disease in the early stages?
    a. The absence of epidemiological studies
    b. The absence of signs and symptoms in patients with chronic kidney disease in early stages
    c. The absence of a clear definition of chronic kidney disease
    d. Because chronic kidney disease is a temporary disease

e. Because to determine the level of creatinine and blood urea nitrogen is a complicated and very expensive lab procedure

3. The most unfavorable marker of chronic kidney disease is:
    a. Rash
    b. Hematuria
    c. Proteinuria
    d. Bacteremia
    e. Uricosuria

4. The presence of which one of the following features is MOST helpful in distinguishing chronic from acute renal failure?
    a. Anemia
    b. Bilateral small kidneys
    c. Hypocalcaemia
    d. Dilute urine with high urine sodium
    e. Metabolic acidosis

5. The two leading causes of end-stage renal disease are:
    a. Allergies and diabetes
    b. Infection and diabetes
    c. Diabetes and hypertension
    d. Infection and hypertension
    e. Diabetes and obesity

6. Two most common causes of end-stage renal disease are:
    a. Allergies and diabetes
    b. Infections and diabetes
    c. Diabetes and high blood pressure
    d. Infections and high blood pressure
    e. Diabetes and obesity

7. The leading genetic cause of end-stage renal disease is:
    a. Diabetes
    b. Alport syndrome
    c. Autosomal dominant polycystic kidney disease
    d. Autosomal recessive polycystic kidney disease
    e. Hypertension

8. The leading cause of death among patients with end-stage renal disease is:
    a. Uremia
    b. Anemia
    c. Liver failure
    d. Cardiovascular complications

e. Sepsis

9. What stage of chronic kidney disease will have a patient with the glomerular filtration rate of 23 ml/min/1.73m^2 according to the KDOQI classification?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5

10. Stage 4 and 5 of chronic kidney disease KDOQI may require the use of exogenous erythropoietin to manage:
    a. Anemia
    b. Neutropenia
    c. Pancytopenia
    d. Thrombocytopenia
    e. Hypoproteinemia

11. Which class of drugs reduce heart rate, cardiac output, peripheral vascular resistance and renin secretion?
    a. Diuretics
    b. β-blockers
    c. α1-blockers
    d. Calcium channel blockers
    e. Angiotensin converting enzyme inhibitors

12. Which of the following sentences are true about proteinuria and chronic kidney disease?
    a. Proteinuria is a modifiable risk factor
    b. Proteinuria is an non-modifiable risk factor
    c. Proteinuria is not a risk factor for chronic kidney disease
    d. Proteinuria can be detected only in stage 5 of chronic kidney disease
    e. Proteinuria is a good prognostic sign

13. To calculate glomerular filtration rate using different mathematical formulas in clinical practice, which of the following biochemical parameter you need to know:
    a. Creatinine
    b. Blood urea nitrogen
    c. Total protein
    d. Serum potassium
    e. Serum sodium

14. Impaired metabolic processes such as Hyperkalemia, Acidosis, Hyperlipidemia, Hyperuricemia, and malnutrition are some effects of:

a. Hematuria
b. Oliguria
c. Uremia
d. Hypertension
e. Liver failure

15. At what values it is recommended to reduce the blood pressure to obtain a nephroprotective effect?
    a. Systolic blood pressure below 120 mmHg, if it is well tolerated
    b. Diastolic blood pressure above 90 mmHg
    c. Systolic blood pressure under 120 mmHg, even if it is not well tolerated
    d. Systolic blood pressure above 140 mmHg, if it is well tolerated
    e. Systolic blood pressure below 90 mmHg

16. Which of the following diet will you recommend to a patient with chronic kidney disease with glomerular filtration rate <15 ml/min/1.73m^2?
    a. Regular diet
    b. Low-calorie diet
    c. Low-salt diet
    d. Low-fat, low-carbohydrate diet
    e. Low potassium, low sodium, low-protein diet

17. Patients suffering from which one of the following conditions will make up the largest population in the dialysis department?
    a. Polycystic kidney disease
    b. Chronic glomerulonephritis
    c. Hypertension
    d. Diabetes mellitus
    e. Obstructive uropathy

18. At which stage of chronic kidney disease it is necessary to begin the preparation of the patient for dialysis:
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5

19. Which route of administration it is recommended to use to administer iron products to patients with chronic kidney disease and anemia?
    a. Oral
    b. Intravenous
    c. Intra-arterial

d. Sublingual
e. Subcutaneous

20. What is the main of anemia in patients with chronic kidney disease?
    a. The impaired production of erythropoietin
    b. The production of antibodies against erythropoietin
    c. The production of antibodies against the erythropoietin receptors located on the proerythroblast cells
    d. The production of a defective erythropoietin
    e. The inadequate response of the proerythroblast cells to erythropoietin

21. At which stage of chronic kidney disease, must be started the treatment of chronic hemodialysis?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5

22. Which of the following classification is used for chronic kidney disease?
    a. NYHA
    b. KDOQI
    c. RIFLE
    d. AKIN
    e. Mogensen

23. Which is the most efficient renal replacement therapy?
    a. Hemodialysis
    b. Peritoneal dialysis
    c. Hemadsorption
    d. Kidney transplant
    e. Plasmapheresis

24. Uremia is described by which of the following statements:
    a. The concentration of urea in plasma
    b. The concentration of urea in the blood
    c. High levels of uric acid in the blood
    d. High levels or creatinine in the blood
    e. It is a syndrome which results from the significant loss of renal function

25. The leading cause of anemia in chronic kidney disease is:
    a. The impaired production of erythropoietin
    b. The presence of erythropoietin blockers
    c. Hemolysis

d. Hemorrhage through the gastrointestinal tract
e. Insufficient levels of folic acid and vitamin B12

26. Serious clinical symptoms will start to occur when the number of functional nephrons will fall below:
    a. 10% - 15%
    b. 20% - 25%
    c. 45% - 50%
    d. 70% - 75%
    e. 90% - 95%

27. When the decrease of glomerular filtration rate is considered physiological?
    a. In old people
    b. During pregnancy
    c. After intense physical activity
    d. After ingesting large quantities of liquids
    e. During a heat wave

28. Choose the FALSE sentence regarding hemodialysis performed to a patient with chronic kidney disease stage 5 KDOQI:
    a. Usually, it is performed 3 times per week
    b. Usually, it is performed at home
    c. It is necessary to have a vascular access
    d. Patients must be prepared before initiating chronic hemodialysis
    e. Kidney transplant is more efficient that hemodialysis

29. Choose the FALSE sentence regarding peritoneal dialysis performed to a patient with chronic kidney disease stage 5 KDOQI:
    a. Peritoneum has the function of semipermeable membrane
    b. Peritoneal dialysis can be carried out at home
    c. Peritoneal dialysis is performed only once a week
    d. Peritoneal dialysis is the most used renal replacement therapy
    e. Kidney transplant is a better renal replacement therapy than peritoneal dialysis

30. Which of the following drug is used in hyperlipidemia?
    a. Statins
    b. Angiotensin-converting-enzyme inhibitors
    c. Sartans or Angiotensin II receptor antagonist
    d. Phosphorus chelating agents
    e. Laxatives

31. Which is the most toxic substance in chronic kidney disease?
    a. Guanidine

b. Creatinine
c. Bilirubin
d. Urea
e. Cystatin C

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32. Which of the following are the criteria for definition of chronic kidney disease?
    a. Glomerular filtration rate < 60 ml/min/1.73m^2
    b. Kidney damage defined by structural or functional abnormalities of the kidney
    c. Age >70 years old
    d. Blood urea nitrogen increased
    e. The patient is undergoing a renal replacement therapy

33. In which of the following situation you can put the diagnosis of end-stage renal disease (chronic kidney disease stage 5 KDOQI)?
    a. Glomerular filtration rate is <15 ml/min/1.73m2
    b. Glomerular filtration rate is <25 ml/min/1.73m2
    c. Glomerular filtration rate is <35 ml/min/1.73m2
    d. Patient is undergoing chronic peritoneal dialysis
    e. Patient is undergoing chronic hemodialysis

34. Which of the following is a contraindication to renal transplantation?
    a. Hypertension
    b. HIV infection
    c. Metastatic cancer
    d. Age older than 50 years
    e. Serious conditions that are unlikely to improve after renal transplantation

35. In a typical, uncomplicated pregnancy, which of the following renal changes occur?
    a. Increased GFR
    b. Increased kidney size
    c. Decreased renal plasma flow
    d. Fewer urinary tract infections
    e. Proteinuria up to 500 mg/day and glycosuria

36. Modifiable chronic kidney disease progression risk factors are:
    a. Sex and low birth weight
    b. Genetics
    c. Proteinuria
    d. High blood pressure
    e. Glycemia and obesity

37. Non-modifiable chronic kidney disease progression risk factors are:
    a. Sex
    b. Genetics
    c. Proteinuria
    d. Glycemia
    e. Age

38. Which methods are used to determine glomerular filtration rate in clinical practice?
    a. MDRD formula (Modification of Diet in Renal Disease)
    b. Cockcroft-Gault formula
    c. CKD-EPI formula (Chronic Kidney Disease Epidemiology Collaboration)
    d. Reberg test
    e. The clearance of inulin

39. The management of end-stage renal disease is carried out with:
    a. Peritoneal dialysis
    b. Hemodialysis
    c. Kidney transplant
    d. Glucocorticoids administration
    e. Insulin administration

40. Which of the following describe chronic kidney disease:
    a. Increase of serum creatinine
    b. Decrease of blood urea nitrogen
    c. Hypokalemia
    d. Anemia
    e. Hyperkalemia

41. Which of the following are used for the management of anemia in chronic kidney disease?
    a. Erythropoietin injections
    b. Intravenous administration of iron
    c. Administration of angiotensin-converting-enzyme inhibitors
    d. Oral potassium administration
    e. Administration of renin inhibitors

42. Which are the ECG signs of hyperkalemia ?
    a. Enlarged QRS complex
    b. Peaked T waves
    c. Prolonged PR interval
    d. Supraventricular tachycardia
    e. Left axis deviation

43. To slow the progression of chronic kidney disease, it is important to:
    a. Control blood pressure
    b. Reduce proteinuria
    c. Reduce protein intake
    d. Parenteral administration of normal saline
    e. Administration of nonsteroidal anti-inflammatory drugs

44. Which of the following drug classes are considered to protect the kidney?
    a. Angiotensin-converting-enzyme inhibitors
    b. Angiotensin II receptor blockers
    c. Dihydropiridine calcium channel blockers (such as Amlodipine, Nifedipine)
    d. Alfa-blockers
    e. Nondihydropiridine calcium channel blockers (such as Verapamil, Diltiazem)

45. Which of the following drug classes are considered to be the first-line for management of blood pressure in patients with chronic kidney disease and proteinuria?
    a. Angiotensin-converting-enzyme inhibitors
    b. Angiotensin II receptor blockers
    c. Dihydropiridine calcium channel blockers (such as Amlodipine, Nifedipine)
    d. Diuretics as a monotherapy
    e. α2 adrenergic agonist – Clonidine

46. To which level it is recommended to reduce protein intake in a patient with chronic kidney disease?
    a. To 0.8 g/kg ideal weight per day + protein urinary loss
    b. It is not recommended to reduce protein intake in patients with chronic kidney disease and severe malnutrition
    c. To 1.5 g/kg ideal weight per day + protein urinary loss
    d. To 2.0 g/kg ideal weight per day + protein urinary loss
    e. To 3.0 g/kg ideal weight per day + protein urinary loss

47. Why it is recommended to restrict NaCl intake?
    a. To optimize the antiproteinuric effect of angiotensin-converting-enzyme inhibitors, sartans and nondihydropiridine calcium channel blockers
    b. To decrease blood pressure
    c. To decrease glucose absorption in proximal tubules
    d. To optimize the erythropoiesis
    e. To reduce albuminuria

48. What drugs are used for the treatment of anemia in chronic kidney disease?
    a. Darbepoetin-α
    b. C.E.R.A. – Continuous Erythropoietin Receptor Activator

c. Recombinant Human Erythropoietin (rHuEPO)
d. Chelating agents
e. Angiotensin-converting-enzyme inhibitors

49. Which of the following are the principal recommendations to reduce the progression of chronic kidney disease?
    a. Blood pressure control
    b. Restriction of NaCl intake
    c. Smoking cessation
    d. Antiproteinuric therapy
    e. Corticosteroids therapy

50. Which of the following measures are strongly recommended for reducing the progression of chronic kidney disease?
    a. Management of blood pressure
    b. Treatment with angiotensin-converting-enzyme inhibitors
    c. Proteinuria reduction
    d. Allopurinol therapy
    e. Administration of nonsteroidal anti-inflammatory drugs

51. Which of the following are the most frequent metabolic consequences of uremia?
    a. Increased insulinemia with frequent hypoglycemia
    b. Impaired glucose tolerance and spontaneous hyperglycemia due to increased insulin resistance
    c. The necessity of higher insulin doses
    d. Hyperlipoproteinemia
    e. Increased uric acid in urine

52. Which of the following are the most frequent respiratory manifestations in chronic kidney disease?
    a. Kussmaul breathing
    b. Cheyne-Stokes respiration
    c. Uremic pleurisy
    d. Uremic pneumonitis
    e. Chronic obstructive pulmonary disease

53. Which of the following are the most frequent respiratory manifestations in chronic kidney disease?
    a. Uremic cardiomyopathy
    b. Arrhythmias and conduction abnormalities
    c. High blood pressure
    d. Myocarditis
    e. Wolff-Parkinson-White syndrome

54. Which of the following are the most frequent hematological manifestations in chronic kidney disease?
    a. Normochromic anemia
    b. Bleeding diathesis due to impaired platelets
    c. Thrombocytopenia in end-stage renal disease
    d. Leucopenia
    e. Eosinophilia

55. Which of the following are the most frequent bone and mineral manifestations in chronic kidney disease?
    a. Osteitis fibrosa, due to hyperparathyroidism
    b. Osteomalacia, due to defective mineralization
    c. Adynamic bone disease, due to abnormally low bone turnover
    d. Osteopenia or osteoporosis
    e. Kyphosis or lordosis, due to urea deposits in the intervertebral disk
56. Which of the following are the most frequent neurological manifestations in chronic kidney disease?
    a. Uremic encephalopathy
    b. Peripheral neuropathy
    c. Ekbom syndrome, or the restless legs syndrome
    d. Myasthenia gravis
    e. Guillain-Barré syndrome

57. Which of the following are the most frequent gastrointestinal manifestations in chronic kidney disease?
    a. Uremic halitosis
    b. Uremic gastritis associated with anorexia, epigastric tenderness, vomiting and ammoniac smell
    c. Peptic ulcer, due to increased gastrin levels in blood
    d. Mallory-Weiss syndrome
    e. Achalasia

58. Which of the following are the most frequent dermatological manifestations in chronic kidney disease?
    a. Uremic pruritus
    b. Uremic frost
    c. Calciphylaxis or calcific uremic arteriolopathy
    d. Acne vulgaris
    e. Dermatomycosis
59. Which of the following lab results you will find in a patient with chronic kidney disease?
    a. Increased blood creatinine
    b. Increased blood urea nitrogen
    c. Normochromic anemia

d. Decreased glomerular filtration rate
e. Hypokalemia

60. Which of the following electrolytic disorders you will most frequently find in a patient with chronic kidney disease?
    a. Hypo- or hypernatremia
    b. Hyperkalemia
    c. Hypokalemia
    d. Hypocalcaemia
    e. Hypophosphatemia
61. Which of the following side effects are common for angiotensin converting enzyme inhibitors?
    a. Cough
    b. Low blood pressure
    c. Hyperkalemia
    d. Iron deficiency anemia
    e. Pancytopenia

62. Why patients with chronic kidney disease have frequently iron deficiency?
    a. Occult gastrointestinal hemorrhages
    b. Iatrogenic hemorrhages due to dialysis
    c. Hemoptysis
    d. Hematuria
    e. Hematemesis

63. Which are the most frequent causes of anemia in patients with chronic kidney disease?
    a. Iron deficiency
    b. Vitamin B12 deficiency
    c. Folic acid deficiency
    d. Chronic small hemorrhages
    e. Hematuria

64. Which methods are used to correct the mineral metabolism in patients with chronic kidney disease?
    a. Restriction of phosphates intake
    b. Administration of intestinal chelating agents
    c. Adequate dialysis (in patient with end-stage renal disease)
    d. Analogues of vitamin D (ex. Calcitriol, alfacalcidol)
    e. Darbapoetin-α

65. Which of the following drugs are considered phosphate chelating agents (phosphate binders)?
    a. Calcium salts

b. Aluminum salts
c. Sevelamer
d. Statins
e. Sartans

66. Which of the following should be carried out before initializing chronic hemodialysis?
    a. Getting a vascular access
    b. Psychological counseling
    c. Diet modification for a balanced intake of proteins, calories, vitamins and minerals
    d. Hyperkalemia management
    e. Reducing hypophosphatemia

67. Vascular access for hemodialysis can be achieved through:
    a. Arterio-venous fistula
    b. Arterio-venous graft
    c. Central venous catheter
    d. Swan-Ganz catheter
    e. Foley catheter

68. Which of the following are criteria for definition of chronic kidney disease?
    a. Glomerular filtration rate <60 ml/min/1.73 m^2 for ≥3 months, with or without kidney damage
    b. Kidney damage for ≥3 months, as defined by structural or functional abnormalities of the kidney
    c. The presence of markers of kidney damage, including abnormalities in the composition of blood or urine, or abnormalities in imaging tests
    d. Glomerular filtration rate <90 ml/min/1.73 m^2 for ≥3 months, with or without kidney damage
    e. Congenital malformation without impaired renal function

69. Which of the following groups of patients have an increased risk to develop chronic kidney disease?
    a. Patients with diabetes mellitus
    b. Patients with high blood pressure
    c. Patients with systemic diseases like systemic lupus erythematosus
    d. Patients that have relatives with renal diseases
    e. Patients with seronegative spondylitis

70. Which of the following are the screening methods of patients with chronic kidney disease?
    a. Assessing the levels of urea and serum creatinine
    b. Estimation of glomerular filtration rate
    c. Renal ultrasound

d. Assessing the levels of erythropoietin
e. Measuring A1C hemoglobin

71. For a correct diagnosis of chronic kidney disease it is necessary to:
    a. Identify the nephropathy
    b. Determine the stage of the chronic kidney disease using KDOQI classification
    c. Assess the levels of thyroid hormones
    d. Perform a skull X-ray
    e. Perform a renal ultrasound

72. Which of the following manifestations can be found more frequently in a patient with chronic kidney disease (CKD) stage 3 KDOQI?
    a. High blood pressure (in 50-60% of patients with CKD)
    b. Reduced absorption of calcium
    c. Reduced excretion of phosphate
    d. Increased levels of parathyroid hormone in the blood
    e. Increased iron levels in the blood

73. Which of the following manifestations can be found more frequently in a patient with chronic kidney disease (CKD) stage 5 KDOQI which are not treated with a renal replacement therapy?
    a. Wide QRS complex on ECG
    b. Peaked T waves on ECG
    c. Volume overload
    d. Anemia
    e. Paraproteinemia

74. Which are the objectives in the management of chronic kidney disease?
    a. Slowing the progressing of chronic kidney disease;
    b. Prophylaxis and treatment of complications
    c. Preparing the patient with chronic kidney disease stage 3 KDOQI for a renal replacement therapy
    d. Preparing the patient with chronic kidney disease stage 4 KDOQI for a renal replacement therapy
    e. Enter the patient with chronic kidney disease stage 4 or 5 in the transplant waiting list

75. Which are the typical hematological disorders in patients with chronic kidney disease
    a. Hemorrhagic diathesis
    b. Microcytic anemia induced by aluminium
    c. Leukocytosis
    d. Leucopenia
    e. Normocytic anemia

76. The treatment of hypervolemia in patients with chronic kidney disease is carried out by:
    a. The administration of diuretics in patients that do not undergo dialysis
    b. The restriction of water and salt intake
    c. The increase of water intake after dialysis procedures
    d. The administration of diuretics and increase of water intake
    e. Performing ultrafiltration

77. Which are the acute complications of hemodialysis
    a. Thrombosis of arterio-venous fistula
    b. Convulsions
    c. Malnutrition
    d. Muscular cramps
    e. Low blood pressure

78. Which of the following sentences are true regarding peritoneal dialysis
    a. Can be performed at home
    b. It is the most frequent type of renal replacement therapy
    c. It is performed 4-6 times per day, every day
    d. It is more efficient than renal transplant
    e. It is not performed in patients with post-surgical abdominal adhesions

79. Which of the following sentences are true?
    a. In chronic kidney disease the kidney size are usually normal
    b. In acute kidney injury, you will always find size or structural modifications at a renal ultrasound exam
    c. Anemia is frequent in chronic kidney disease
    d. In acute kidney injury you can find severe renal bone disorders
    e. In chronic kidney disease, you will frequently find high blood pressure

80. It is recommended to treat high blood pressure in a patient with chronic kidney disease by using which of the following methods?
    a. Administration of angiotensin II receptor blockers
    b. Administration of β-blockers
    c. Administration of dihydropyridine calcium channel blockers
    d. Administration of angiotensin converting enzyme inhibitors
    e. Normal NaCl intake

81. Chronic kidney disease associated with normal or large size of kidney can be found in which disease?
    a. Chronic glomerulonephritis
    b. Chronic pyelonephritis
    c. Autosomal dominant polycystic kidney disease
    d. Diabetes mellitus

e. Amyloidosis

82. Which are the clinical and biological manifestations of high levels of urea in the blood in patients with chronic kidney disease?
    a. Anorexia
    b. Impaired platelets function
    c. Vomiting
    d. Hypocalcaemia
    e. Increased diuresis

83. Which are the most frequent neuromuscular manifestations in a patient with chronic kidney disease stage 5 KDOQI that undergoes renal replacement therapy?
    a. Myasthenia gravis
    b. Lethargy
    c. Myoclonus
    d. Muscular cramps
    e. Restless legs syndrome or Ekbom syndrome

84. How to manage anemia in patients with chronic kidney disease?
    a. Oral administration of Recombinant Human Erythropoietin
    b. Treatment of iron deficiency
    c. Glycaemia control
    d. Subcutaneous administration of erythropoietin
    e. Treatment of folic acid deficiency

85. Which are the functions of the kidney?
    a. Blood pressure control
    b. Inactivation of vitamin D
    c. Elimination of blood toxins
    d. Electrolytic balance
    e. Erythropoietin synthesis

86. Low levels of erythropoietin is characterized by:
    a. Normocytic anemia
    b. Hypochromic anemia
    c. Normochromic anemia
    d. Microcytic anemia
    e. Megaloblastic anemia

87. Peritoneal dialysis is characterized by:
    a. Needs the formation of an arterio-venous fistula
    b. Should be carried out continuous
    c. Can be undergone exclusively in hospital settings
    d. It is better tolerated hemodynamically

e. It can be carried out in patients that do not have a vascular access

88. Which of the following have a kidney protection role?
    a. Increasing intake of proteins
    b. Reducing proteinuria <0.5 g/24h
    c. Decreasing blood pressure <130/90 mmHg
    d. Administration of drugs that have an effect of kidney protection
    e. Avoidance of nephrotoxic drugs

89. Which are the contraindications of peritoneal dialysis?
    a. Lack of vascular access
    b. Abdominal surgeries followed by adhesions
    c. Insanitary home conditions
    d. Hypoalbuminemia
    e. Chronic inflammatory bowel diseases

90. Which of the following are renal replacement therapies?
    a. Peritoneal dialysis
    b. Treatment with Recombinant Human Erythropoietin
    c. Hemodialysis
    d. Renal transplant
    e. Treatment of the disorders of the metabolism of the phosphates and calcium

91. Which of the following sentences are true regarding the treatment of high blood pressure and proteinuria in patients with chronic kidney disease?
    a. It is preferable to use angiotensin converting enzyme inhibitors or angiotensin receptor blockers
    b. Angiotensin converting enzyme inhibitors and angiotensin receptor blockers should never be associated
    c. Thiazide diuretic should be used in case that glomerular filtration rate <30 ml/min/1.73 m^2
    d. Furosemide should be used in case that glomerular filtration rate 15-30 ml/min/1.73 m^2
    e. It is recommended a restriction of NaCl intake

92. In which cases proteinuria can be considered normal?
    a. Orthostatic proteinuria
    b. Proteinuria during fever
    c. Proteinuria after running a marathon
    d. Proteinuria from IgA nephropathy
    e. Proteinuria from multiple myeloma

93. Which are the absolute indications for dialysis in patients with chronic kidney disease?

a. Volume overload that cannot be controlled with medication
b. Hyperkalemia that cannot be controlled with medication
c. Neurological manifestations of uremia
d. Uremic pericarditis
e. Severe renal anemia

Acute kidney injury

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1. Which are the most frequent causes that lead to acute kidney injury after causing acute interstitial nephritis?
    a. Analgesics and nonsteroidal anti-inflammatories
    b. Intoxication with organochloride insecticides
    c. Chinese herbal teas
    d. Bilateral renal stones
    e. Tumor antigens
2. Acute kidney injury due to a glomerular cause is manifested by:
    a. Oliguria with purpura and fever, associated with the syndrome of acute kidney injury (acute renal failure)
    b. Anuria, volume overload, fever, edema
    c. Acute kidney injury associated with glomerular syndrome
    d. Bilateral thrombosis of the renal veins
    e. Proteinuria, hematuria, anemia and kidney failure
3. Organic acute renal failure is caused by:
    a. Structural damage of a one of the segment of the nephron
    b. Reversible renal hemodynamic changes
    c. Autosomal dominant polycystic kidney disease
    d. Administration of analgesics
    e. Treatment with antihypertensive drugs (angiotensin converting enzyme inhibitors, sartans or calcium channel blockers)
4. Which are the manifestations of acute kidney injure due to acute interstitial nephritis
    a. Edema, proteinuria, high blood pressure and acute renal failure
    b. Unilateral lumbar pain, fever, pollakiuria, leucocyturia, hematuria and purpura
    c. Coughing, fever, bleeding diathesis
    d. Fever, cutaneous rash, joint pains, eosinophilia, increased creatinine and sometimes the diuresis is normal
    e. Epigastric tenderness, leukocytosis, constipations, stupor, increased creatinine
5. Which clinical signs are usually absent from the evolution of acute renal failure due to acute tubular necrosis?
    a. Oliguria, fever, increased serum creatinine
    b. Hypertension, albuminuria and hematuria
    c. Muscular pain, increased creatinine phosphokinase
    d. Dehydration, vomiting, fever
    e. Clinical signs of the underlying cause
6. Choose in which of the following disease, acute kidney injury can be manifested with intratubular obstructive deposits?
    a. Diabetes mellitus type 1

b. Alport syndrome
c. Melanoma
d. Hypovolemia
e. Lipodystrophy

7. Choose the correct sentence regarding hepatorenal syndrome?
    a. A type of chronic renal failure due to hepatic cirrhosis
    b. A type of chronic renal failure due to acute tubular necrosis
    c. A type of prerenal acute kidney injury
    d. Intoxication with a renal or hepatic toxin
    e. Glomerulonephritis in patients with acute hepatitis
8. Which is the main morphological lesion in ischemic or toxic acute kidney injury:
    a. Extracapillary glomerular proliferation
    b. Tubular proliferation
    c. Vasculitis
    d. Acute tubular necrosis
    e. Leukocytes infiltrations in the loops of Henle
9. Hyperkalemia from acute kidney injury is treated with:
    a. Angiotensin converting enzyme inhibitor
    b. Calcium carbonate
    c. Hemodialysis
    d. Discontinuance of antacids administration
    e. Parenteral nutrition
10. Which of the following is NOT a manifestation of hypocalcaemia in acute kidney injury?
    a. Perioral paresthesia
    b. Shortening of QT interval
    c. Changes in the T wave
    d. Convulsions
    e. Confusion
11. Which of the following suggests acute kidney injury?
    a. Renal osteodystrophia
    b. Neuropathy
    c. Rapid increase of urea and creatinine levels in the blood
    d. Small kidney or renal scars seen on radiological examinations
    e. Nephrotic proteinuria
12. Choose the correct sentences regarding renal function in acute kidney injury
    a. It declines fast
    b. It declines slowly
    c. It increases
    d. There is no impairment of renal function
    e. It is not associated with renal morphological changes
13. Which is the most frequent cause of acute renal injury?
    a. Intrinsic
    b. Prerenal

c. Obstructive
d. Toxic
e. Infectious

14. Which of the following phase is NOT included in the clinical picture of acute kidney injury?
    a. Onset phase
    b. Exacerbation phase
    c. Diuretic phase
    d. Recuperation (recovery phase)
    e. Phase associated with oliguria
15. How much time lasts the onset phase of acute kidney injury?
    a. From a few hours to 2-3 days
    b. 3-4 weeks
    c. 10-15 days
    d. 2-3 months
    e. 20-30 minutes
16. In which phase of acute kidney injury, the syndrome of azotemia appears:
    a. Oliguric or anuric phase
    b. Diuretic phase
    c. Onset phase
    d. Recovery phase
    e. Exacerbation phase
17. Which of the following laboratory findings is a typical sign for the recovery phase in acute kidney injury?
    a. Normalization of the levels of azotemia
    b. Normalization of hemoglobin
    c. Normalization of diuresis
    d. Normalization of blood pressure
    e. High blood urea nitrogen levels
18. How often should you check the diuresis in patients with acute kidney injury in the onset phase?
    a. Every 2-3 hours
    b. Every hour
    c. Once in 24 hours
    d. Every 4 hours
    e. Every 12 hours
19. Which is a critical value of serum potassium level in a patient with acute kidney injury?
    a. <3.5 mEq/L with ECG modifications
    b. 6.5-7 mEq/L without ECG modifications
    c. > 6.5 mEq/L with ECG modifications
    d. 4 mEq/L without ECG modifications
    e. 5 mEq/L without ECG modifications

20. Which is the fastest method to decrease serum potassium in a patient with acute kidney injury?
    a. Insulin + glucose, calcium gluconate
    b. Sodium bicarbonate
    c. Hemodialysis
    d. Loop diuretics
    e. Manitol
21. Which is the most efficient treatment of pulmonary edema in acute kidney injury
    a. Emergency hemodialysis
    b. Oxygen mask
    c. Nitroglycerine
    d. Loops diuretics
    e. Antibiotics
22. By which mechanism contrast agents can lead to acute kidney injury?
    a. By leading to acute tubular necrosis
    b. By increasing glomerular filtration rate
    c. By decreasing glomerular filtration rate
    d. Through autoimmune mechanisms
    e. By inducing hypovolemia
23. In which disease that can lead to intrinsic acute kidney injury, is affected the glomeruli?
    a. Rapidly progressive glomerulonephritis
    b. Acute pyelonephritis
    c. Renal artery embolism
    d. Toxic acute tubular necrosis
    e. Allergic acute interstitial nephritis
24. Which of the following is a not a typical finding in acute kidney injury?
    a. Acute onset
    b. Oliguria
    c. Small kidneys size
    d. Hyperkalemia
    e. Low blood pressure
25. Which is the most common complication of acute kidney injury?
    a. High blood pressure
    b. Hypokalemia
    c. Bacterial infections
    d. Congestive cardiac failure
    e. Secondary hyperparathyroidism
26. Which of the following antihypertensive drugs should be avoided in acute kidney injury?
    a. Furosemide
    b. Calcium channel blockers
    c. Angiotensin-converting-enzyme inhibitor
    d. β-blockers

e. clonidine

27. In which of the following situation it is useful to perform plasmapheresis in acute kidney injury?
    a. Prerenal acute kidney injury
    b. Acute kidney injury in sepsis
    c. Intrinsic acute kidney injury
    d. Acute kidney injury due to tubular obstruction
    e. Acute kidney injury in ANCA-positive vasculitis
28. In which of the following situations, rhabdomyolysis has a higher risk to lead to acute kidney injury?
    a. Anemia
    b. Hypocalcaemia
    c. Hypernatremia
    d. Alkalosis
    e. Hypovolemia
29. Which of the following drugs can more frequently induce acute tubular necrosis?
    a. Digoxin
    b. Aminoglycosides
    c. Bisphosphonates
    d. Diuretics
    e. Vitamin D
30. Which is the most frequent lesion in a histological examination of the kidney in acute kidney injury?
    a. Extracapillary glomerular proliferation
    b. Tubular proliferation
    c. Vasculitis
    d. Acute tubular necrosis
    e. Leukocyte infiltrates in the glomerular tufts
31. Which of the following scenarios can lead to prerenal acute kidney injury:
    a. Pulmonary embolism
    b. Neurogenic bladder
    c. Retroperitoneal fibrosis
    d. Hemolytic-uremic syndrome
    e. Leptospirosis
32. Which of the following manifestation can be found in acute kidney injury?
    a. Renal osteodystrophy
    b. Neuropathy
    c. Rapid increase in the levels of urea and serum creatinine
    d. Small kidneys or renal scars seen on diagnostic imaging
    e. Nephrotic proteinuria
33. What is administered in prerenal acute kidney injury caused by loss of plasma (burns)?
    a. Red Blood Cell Transfusions
    b. Isotonic saline solutions

c. Hypotonic saline solutions
d. Hypertonic saline solutions
e. Diuretics

34. Which can cause irreversible acute kidney injury
    a. Low cardiac output
    b. Systemic vasodilation
    c. Renal vasoconstriction
    d. Multiple myeloma
    e. Bilateral renal cortical necrosis
35. Which phase of acute kidney injury is characterized by increased blood urea, oliguria and decreased elimination of sodium?
    a. Onset of the acute kidney injury
    b. Recovery phase
    c. Oliguric phase
    d. Diuresis recovery
    e. Intrinsic acute kidney injury with normal diuresis
36. Which of the following forms of acute kidney injury caused by hypoperfusion is reversible in 1-2 weeks with an adequate therapy?
    a. Extrarenal azotemia
    b. Intrinsic acute kidney injury with normal diuresis
    c. Incipient acute kidney injury
    d. Oliguric intrinsic acute kidney injury
    e. Anuric intrinsic acute kidney injury
37. Which is the most common cause of decease in acute kidney injury?
    a. Infectious complications
    b. Hydric and electrolytes disorders
    c. Acid-base disorders
    d. Hematological disorders
    e. Cardiovascular disorders
38. Which of the following causes of acute kidney injury has a risk of >80% of mortality?
    a. Acute kidney injury due to nephrotoxins
    b. Acute kidney injury after burns
    c. Iatrogenic acute kidney injury
    d. Post abortion acute kidney injury
    e. Acute kidney injury due to infections
39. Dopamine can have a beneficial effect, if administered in the first 24 hours of anuria, in which conditions?
    a. Acute kidney injury after open heart surgery
    b. Acute kidney injury due to nephrotoxins
    c. Acute kidney injury due to burns
    d. Prerenal azotemia
    e. Post abortion acute kidney injury
40. Which mechanism can induce ischemic acute kidney injury?
    a. Renal hypoperfusion with decrease of glomerular filtration

b. Acute tubular necrosis
c. Anuria
d. Polyuria
e. Electrolyte Disorders

41. Anuria in acute kidney injury is defined when:
    a. Diuresis <400 ml/24 h
    b. Reduced diuresis, noticed by the patient
    c. Diuresis <100 ml/24 h
    d. Diuresis <500 ml/24 h
    e. Diuresis >500 ml/24 h
42. Acute kidney injury is defined by which of the following statements?
    a. Sudden decrease of the glomerular filtration rate which leads to increased serum creatinine levels
    b. Increases of serum creatinine levels >0.5 mg/dl in 24 h
    c. Oliguria
    d. Sudden increase of urea >100 mg/dl in 48 h
    e. Anemia, leukocytosis, urea >150 mg/dl
43. Pelvis and calices dilatation seen on diagnostic imaging, associated with a sudden increase of serum creatinine levels can be caused by:
    a. Chronic kidney disease due to renal stones
    b. Liver failure
    c. Retroperitoneal fibrosis after irradiation
    d. Myocardial infarction
    e. Obstructive acute kidney injury
44. Which is the correct treatment of choice in obstructive acute kidney injury due to prostate cancer?
    a. Continuous hemodialysis
    b. Placing an indwelling urinary catheter or suprapubic catheter
    c. Ureterostomy
    d. Peritoneal dialysis
    e. Treatment of electrolyte and acid-base disorders
45. In which case of acute kidney injury, 20% manitol is most helpful?
    a. Acute kidney injury due to nephrotoxins
    b. Acute kidney injury due to burns
    c. Post abortion acute kidney injury
    d. Post-surgery acute kidney injury
    e. Prerenal azotemia

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46. What are the treatment principles in acute kidney injury in oliguric or anuric phase?
    a. Forced diuresis
    b. Regulate homeostasis
    c. Administration of antibiotics
    d. Symptomatic treatment

e. Immunosuppressive treatment

47. What are the types of acute kidney injury?
    a. Prerenal
    b. Intrinsic
    c. Postrenal (obstructive)
    d. Normovolemic
    e. Post infectious
48. Pathogenetically, acute tubular necrosis is classified in:
    a. Ischemic
    b. Toxic
    c. Allergic
    d. Infectious
    e. Infiltrative
49. Etiopathogenetically, acute tubular necrosis is classified in
    a. Allergic
    b. Infectious
    c. Infiltrative
    d. Ischemic
    e. Toxic
50. Which are the signs of dehydration?
    a. Reduced skin turgor
    b. Low blood pressure
    c. Bradycardia
    d. Oliguria
    e. High central venous pressure
51. Which of the following manifestations one will typically find in obstructive acute kidney injury?
    a. Lumbar or suprapubian pain
    b. Oliguria
    c. Massive proteinuria
    d. Severe high blood pressure
    e. Significant hypophosphatemia
52. Which diseases can induce intrinsic acute kidney injury?
    a. Acute glomerulonephritis
    b. Fanconi syndrome
    c. Acute tubular necrosis
    d. Acute interstitial nephritis
    e. Focal segmental glomerulosclerosis
53. Posternal azotemia can be induced by which of the following situations?
    a. Acute obstruction of the efferent arterioles
    b. Obstruction of one ureter, if the contralateral kidney has a normal function
    c. Obstruction of one ureter, if the contralateral kidney is non-functional
    d. Obstruction of both ureters
    e. Obstruction of the bladder neck

54. Subvesical obstruction can be caused by which of the following situations?
    a. Benign prostate hyperplasia
    b. Prostate cancer
    c. Neurogenic bladder
    d. Ureteric obstruction by ligature
    e. Hypovolemia
55. Myoglobinuric acute kidney injury can be found in which of the following disorders?
    a. Severe trauma
    b. Muscular ischemia
    c. High blood pressure
    d. Multiple myeloma
    e. Hyperuricosuria
56. Which of the following will lead the impairment of renal function in acute kidney injury?
    a. Azotemia
    b. Electrolyte disorders
    c. Acid-base disorders
    d. Hypovolemia
    e. Hydronephrosis
57. Which are the phases of acute kidney injury?
    a. Onset phase
    b. Oliguric or anuric phase
    c. Diuretic phase
    d. Recovery phase
    e. Chronic phase
58. Which of the following stages are included in the phase three of acute kidney injury?
    a. Early diuretic phase
    b. Polyuric phase
    c. Onset phase
    d. Oliguric phase
    e. Anuric phase
59. Which are the objectives of acute kidney injury treatment?
    a. Prevention and elimination of the causes that can lead to acute kidney injury
    b. Renal function recovery and improvement
    c. Treatment of the acid-base and electrolytic disorders
    d. Prevention and control of complications
    e. Bilateral nephrectomy
60. Choose the therapy principles in the treatment of hemodynamic disorders in acute kidney injury?
    a. Artificial hemodilution
    b. Improvement of blood rheology
    c. Forced diuresis
    d. Administration of antibiotics
    e. Treatment with renal replacement therapy

61. What is the nonspecific treatment of pulmonary edema in acute kidney injury?
    a. Bronchodilators
    b. The patient should be in a sitting position
    c. Oxygen mask
    d. Loop diuretics
    e. Nitroglycerine
62. Which are the absolute indications to initialize the dialysis in acute kidney injury?
    a. Hyperpotassemia >6.5 mmol/l
    b. Severe metabolic acidosis (pH <7.2)
    c. Anuria >24 h
    d. Hemoglobin <100 g/l
    e. Diuresis <500 ml / 24 h
63. Which are the uremic complications in acute kidney injury?
    a. Uremic pericarditis
    b. Uremic encephalopathy
    c. Uremic anemia
    d. Hypercalcemia
    e. Anuria
64. Which are the risk factors for developing contrast-induced acute kidney injury?
    a. The presence of chronic kidney disease
    b. Diabetic nephropathy
    c. Large volume of contrast agent
    d. Hypovolemia
    e. Obesity
65. Choose the intrinsic causes of acute kidney injury:
    a. Acute pancreatitis
    b. Septicemia with gram-negative bacteria
    c. Allergic interstitial nephritis
    d. Ureteral stones
    e. Rapidly progressive glomerulonephritis
66. Which are the specific manifestations of acute kidney injury?
    a. Oliguria
    b. Acute onset
    c. Hyperkalemia
    d. Hypovolemia
    e. Secondary hyperparathyroidism
67. In which of the following situation, angiotensin-converting-enzyme inhibitors should be avoided?
    a. Unilateral ureteral stenosis
    b. Unilateral renal artery stenosis
    c. Renal artery stenosis of the solitary functional kidney
    d. Bilateral renal artery stenosis
    e. Unilateral kidney calices stenosis

68. Which of the following drugs can induce intrarenal vasoconstriction, especially in hypovolemic states?
    a. Contrast agents
    b. Cyclosporine
    c. Fourth-generation cephalosporin
    d. Amphotericin
    e. Spironolactone
69. Which situations can be associated more frequently with ischemic acute kidney injury?
    a. Cardio-vascular surgeries
    b. Severe trauma
    c. Hemorrhages
    d. Septicemia
    e. After administration aminoglycosides
70. Acute interstitial nephropathy is a typical complication in the treatment of which of the following diseases?
    a. Lymphoproliferative
    b. Myeloproliferative
    c. Pulmonary embolism
    d. Kidney ischemia
    e. Polycystic diseases
71. Which of the following drugs must be avoided or used with great care in hypovolemic patients?
    a. Diuretics
    b. Angiotensin-converting-enzyme inhibitors
    c. Nonsteroidal anti-inflammatory drugs
    d. B vitamins
    e. Antibiotics
72. Which of the following recommendations are indicated in patients with acute kidney injury in oliguric phase?
    a. Restriction of the salt and water intake
    b. Carbohydrate restriction
    c. Proteins restriction
    d. Dialysis
    e. Large doses of spironolactone
73. Which are the indications for the initiation of dialysis in acute kidney injury?
    a. Angina in patients with oliguria
    b. Volume overload in patients with oliguria
    c. Extreme dehydration
    d. Severe hyperkalemia in patients with oliguria
    e. Polyuria which cannot be treated with drugs
74. Which of the following causes can lead to prerenal acute kidney injury?
    a. Hypovolemia
    b. Fluid transfer to the extravascular space

c. Tubules sclerosis
d. Glomeruli sclerosis
e. Endothelial renal cells proliferation

75. In which diseases can be associated with intrinsic kidney injury?
    a. Acute glomerulonephritis
    b. Fanconi syndrome
    c. Acute tubular necrosis
    d. Acute interstitial nephritis
    e. Focal segmental glomerulosclerosis
76. Proteinuria >2 g/24 h in acute kidney injury can suggests which of the following situations?
    a. Tubular toxicity after digoxin administration
    b. Acute glomerulonephritis
    c. Acute tubular necrosis
    d. Multiple myeloma
    e. Tubular toxicity after aminoglycosides administration
77. Which of the following signs or symptoms can suggests prerenal acute kidney injury?
    a. Thirst
    b. Orthostatic hypertension
    c. High jugular tension
    d. Orthostatic vertigo
    e. Decreased skin turgor
78. Which of the following drugs can induce intrinsic acute kidney injury through acute tubular necrosis?
    a. Cisplatin
    b. Trimethoprim
    c. Penicillin
    d. Acyclovir
    e. Aminoglycosides
79. Which of the following statements regarding acute kidney injury complications are true?
    a. Metabolic alkalosis can exacerbate hyperkalemia
    b. Metabolic acidosis is severe in ethylene glycol intoxication
    c. Severe anemia in the absence of a hemorrhage can suggests thrombotic microangiopathy
    d. Infection can be a complication of acute kidney injury in 50-90%
    e. Serum potassium can increase with 2 mmol/l per day in oliguric acute kidney injury
80. Which are the absolute indications for the initiation of dialysis in acute kidney injury?
    a. Hypocalcaemia
    b. Hypernatremia
    c. Uremic syndrome
    d. Severe hypervolemia
    e. Hyperkalemia which cannot be corrected with drugs

81. Rhabdomyolysis in acute kidney injury can be suggested by which of the following signs?
    a. High levels of serum creatine-kinase (MM isoenzymes)
    b. Hypercalcemia
    c. Hyperuricemia
    d. Hyperkalemia
    e. Hypophosphatemia
82. Select the correct statements regarding acute tubular necrosis:
    a. Can be induced by infections
    b. It is the most common cause of chronic kidney disease
    c. Can be induced by nephrotoxins
    d. It is the most common cause of rapidly progressive glomerulonephritis
    e. It is a common cause of acute kidney injury
83. Select the correct statements regarding hyperkalemia in acute kidney injury:
    a. Metabolic acidosis can exacerbate hyperkalemia by decreased the flow potassium inside the cells
    b. Hyperkalemia <6.0 mmol/L is usually asymptomatic
    c. Hyperkalemia is rare in acute kidney injury due to rhabdomyolysis
    d. In patients with hemolysis and tumor lysis syndrome, hyperkalemia is severe
    e. ECG modifications can be found in severe hyperkalemia
84. Select the useful therapeutic principles in acute kidney injury?
    a. There are no specific prevention measures
    b. Angiotensin-converting-enzyme inhibitor should be used with great care in patients with renal artery stenosis
    c. Alkaline forced diuresis can aggravate renal lesions due to methotrexate
    d. It is recommended to restrict the intake of proteins at approximately 0.6 /kg/day and should be preferred the intake of proteins with high biological value
    e. Caloric intake should be reduced if there is an increase of azotemia
85. Select which of the following increase the risk of mortality in acute kidney injury:
    a. Oliguria at the presentation of the patient
    b. Old age
    c. MODS (Multiple organ dysfunction syndrome)
    d. Subclinical impairment of the renal function
    e. Serum creatinine below 70.3 mmol/l
86. Which diagnostic imaging methods are recommended in postrenal acute kidney injury?
    a. Renal ultrasound
    b. Doppler ultrasound
    c. Intravenous urography
    d. Renal biopsy
    e. Abdominal computer tomography
87. Which of the following findings can be found in acute kidney injury?
    a. Azotemia

b. Hyponatremia
c. Hyperkalemia
d. Metabolic acidosis
e. Hypokalemia

88. Which are the causes of acute prerenal acute kidney injury?
a. Hemorrhages
b. Treatment with aminoglycosides
c. Antihypertensive drugs overdose
d. Vomiting
e. Diuretics overdose

89. Which are the causes of decreasing glomerular filtration rate in acute kidney injury?
a. Low levels of Na in the region of *macula densa*
b. Cortico-medular ischemia
c. Decreased elimination of renin
d. Increase of the blood flow in the kidneys
e. Energetic cell exhaustion with the concomitant increase of adenosine and inhibition of the tubule-glomerular feedback

90. In which situation can appear generalized edema in oliguric acute kidney injury?
a. Excessive intravenous administration of fluids
b. Acute kidney injury on chronic kidney disease
c. Acute kidney injury in a patient with chronic pyelonephritis
d. Toxic acute kidney injury
e. Excessive endogen production of water >400 ml/day

91. Which disorders can induce acute kidney injury with normal diuresis?
a. Acute kidney injury due to acute glomerulonephritis
b. Acute kidney injury due to acute pyelonephritis
c. Obstructive acute kidney injury
d. Acute kidney injury due to nephrotoxins
e. Postsurgery acute kidney injury

92. Which abilities will recover harder after acute kidney injury?
a. The ability to concentrate urine
b. The ability to acidify urine
c. Glomerular filtration rate
d. Erythropoietin secretion
e. Renin secretion

93. Which of the following drugs can induce acute kidney injury if there is present a chronic renal hypoperfusion
a. Gentamicin
b. Contrast agents
c. Indomethacin
d. Cisplatin
e. Peniciline

94. Which are the risk factors to develop acute kidney injury?
a. Low blood pressure

b. Atherosclerosis
c. Uncontrolled usage of non-steroidal anti-inflammatory drugs
d. Preexisting renal diseases
e. Excessive consumption of vegetables

95. Choose the cardiovascular complications caused by the uremic syndrome in acute kidney injury?
    a. Severe high blood pressure
    b. Uremic pericarditis
    c. Cardiac arrhythmias
    d. Renal anemia
    e. Arterial hypotension
96. Select respiratory complications caused by uremic syndrome in acute kidney injury?
    a. Kussmaul breathing
    b. Pulmonary edema
    c. Dyspnea
    d. Hemoptysis
    e. Chronic obstructive pulmonary disease
97. Which are the indication for urgent dialysis in acute kidney injury?
    a. Pulmonary edema that cannot be treated with drugs, uremic encephalopathy
    b. Hyperkalemia >6.5 mmol/l or with ECG modifications, sever metabolic acidosis, urea > 40 mmol/l
    c. Hyperhydration with low reduced circulating volume
    d. Hypernatremia with dehydration
    e. Severe congestive heart failure
98. Which are the main causes of obstructive acute kidney injury?
    a. Benign prostatic hyperplasia
    b. Prostate cancer
    c. Urinary stones
    d. Retroperitoneal fibrosis
    e. Autosomal dominant polycystic kidney disease
99. Which are the most common causes of prerenal acute kidney injury?
    a. Extracellular dehydration with loss of fluids
    b. Renal blood flow disorders caused by angiotensin-converting-enzyme inhibitors, sartans or non-steroidal anti-inflammatory drugs
    c. Multiple trauma
    d. Administration of rifampicin in allergic persons
    e. Mushrooms intoxication

Interstitial nephritis

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1. Which structure is usually affected in tubulointerstitial nephritis?
    a. Interstitial tissue
    b. Renal tubules

c. Renal glomeruli
d. Interstitial tissue and peritubular capillaries
e. Interstitial tissue and underlying tubules

2. Which of the following routes of dissemination is the most common in the infection of renal parenchyma?
    a. Hematogenous route
    b. Ascendant route
    c. Lymphatic route
    d. By continuity
    e. Descending route
3. Which of the following DOES NOT increase the risk of recurrent urinary infection?
    a. Sexual activity
    b. Females
    c. Renal stones
    d. Urinary tract obstruction
    e. Correct intimate hygiene
4. Which of the following is the most common extraurinary risk factor to develop chronic pyelonephritis?
    a. Urinary stones
    b. Vesicoureteral reflux
    c. Congenital intrarenal anomalies
    d. Diabetes mellitus
    e. Incomplete emptying of the urinary bladder
5. Which is the most common risk factor that can predispose pregnant women to develop pyelonephritis?
    a. Ureteral compression by the enlarged uterus
    b. Lower immunity
    c. Ureteral dilatation due to hormonal changes
    d. Gestational anemia
    e. Congenital anomalies of the kidneys
6. Which bacterial agent more commonly causes chronic pyelonephritis?
    a. *Escherichia coli*
    b. β-hemolytic streptococcus
    c. *Mycoplasma*
    d. *Proteus mirabilis*
    e. *Pseudomonas aeruginosa*
7. Which is the most common bacterial agent that causes acute and exacerbated chronic pyelonephritis?
    a. *Proteus*
    b. *Enterobacter*
    c. *Serratia*
    d. *Staphylococcus aureus*
    e. *Escherichia coli*

8. Which of the following factor DOES NOT help to eliminate bacteria in the urinary tract
    a. Normal urinary flow
    b. Antibacterial properties of the urine
    c. Antibacterial properties of the prostate secretions
    d. Urinary stasis
    e. Polymorphonuclear leukocytes from the bladder wall
9. Which are the typical clinical picture features of acute pyelonephritis
    a. Slow onset
    b. Fever, chills, lumbar pain
    c. Palpebral edema
    d. Nocturia
    e. Costovertebral angle tenderness
10. Which of the following signs and symptoms IS NOT characteristic for exacerbated chronic pyelonephritis?
    a. Fever
    b. Nausea
    c. Bradycardia
    d. Costovertebral angle tenderness
    e. Diarrhea
11. Which test will allow us to assess glomerular filtration rate?
    a. Nechiporenko test
    b. Zimnitsky test
    c. Reberg test
    d. Three-glasses test
    e. 24-hour Urine Protein Test
12. How is proteinuria in acute pyelonephritis?
    a. ≤1 g/l
    b. Extremely large
    c. ≥2 g/l
    d. ≥3 g/l
    e. 2-3 g/l
13. Select the correct statement regarding intravenous urography:
    a. Can offer information about the structure of the kidneys, pelvis and calices, ureters and urinary bladder
    b. Does not offer information about renal function
    c. It is mandatory for the diagnosis of chronic pyelonephritis
    d. It is not contraindicated in chronic kidney disease stage 4-5 KDOQI
    e. It is not contraindicated in case of iodine allergy
14. Which of the following DOES NOT influence the quantity of microorganism in urine?
    a. The frequency of urination
    b. Diuresis
    c. Urine pH
    d. The multiplication rate of bacteria

e. Leukocyturia

15. Which of the following statements is correct about antibiotic sensitivity test?
    a. It has a major clinical significance
    b. It does not have a major clinical significance
    c. It has a major clinical significance only in pyelonephritis
    d. It has a major clinical significance only in interstitial nephritis
    e. It has a major clinical significance only in glomerulonephritis
16. Which of the following finding will always be present at a histological examination of the kidney in chronic pyelonephritis
    a. Atrophy of the calices epithelium
    b. Lymphocytic and histiocytic infiltrations of the interstitium
    c. Damage of the renal blood vessels
    d. Invasive glomerulonephritis
    e. Periglomeruli sclerosis
17. Which is recommended to a pregnant woman with bacteriuria $\geq 10^5$ U/ml?
    a. Antibacterial treatment, no matter of the clinical picture
    b. Antibacterial treatment only in case of dysuria
    c. Antibacterial treatment only in case of leukocyturia
    d. Bed rest
    e. In the absence of any signs or symptoms, it is not recommended any treatment
18. Which of the following statement is correct regarding increase in blood pressure in a patient with chronic pyelonephritis?
    a. It can occur
    b. It never occurs
    c. It occurs only in cases when there is an impairment of renal function
    d. It can occur only in case if the duration of the disease is more than 3 years
    e. It can occur only in case if the duration of the disease is more than 5 years
19. Which disease is described by the following sentence: ”the presence of multiple renal abscesses with the tendency to confluence and formation of a common cavity”?
    a. Cortico-medular renal abscess
    b. Acute papillary necrosis
    c. Renal carbuncle
    d. Pyonephrosis
    e. Perinephritis
20. Female, 40 years old, with chronic pyelonephritis. An exacerbation of the chronic pyelonephritis manifested with lumbar pain, low fever, dysuria, proteinuria 0,066 g/l, leukocyturia 40-50 per HPF. Culture of the urine determined *E. coli* 10^7 b/ml. Normal renal function. Which antibiotic will be most efficient?
    a. Ampicillin
    b. Erythromycin
    c. Cephalosporin
    d. Co-trimoxazole

e. Ciprofloxacin

21. Which is the obligatory step in the treatment of drug reaction acute interstitial nephritis?
    a. Cessation of the drug that caused allergic reaction
    b. Administration of nonsteroidal anti-inflammatory drugs
    c. Blood transfusions
    d. Administration of cytostatic
    e. Antibacterial treatment
22. How long should be treated a female patient with uncomplicated acute pyelonephritis?
    a. 3 days
    b. 7 days
    c. 14 days
    d. 21 days
    e. 6 weeks

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23. Which of the following kidney diseases are tubulointerstitial nephropathies?
    a. Interstitial nephritis due to chronic drug aggression
    b. Interstitial nephritis due to drug hypersensibility
    c. Chronic pyelonephritis
    d. Interstitial nephritis associated with immunological diseases
    e. Goodpasture syndrome
24. Which are the indication for surgery in exacerbated chronic pyelonephritis?
    a. Pyonephrosis
    b. Paranephritis
    c. Renal abscess
    d. Renal carbuncle
    e. Uninfected renal cyst
25. Which of the following characterize bacterial shock in acute pyelonephritis?
    a. Low blood pressure
    b. Decreased diuresis
    c. Metabolic acidosis
    d. Metabolic alkalosis
    e. High blood pressure
26. Which of the following kidney diseases are tubulointerstitial nephropathies?
    a. Drug-induced acute interstitial nephritis
    b. Reflux nephropathy
    c. Toxic acute tubular necrosis
    d. Minimal change disease
    e. Obstructive nephropathy
27. Which of the following kidney diseases are tubulointerstitial nephropathies?
    a. IgE associated nephropathy
    b. Chronic pyelonephritis

c. Acute pyelonephritis
d. Renal tuberculosis
e. Goodpasture syndrome

28. Which diseases are associated with chronic tubulointerstitial nephropathies?
    a. Viral chronic hepatitis
    b. Diabetes mellitus
    c. Decompensated chronic amygdalitis
    d. Vesicoureteral reflux
    e. Systemic vasculitis
29. Which are the interstitial lesions that allow us to make differential diagnosis with glomerulonephritis?
    a. The absence of significant proteinuria
    b. The absence hypoproteinemia
    c. Severe high blood pressure
    d. The absence of edema
    e. The presence of sterile pyuria and white blood cells casts
30. Which are the suggestive features for interstitial nephropathies?
    a. The absence of volume overload
    b. High blood pressure
    c. The absence of proteinuria
    d. Significant proteinuria <3g/day
    e. Significant hematuria
31. Which are the suggestive features for chronic interstitial nephropathies?
    a. Slow onset
    b. Sudden and sever evolution
    c. Insignificant proteinuria
    d. The absence of severe high blood pressure
    e. Significant edema
32. Which of the following causes can lead to interstitial nephropathies?
    a. Infections
    b. Allergens
    c. Drugs
    d. Autoimmune diseases
    e. Vascular
33. Which of the following are part of lower urinary tract infections?
    a. Acute pyelonephritis
    b. Chronic pyelonephritis
    c. Prostatitis
    d. Cystitis
    e. Urethritis
34. Which of the following are part of upper urinary tract infections?
    a. Urethritis
    b. Acute pyelonephritis
    c. Chronic pyelonephritis

d. Renal carbuncle
e. Pyonephrosis

35. Which of the following ARE NOT part of upper urinary tract infections?
    a. Urethritis
    b. Acute pyelonephritis
    c. Chronic pyelonephritis
    d. Urolithiasis
    e. Glomerulonephritis
36. Which are the risk factors for developing urinary tract infections?
    a. Diabetes mellitus
    b. Male sex
    c. Vesicoureteral reflux
    d. Renal stones
    e. Children or elderly
37. Which are the local risk factors for developing urinary tract infections?
    a. Renal stones
    b. Diabetes mellitus
    c. Vesicoureteral reflux
    d. Female
    e. Pregnancy
38. Which of the following persons have a higher risk to develop urinary tract infections?
    a. Pregnant women
    b. Persons with a renal transplant
    c. Patients with urolithiasis
    d. Males <20 years old
    e. Patients with diabetes mellitus
39. Which of the following are risk factors to develop urinary tract infections?
    a. Pregnancy
    b. Male sex
    c. Vesicoureteral reflux
    d. Neurogenic disorder of the urinary bladder
    e. Urethral catheterization
40. The “risk ages” for chronic pyelonephritis are:
    a. Children in their first 2-3 years of life (congenital malformation)
    b. Sexually active females
    c. Sexually active males
    d. Females after menopause
    e. Males with benign prostatic hypertrophy
41. Which are the predisposition to develop upper urinary tract infections during pregnancy:
    a. Reduction of ureteral tonus
    b. Augmentation of ureteral tonus
    c. Decreasing of ureteral peristalsis
    d. Asymptomatic bacteriuria

e. Toxemia during pregnancy

42. Which of the following changes of urinary tract during can be found during pregnancy:
    a. Estrogens favor the Vesicoureteral reflux
    b. Progesterone inhibits the peristalsis of urinary tract
    c. Compression of right ureter due to uterine dextraposition
    d. The stretching of ureters favor bilateral vesicoureteral reflux
    e. Progesterone favors urine stagnation
43. The etiology of acute pyelonephritis can be:
    a. Bacterial due to Gram-negative colonization (*Escherichia coli, Proteus spp., Klebsiella pneumoniae, Pseudomonas aeruginosa, Enterobacter, Citrobacter* etc.)
    b. Bacterial due to Gram positive colonization (*Staphylococcus spp., Streptococcus spp., Enterococcus spp.*).
    c. Fungal
    d. Viral
    e. *Chlamydia* and *mycoplasma*
44. Gram negative bacteria that can cause acute pyelonephritis or exacerbation of chronic pyelonephritis are:
    a. *E. coli*
    b. *Staphylococcus aureus*
    c. *Enterococcus saprophyticus*
    d. *Pseudomonas aeruginosa*
    e. *Enterobacter*
45. Which are the most common bacterial agents that can cause urinary tract infection?
    a. *Pseudomonas aeruginosa*
    b. *E. coli*
    c. *Chlamydia trachomatis*
    d. *Proteus*
    e. *Streptococcus saprophyticus*
46. Which virulence factors of *E. coli* in urinary tract infection?
    a. O Antigen
    b. K Antigen
    c. H Antigen
    d. Hemolysins
    e. Urease
47. Which are the virulence and uropathogen factors of *E. coli*?
    a. Hemolysins
    b. Aerobactin
    c. Urease
    d. Protease
    e. Adhesins
48. Which are the bacterial virulence factors that can induce urinary tract infection?
    a. Fimbriae

b. P pili
c. Hemolyisins production
d. Kinase production
e. Resistance to the bactericide action of the blood

49. Which of the following factors can allow for the bacteria to stay in the urinary tract?
    a. The presence of protoplast and L-form bacteria
    b. Bacteria adhesions
    c. The obstruction of urinary tract
    d. The synthesis urinary antibodies
    e. Polyuria
50. Which are the defense mechanisms of the urinary factors?
    a. Saprophytic periureteral flora
    b. Urinary flow
    c. Vaginal basic pH
    d. Vesicoureteral valves
    e. Sexual activity
51. Which of the following clinical syndromes can be found in chronic pyelonephritis?
    a. Urinary
    b. Pain
    c. Toxic-infectious
    d. Nephrotic
    e. Nephritic
52. Which of the following signs can be found in exacerbated chronic pyelonephritis?
    a. Fever
    b. Tachycardia
    c. Dysuria and pollakiuria
    d. Inguinal adenopathy
    e. Costovertebral angle tenderness
53. Which of the following can be found in acute pyelonephritis?
    a. Fever
    b. Macrohematuria
    c. Dysuria
    d. Lumbar pain
    e. Nephrotic syndrome
54. Which of the following complaints can be found in exacerbated chronic pyelonephritis
    a. Fever
    b. Fatigue
    c. Lumbar pain
    d. Pyuria
    e. Hyperchrome urine
55. What is included in the classic triad of acute pyelonephritis and exacerbated chronic pyelonephritis?
    a. Fever

b. Polydipsia
c. Lumbar pain
d. Pyuria
e. Hyperchrome urine

56. Which of the following clinical signs can be found in exacerbated chronic pyelonephritis?
    a. Fever
    b. Tachycardia
    c. Dysuria and pollakiuria
    d. Inguinal adenopathy
    e. Costovertebral angle tenderness
57. Which of the following modifications can be found in the urine of the patient with chronic pyelonephritis?
    a. Hyaline casts
    b. Bacteriuria
    c. Leukocyturia
    d. Dysmorphic erythrocytes
    e. Proteinuria > 3 g/l
58. Which are the urine manifestations of exacerbated chronic pyelonephritis?
    a. Crystalluria
    b. White blood cells casts
    c. Leukocyturia and bacteriuria
    d. Proteinuria >3 g/l
    e. Sometimes microhematuria
59. For the confirmation of chronic pyelonephritis which of the following should be carried out?
    a. Urinalysis
    b. Renal ultrasound
    c. Intravenous urography
    d. Cystography
    e. Renal biopsy
60. What should be found in the urine to be able to put the diagnosis of urinary tract infection?
    a. ≥100 000 bacteria/ml in an asymptomatic patient
    b. 100 – 10 000 bacteria/ml in an asymptomatic patient
    c. Any positive urine culture that was obtained with suprapubian aspiration
    d. ≥1 000 bacteria/ml, in a pregnant patient
    e. Multiple species of bacteria, no matter of the titer
61. Urine culture is considered positive in which of the following cases?
    a. ≥ 10^6 CFUs (colony forming units), no matter of the type of bacteria or if there’re any clinical signs or symptoms
    b. ≥ 10^5 CFUs, no matter of the type of bacteria or if there’re any clinical signs or symptoms

c. ≤ 10^4 CFUs, no matter of the type of bacteria or if there're any clinical signs or symptoms
d. ≥ 10^4 CFUs with the clinical triad
e. ≥ 10^3 CFUs associated with all the typical clinical manifestations in a patient with complicated urinary infection

62. Which of the following describe asymptomatic bacteriuria?
    a. A positive diagnostic titer in the urine culture
    b. Negative urine culture
    c. The presence of a clinical picture
    d. The absence of signs and symptoms that would prove an urinary infection
    e. Bacteriuria ≤10^3 bacteria/ml
63. Which of the following are true regarding sterile pyuria?
    a. Infections with unusual bacterial agents
    b. Diabetic nephropathy
    c. Infection with *Mycobacterium tuberculosis*
    d. Fungi infections
    e. Renal amyloidosis
64. Which of the following characterize proteinuria from interstitial nephropathy?
    a. Tubular proteinuria
    b. β2-microglobulin
    c. Proteins with low molecular weight
    d. Proteins with high molecular weight
    e. It is present all the time
65. Which ultrasound signs can be found in chronic pyelonephritis?
    a. Calices and pelvis dilatation
    b. Calices and pelvis deformation
    c. Modifications of the renal parenchyma
    d. Thickening of the vascular bed
    e. Narrowing of the vascular bed
66. Which of the following ultrasound signs can be detected in exacerbated chronic pyelonephritis?
    a. Normal or decreased kidneys size
    b. Decreased parenchymal index
    c. Decreased parenchymal echogenicity
    d. Pelvis and calices dilatation or deformation
    e. Renal obstruction (stones, blood clots, tumors, stricture etc.)
67. Which of the following statements are true regarding dynamic renal scintigraphy?
    a. In can be performed in azotemia
    b. Fewer side effects compared to intravenous urography
    c. Can determine early functional renal impairment
    d. The patient does not need a special preparation
    e. It is contraindicated in case of iodine allergy or pregnancy
68. Which of the following statements are true regarding dynamic renal scintigraphy?
    a. In can be performed in azotemia

b. It is used for the diagnosis of pyelonephritis
c. Can determine early functional renal impairment
d. The patient does not need a special preparation
e. It is contraindicated in case of iodine allergy or pregnancy

69. When it is recommended to perform a urine culture in a patient with acute pyelonephritis?
    a. Before the initiation of antibiotics administration
    b. At 48 hours after the initiation of antibiotics administration
    c. At 48 hours after the termination of the treatment
    d. At 1 month after the termination of the treatment
    e. At 3 months after the termination of the treatment
70. With which diseases are going to make a differential diagnosis in a patient with acute pyelonephritis manifested with abdominal pain, fever but without cystitis signs?
    a. Ectopic pregnancy
    b. Acute appendicitis
    c. Ovarian apoplexy
    d. Lower urinary tract infections
    e. Diverticulitis
71. Which of following therapy measures are recommended in chronic pyelonephritis?
    a. Bed rest during fever
    b. Adequate water intake
    c. Regulate bowel movements
    d. Balanced diet and correct hygiene
    e. Administration of glucocorticoid
72. Which of the following are included in the treatment of chronic pyelonephritis?
    a. Bed rest is obligatory
    b. Antibiotics
    c. Corticosteroids
    d. Phytotherapy
    e. Uroseptic
73. Choose the correct statements about water intake in exacerbated chronic pyelonephritis?
    a. Water intake is restricted
    b. Water intake should be consisted of diuresis + 500 ml
    c. Water intake should not be modified
    d. Water intake depends of on the stage of high blood pressure
    e. Water intake depends of the body temperature
74. Which are the indications for hospitalization of patients with acute pyelonephritis?
    a. Age < 60 years old
    b. Pregnancy
    c. Obstructive nephropathy
    d. Diabetes mellitus
    e. Incoercible vomiting

75. Which of the following is FALSE regarding the etiological treatment of acute pyelonephritis and exacerbated chronic pyelonephritis?
    a. Should be initiated before urine collection
    b. Should be waited for the urine antibiotic sensitivity
    c. Should be empiric initially
    d. Parenteral administration of drugs is more efficient
    e. In all cases it is preferred monotherapy
76. Which of the following is true regarding the etiological treatment of acute pyelonephritis and exacerbated chronic pyelonephritis?
    a. Should be initiated after urine collection for culture test
    b. Should be waited for the urine antibiotic sensitivity
    c. Should be empiric initially
    d. Parenteral administration of drugs is more efficient
    e. In all cases it is preferred therapy with two antibiotics
77. Which of the following antibiotics are used more frequently for the treatment of chronic pyelonephritis
    a. Semisynthetic penicillin
    b. Cephalosporin
    c. Fluoroquinolones
    d. Aminoglycosides
    e. Carbapenem
78. Which are the contraindicated drugs for the treatment of pyelonephritis in pregnant women?
    a. Fluoroquinolones
    b. Cephalosporin
    c. Semisynthetic penicillin
    d. Tetracyclines
    e. Imipenem
79. Which are the drugs of choice for the treatment of pyelonephritis in pregnant women?
    a. Tetracyclines
    b. Semisynthetic penicillin
    c. Nitrofurantoin
    d. Fluoroquinolones
    e. Cephalosporin
80. Which of the following are true regarding the treatment of mild exacerbation of chronic pyelonephritis?
    a. Treatment duration 5 days
    b. Treatment duration 7-10 days
    c. Antimicrobial monotherapy, oral or parenteral administration
    d. Mono or bi-therapy with antibiotics, oral or parenteral administration
    e. Does not require symptomatic treatment
81. Which of the following are included in the prevention of chronic pyelonephritis relapses?

a. Elimination of any chronic sites of infection
b. Constipation prevention
c. Restriction of protein intake
d. Restriction of fluids intake
e. Correct intimate hygiene

82. Which are included in the hygiene and diet measures for the prevention of urinary tract infection?
    a. Regulate bowel movement
    b. Adequate water intake
    c. Perianal and periurethral hygiene
    d. Rare urination
    e. Administration of antibiotics according to the antibiotic sensitivity
83. Which of the following measures are included for the prevention of urinary tract infection?
    a. The treatment of asymptomatic bacteriuria
    b. The treatment of vesicoureteral reflux
    c. Use of oral contraceptives
    d. Postcoital voiding
    e. Regular voiding of the urinary bladder
84. Which of the following factors indicate an unfavorable prognostic for acute pyelonephritis?
    a. The presence of *Proteus*
    b. The presence of *E. coli*
    c. Infection by the ascending route
    d. Acute obstruction of the urinary tract
    e. Hyperuricemia
85. Which of the following factors indicate an unfavorable prognostic for acute pyelonephritis?
    a. The presence of *Proteus*
    b. The presence of *E. coli*
    c. Infection by the ascending route
    d. Acute obstruction of the urinary tract
    e. Hyperuricemia
86. Which are the indications for a surgical treatment in acute pyelonephritis?
    a. Paranephritis
    b. Renal abscess
    c. Urinary flow impairment
    d. Normal kidney gross structure
    e. Duplex kidney
87. Which are the indications for a surgical treatment in chronic pyelonephritis in remission?
    a. Correction of congenital malformation that led to an obstruction in urinary flow

b. Correction of a postsurgical complication that led to an obstruction in urinary flow
c. Renal abscess
d. Paranephritis
e. Renal carbuncle

88. Which of the following severe complications are possible in chronic bilateral pyelonephritis?
    a. High blood pressure
    b. Kidney sclerosis
    c. Chronic kidney disease
    d. Renal tuberculosis
    e. Renal amyloidosis
89. Which of the following are included in the acute complications of acute pyelonephritis?
    a. Toxic and septic shock
    b. Acute papillary necrosis
    c. Secondary high blood pressure
    d. Renal carbuncle
    e. Perinephritic abscess
90. Which of the following are included in the acute complications of acute pyelonephritis?
    a. Emphysematous pyelonephritis
    b. Secondary nephrosclerosis
    c. Acute kidney injury
    d. Renal cysts
    e. High blood pressure
91. Which of the following complications are possible in chronic pyelonephritis?
    a. Arterial or venous renal thrombosis
    b. Chronic kidney disease
    c. High blood pressure
    d. Secondary nephrosclerosis
    e. Acute kidney injury
92. Which of the following are true regarding apostematous acute pyelonephritis (cortical renal abscesses)?
    a. Defined as the presence of multiple small purulent foci in the renal cortex
    b. Defined as the presence of multiple small purulent foci in the renal medullary
    c. It is frequently caused by enterococci sepsis
    d. It is frequently caused by staphylococci sepsis
    e. It is frequently caused by streptococci sepsis
93. Indicate which of the following are true about acute pyelonephritis in immunosuppressed patient?
    a. Increased incidence of pathogens that are resistant to multiple antibiotics
    b. Frequently it is caused by commensal bacteria

c. The risk of developing acute pyelonephritis is lower in immunosuppressed patients
d. The antibiotics of first choice are fluoroquinolones, generation III-IV cephalosporins, protected aminopenicillins and carbapenems
e. The antibiotics of first choice are fluoroquinolones, generation II cephalosporins, aminoglycosides

94. Which of the following statements are true regarding acute obstructive pyelonephritis?
    a. It is a surgical emergency
    b. Requires hospitalization
    c. Hydronephrosis is always present
    d. It is mandatory to perform a percutaneous nephrostomy
    e. It is mandatory to remove the obstruction urgently
95. What can we find at a clinical examination in a patient with acute pyelonephritis?
    a. Tenderness at the palpation of renal positions
    b. Painful costovertebral angles
    c. Costovertebral angles are not painful
    d. Pasternacki's sign is positive
    e. The pain is always bilateral
96. In which patients with acute pyelonephritis the pain can be absent?
    a. Children
    b. Pregnant women
    c. People with diabetes mellitus
    d. Alcoholics
    e. Transplanted patients
97. Which of the following allow us to differentiate chronic pyelonephritis from chronic glomerulonephritis
    a. Fever with chills
    b. Asymmetry in renal function
    c. Symmetry in renal function
    d. Significant proteinuria
    e. Significant leukocyturia
98. Which is included in the pathogenetic treatment of exacerbated chronic pyelonephritis?
    a. Nonsteroidal anti-inflammatories
    b. Antispasmodics
    c. Antibiotics
    d. Antiplatelet drug
    e. Phytotherapy
99. In which diseases we can find aseptic leukocyturia?
    a. Urinary infection that was not treated for the due amount of time
    b. Vaginitis
    c. Uro-genital tuberculosis
    d. Hidronephrosis

e. Suppurated renal cyst

Symptoms and Signs

CS

1. Which of the following sentence regarding routine urinalysis is false?
    a. It consists of a microscopic examination
    b. It consists of a macroscopic examination
    c. It is a chemical and physical examination of the urine
    d. It is recommended to collect the first morning urine
    e. It is a costly laboratory test
2. Which of the following sentence regarding urine culture is false?
    a. Under 10 000 microbes/l – is considered an insignificant bacteriuria
    b. Between 10 000 – 100 000 microbes/l – there is a suspicion of infection
    c. Above 100 000 microbes/l – it is considered that there is a urinary infection
    d. Below 1 000 microbes/l – it is not considered to be a urinary infection
    e. Below 10 000 microbes/l – is considered to be a significant bacteriuria
3. Which of the following cannot be determined in a microscopic urine examination?
    a. Epithelial cells
    b. Pyuria
    c. Hematuria
    d. Casts
    e. Specific gravity
4. Choose the false sentences regarding routine urinalysis?
    a. It is a simple, fast and cheap test
    b. It is a mandatory screening test in all hospitalized patients
    c. It is recommended to collect the first morning urine in a clean recipient
    d. In emergencies can be collected during any time of the day
    e. It is recommended only in patients with renal pathology
5. In which clinical scenarios, renal ultrasound is less practical?
    a. To determine the size of kidneys
    b. To characterize intrarenal masses, such as tumors, abscesses or cysts
    c. To determine the kidneys location
    d. In the screening of polycystic diseases
    e. To grade chronic kidney disease
6. Which of the following is NOT a micturition disorder?
    a. Dysuria
    b. Proteinuria
    c. Difficult micturition
    d. Pollakiuria
    e. Polyuria
7. Pollakiuria is described by which of the following sentence?
    a. The increase of urinary frequency in 24 h
    b. Diuresis >2000 ml/ 24h
    c. Urinary incontinence
    d. Vesical tenesmus

e. Painful urination

8. Which of the following sentence defines polyuria?
    a. The increase of urinary frequency in 24 h
    b. Diuresis >2500 ml/ 24h
    c. Urinary incontinence
    d. Vesical tenesmus
    e. Painful urination
9. The presence of only hyaline casts can be found in?
    a. Can be found in chronic glomerulonephritis
    b. Can be found in chronic pyelonephritis
    c. Can be found in renal amyloidosis
    d. Can be found in any renal disease
    e. It does not have a diagnostic value
10. Which of the following sentence defines urinary incontinence?
    a. The increase of urinary frequency in 24 h
    b. Diuresis >2500 ml/ 24h
    c. Involuntary leakage of urine
    d. Vesical tenesmus
    e. Painful urination
11. Which of the following sentence defines dysuria?
    a. The increase of urinary frequency in 24 h
    b. Diuresis >2500 ml/ 24h
    c. Involuntary leakage of urine
    d. Vesical tenesmus
    e. Painful urination
12. Which of the following sentence regarding urinary retention is false?
    a. It is the inability to completely empty the bladder
    b. It can be complete or incomplete
    c. It can be acute or chronic
    d. It can with or without vesical enlargement
    e. It can be initial or terminal
13. Which of the following sentence regarding rare micturition is false?
    a. The number of micturition is 1-2 / 24 h
    b. It can be associated with oliguria
    c. It can appear in congenital or acquired megalocystis
    d. It is frequent in acute kidney injury
    e. It is frequent after an increased intake of water
14. Which of the following types of urinary incontinence can be present only in children?
    a. True urinary incontinence
    b. False urinary incontinence
    c. Unconsciousness urinary incontinence
    d. Involuntary urinary incontinence
    e. Physiological urinary incontinence
15. The best method to determine bacteriuria is?

a. Microscopic examination of urine
b. Urine culture
c. Macroscopic examination of urine
d. Urine test strip
e. Calorimetry

16. Which of the following sentence in true about antibiotic susceptibility testing
    a. It has a significant clinical importance
    b. It does not possess a clinical importance
    c. It is important only in pyelonephritis
    d. It is important only in interstitial nephritis
    e. It is important only in glomerulonephritis
17. Which of the following defines anuria?
    a. Diuresis <100 ml/ 24 h or <4 ml/h
    b. Involuntary leakage of urine
    c. Vesical tenesmus
    d. Painful urination
    e. Diuresis >2000 ml/ 24 h
18. Which of the following defines nocturia?
    a. The complaint that the individual has to wake at night one or more times for voiding
    b. Diuresis <100 ml/ 24 h or <4 ml/h
    c. Diuresis >2000 ml/ 24 h
    d. Unconsciousness urinary incontinence
    e. Difficult micturition
19. Opsiuria is defined as:
    a. Excretion of urine more rapidly during fasting than after a meal
    b. The situation when the volume of nocturnal diuresis is equal to the volume of diurnal diuresis
    c. Diuresis >2000 ml/ 24 h
    d. Diuresis <100 ml/ 24 h or <4 ml/h
    e. Involuntary urinary leakages
20. Which of the following sentences defines hematuria?
    a. The presence of a high number of erythrocytes in the urine which originate above the urethral sphincter
    b. The situation when the volume of nocturnal diuresis is equal to the volume of diurnal diuresis
    c. Diuresis >2000 ml/ 24 h
    d. Diuresis <100 ml/ 24 h or <4 ml/h
    e. The presence of hyaline casts in urine
21. Which of the following sentences defines pyuria?
    a. The presence of a high number of erythrocytes in the urine
    b. The presence of leukocytes and bacteria in urine
    c. The presence of lymph in urine
    d. The presence of lipids in urine

e. The presence of proteins in urine

22. Which of the following sentences defines chyluria?
    a. The presence of a high number of erythrocytes in the urine
    b. The presence of leukocytes and bacteria in urine
    c. The presence of lymph in urine
    d. The presence of lipids in urine
    e. The presence of proteins in urine
23. Which of the following sentences defines lipiduria?
    a. The presence of a high number of erythrocytes in the urine
    b. The presence of leukocytes and bacteria in urine
    c. The presence of lymph in urine
    d. The presence of lipids in urine
    e. The presence of proteins in urine
24. Which of the following sentences defines physiological proteinuria?
    a. The presence of a high number of erythrocytes in the urine
    b. The presence of leukocytes and bacteria in urine
    c. The presence of lymph in urine
    d. The presence of proteins >3 g/24 h in urine
    e. The presence of proteins <0.1-0.15 g/24 h in urine
25. Select the false sentence regarding transitory proteinuria:
    a. It can be present during fever
    b. It can appear after exposure to extreme temperatures
    c. It can disappear after the elimination of the cause
    d. It will not disappear after the elimination of the cause
    e. Proteinuria is usually <1g / 24 h
26. Which of the following methods CANNOT help us to distinguish between hematuria due to nephropathies or urological causes?
    a. Three-glass test
    b. Microscopic examination of urinary sediment
    c. Cystoscopy
    d. Renal and bladder ultrasound
    e. Radioisotope renography
27. Which of the following sentence regarding renal edema is false?
    a. Can be generalized – anasarca
    b. Renal edema is cold to the touch
    c. Renal edema is soft to the touch
    d. It is usually localized periorbital and on the feet
    e. Renal edema is warm to the touch
28. Which of the following can cause proteinuria in acute nephritic syndrome?
    a. Increased intake of protein
    b. The loss of cations
    c. The loss of anions
    d. Increased blood pressure
    e. Decreased intraglomerular pressure

29. Which of the following is the main cause of high blood pressure in acute nephritic syndrome
    a. Increased levels of bradykinin
    b. Fluid overload
    c. Decreased blood renal flow
    d. Proteinuria
    e. Cerebral edema
30. What is the cause of edema in acute nephritic syndrome?
    a. Hypoalbuminemia
    b. High blood pressure
    c. NaCl and water retention
    d. Increased capillary permeability
    e. Hypovolemia
31. Acute nephritic syndrome is characterized by:
    a. Inflammation of the renal interstitium
    b. Acute inflammation of the glomeruli
    c. Acute infection of the glomeruli
    d. Infection of the renal pelvis and calyces
    e. Dehydration
32. Which is the golden standard for the diagnosis of acute nephritic syndrome
    a. Renal ultrasound
    b. Renal scintigraphy
    c. Renal biopsy
    d. Renal MRI
    e. Renal CT
33. Which of the following can lead to acute nephritic syndrome?
    a. High blood pressure
    b. Infection of the renal cortex
    c. Acute inflammation of the glomeruli
    d. Immune reaction to small quantities of antigens
    e. Renal complications in diabetes mellitus
34. Which of the following <u>DOES NOT</u> characterize typical acute nephritic syndrome
    a. Acute onset
    b. Macroscopic hematuria
    c. Edema
    d. Low blood pressure
    e. Microscopic hematuria
35. Which is the typical findings in urinalysis in a patient with acute nephritic syndrome
    a. White blood cell casts
    b. Hyaline casts
    c. Epithelial casts
    d. Red blood cell casts
    e. Hemoglobin deposits

36. What morphological types of glomerulonephritis are manifested with acute nephritic syndrome
    a. Proliferative glomerulonephritis
    b. Focal and segmental glomerulosclerosis
    c. Membranoproliferative Glomerulonephritis
    d. Anti-glomerular basement membrane glomerulonephritis
    e. Membranous glomerulonephritis
37. Pure nephrotic syndrome is characterized more frequently by:
    a. Macroscopic hematuria
    b. High blood pressure
    c. The presence of chronic kidney disease
    d. Very low frequency in children
    e. Edema
38. Which of the following is FALSE regarding impure nephrotic syndrome?
    a. Persistent hematuria
    b. High blood pressure
    c. Possible associated with chronic kidney disease
    d. Equal frequency in children and adults
    e. It can be found only in adults

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39. The change in urine color can be induced by which of the following?
    a. Food type intake
    b. The volume of liquid intake
    c. Renal diseases
    d. Liver and biliary diseases
    e. Sleep stages
40. Which of the following manifestations can be found in a typical acute nephritic syndrome?
    a. Hematuria
    b. Proteinuria
    c. Azotemia
    d. Water and NaCl retention
    e. Pyuria
41. Which of the following can be assessed at a macroscopic urine examination?
    a. Turbidity
    b. Color
    c. Smell
    d. Specific gravity
    e. Urinary pH
42. Which of the following can be assessed at a chemical analysis of urine?
    a. Density
    b. Proteinuria

c. Urinary pH
d. Color
e. Smell

43. Which of the following can be assessed at a microscopic urine examination?
    a. Epithelial cells
    b. Leukocytes
    c. Red blood cells
    d. The presence of casts
    e. Turbidity
44. Which of the following are micturition disorders?
    a. Dysuria
    b. Rare micturition
    c. Painful urination
    d. Anuria
    e. Oliguria
45. Which of the following are micturition disorders?
    a. Pollakiuria
    b. Urinary retention
    c. Urinary incontinence
    d. Polyuria
    e. Oliguria
46. Which of the following are diuresis disorders?
    a. Pollakiuria
    b. Urinary retention
    c. Urinary incontinence
    d. Polyuria
    e. Oliguria
47. Which of the following are diuresis disorders?
    a. Opsiuria
    b. Rare micturition
    c. Painful urination
    d. Anuria
    e. Nocturia
48. Which are the indications for renal ultrasound?
    a. To determine the size of the kidneys
    b. To characterize intrarenal masses, such as tumors, abscesses or cysts
    c. To determine the kidneys location
    d. In the screening of polycystic diseases
    e. To grade chronic kidney disease
49. Which are the features of renal colic?
    a. The pain diminishes while lying in bed
    b. The pain diminishes while standing
    c. Radiates in genital organs
    d. Radiates in abdominal flanks

e. The pain worsens in vibrations

50. In which of the following diseases can be manifested by colic pain?
    a. Nephrolithiasis
    b. Blood clots in the urinary tract
    c. Polycystic kidney diseases
    d. Glomerulonephritis
    e. Renal tuberculosis
51. What are the features of pain in reno-ureteral colic?
    a. Intense pain
    b. The pain comes in waves
    c. Dull pain
    d. Usually continues pain
    e. Radiates in the hypochondrium
52. How long usually the renal colic pain lasts?
    a. A few minutes
    b. A few hours
    c. A few days
    d. 2-3 weeks
    e. A month
53. How is the onset of renal colic pain?
    a. Acute
    b. Insidious
    c. The onset can appear after vibrations
    d. The onset can appear after the administration of diuretics
    e. The onset is associated with low water intake
54. Which of the following drugs are used for the management of renal colic?
    a. Antispasmodics
    b. Nonsteroidal anti-inflammatory drugs
    c. Diuretics
    d. Antibiotics
    e. Analgesics
55. Which of the following drugs are NOT used for the management of renal colic?
    a. Antispasmodics
    b. Nonsteroidal anti-inflammatory drugs
    c. Antipyretics
    d. Antibiotics
    e. Analgesics
56. Which of the following describe bladder pain?
    a. Has a suprapubic localization
    b. Radiates to the urethra and perineum
    c. Does not radiate at all
    d. Has a burning quality
    e. Never ceases after urinary catheterization
57. Which of the following diseases cause more frequently bladder pain?

a. Acute and chronic cystitis
b. Prostate diseases
c. Tumors of the bladder
d. Acute retention of urine
e. Urethral stones

58. Which are the features of pelvic-perineal pain?
a. Has a tension-like or sharp quality
b. Has a burning quality
c. Radiates to external genital organs
d. Does not radiate to external genital organs
e. It is associated with urinary disorders

59. Pollakiuria can be:
a. With a clear urine
b. With a cloudy urine
c. Diurnal
d. Nocturnal
e. It cannot be associated with polyuria

60. Which are the conditions that can cause pollakiuria?
a. Inflammatory diseases of the bladder
b. Tumors of the bladder
c. Bladder neck obstruction
d. Benign prostatic hyperplasia
e. End-stage renal disease

61. Choose they types of hematuria?
a. Initial
b. Complete
c. Terminal
d. Chronic
e. Only at the onset of urination

62. What are the disorders that can lead to dysuria?
a. Prostate diseases
b. Urinary bladder diseases
c. Women's genital diseases
d. Urethral diseases
e. Nephroptosis

63. Which of the following diseases can lead to painful urination?
a. Cystitis
b. Urethritis
c. Pericystitis
d. Disorders of the bladder neck
e. Central nervous system disorders

64. Which of the following are true regarding urinary retention?
a. The inability to completely empty the bladder
b. Can be complete or incomplete

c. Can be acute or chronic
d. Can be associated with bladder distension
e. Can be initial or terminal

65. Which of the following can cause of urinary retention?
a. Obstructive causes
b. Neurogenic bladder
c. Reflux disorders or disorders of the micturition
d. Can be associated with bladder distension
e. Is never associated with prostate disorders

66. Urinary incontinence in adults can be:
a. True incontinence
b. Accidental incontinence
c. Involuntary incontinence
d. Physiological incontinence
e. Caused by neurological disorders

67. Which of the following features are correct regarding rare urination?
a. Number of urination 1-2 / 24 h
b. Can be associated with oliguria
c. Can be associated with congenital or acquired megabladder
d. Frequently is associated with acute kidney injury
e. Frequently is associated with an increased intake of water

68. Which of the following describe polyuria?
a. Can be physiological or pathological
b. Transitory or permanent
c. Can be caused by renal or extra renal causes
d. Can be acute or chronic
e. Can be complete or incomplete

69. Which are the causes of transitory polyuria?
a. Physiological polyuria
b. Pathological polyuria
c. After a few types of drugs administration
d. After cold exposure
e. Renal amyloidosis

70. Which of the following <u>DOES NOT</u> describe polyuria?
a. The increase of the number of urinations in 24 h
b. Diuresis >2.5 ml/24 h
c. Involuntary urine leakage
d. Urination urge
e. Difficulty in urination

71. Which of the following describe oliguria?
a. Diuresis <500 ml /24 h
b. Diuresis >500 ml / 24 h
c. Can be physiological and pathological
d. Can be followed by diuretics administration

e. Can be followed by cold exposure due to peripheral vasodilation

72. Select the types of anuria?
    a. Parasitic
    b. Non-parasitic
    c. Prerenal
    d. Renal
    e. Postrenal
73. Which can be the etiology of chyluria?
    a. Parasitic
    b. Non-parasitic
    c. Infectious
    d. Idiopathic
    e. Autoimmune
74. What types of proteinuria exists?
    a. Selective
    b. Unselective
    c. Tubular
    d. Initial
    e. Terminal
75. According to the protein source, proteinuria can be:
    a. Prerenal
    b. Renal
    c. Postrenal
    d. Initial
    e. Terminal
76. Which of the following are the correct regarding the classification of proteinuria?
    a. Selective
    b. Unselective
    c. Nephrotic
    d. Non-nephrotic
    e. Initial
77. Which of the following are correct regarding transitory proteinuria?
    a. Can be caused by fever
    b. Can be caused by exposure to extreme temperatures
    c. Will cease after the elimination of the cause
    d. Will not cease after the elimination of the cause
    e. Proteinuria usually does not exceed 1g /24 h
78. Which of the following situation can be manifested with proteinuria?
    a. In nephrotic syndrome
    b. In glomerulonephritis
    c. After an intense physical activity
    d. During fever
    e. After an ultrasound examination
79. According to the classification hematuria can be:

a. Microscopic
b. Macroscopic
c. Initial or terminal
d. Total
e. Only macroscopic

80. Which types of macrohematuria can be?
a. Initial
b. Terminal
c. Total
d. With green urine
e. With transparent urine

81. In which of the following situations can cause hematuria?
a. Hematological diseases
b. Systemic vasculitis
c. Connective tissue diseases
d. After drugs administration
e. Low blood pressure

82. Which of the following can cause hematuria?
a. Glomerulonephritis
b. Renal tumors
c. Polycystic kidney disease
d. Congenital diseases
e. Old age

83. Which diseases can cause pyuria?
a. Purulent renal diseases
b. Urinary bladder diseases
c. Prostate and urethral diseases
d. High blood pressure
e. Renal tuberculosis

84. Which are the features of the renal edema?
a. Soft
b. Pitting
c. Non-pitting
d. Larger in the morning
e. Larger in the evening

85. Select the isolated urinary anomalies:
a. Proteinuria
b. Anuria
c. Hematuria
d. Polyuria
e. Leukocyturia

86. Which are the typical characteristics of acute nephritic syndrome?
a. Macroscopic hematuria
b. Edema

c. Nephritic proteinuria
d. Oliguria
e. High blood pressure

87. Which of the following sentences are correct regarding acute nephritic syndrome?
    a. The renal blood flow is decreased due to the obstruction of the Bowman space
    b. Glomerular filtration rate is compromised due to intrarenal vasoconstriction
    c. There is a presence of nephrotic proteinuria >3.5 g/ 24 h
    d. Hematuria is usually macroscopic
    e. At a microscopic examination of the urine can be found red blood cell casts and deformed erythrocytes
88. In severe form, acute nephritic syndrome can be associated with:
    a. Acute inflammation of the majority of glomeruli
    b. Histologically – focal proliferative glomerulonephritis
    c. Impairment of 50% of glomeruli
    d. Histologically – diffuse proliferative glomerulonephritis
    e. Cellular proliferation found only in the mesangium
89. Select the urinary manifestations of pure nephrotic syndrome:
    a. Proteinuria >3.5 g /24 h
    b. Lipiduria
    c. Hematuria
    d. Granular casts
    e. Urinary osmolarity <350 mOsm/L
90. Select the main findings in pure nephrotic syndrome:
    a. Proteinuria >3.5 g /24 h
    b. High blood pressure
    c. Hypoalbuminemia
    d. Hyperlipidemia
    e. Hypercoagulability
91. Which diseases cause more frequently nephrotic syndrome in adults?
    a. Minimal change disease
    b. Berger nephritis (IgA nephropathy)
    c. Focal and segmental glomerulosclerosis
    d. Membranous glomerulopahty
    e. Membranoproliferative glomerulonephritis
92. Which of the following is correct regarding the treatment of proteinuria in nephrotic syndrome?
    a. Immunosuppressive treatment
    b. Reduced protein intake
    c. Angiotensin-converting enzyme inhibitors
    d. Low lipid intake
    e. Loop diuretics
93. In which cases are indicated anticoagulants in nephritic syndrome?
    a. Generalized edema with anasarca

b. Signs of deep venous thrombosis
c. Sings of arterial thrombosis
d. Pulmonary thromboembolism
e. Signs of chronic kidney failure

94. Which are the manifestations and complications of nephritic syndrome?
a. Hemorrhagic diathesis
b. Hyperlipidemia
c. Antithrombin III deficiency
d. Hypercalcemia
e. Pulmonary embolism

95. Which can cause proteinuria in nephrotic syndrome?
a. Decreased protein tubular reabsorption
b. Alteration of the negative charge of the glomerular basal membrane
c. Excessive concentration of light chains antibodies in the plasma
d. Structural modifications of the glomerular basal membrane
e. Podocytes alteration

96. Nephrotic syndrome in adults is frequently caused by which diseases?
a. Diabetic nephropathy
b. Focal and segmental glomerulosclerosis
c. Benign nephroangiosclerosis
d. Chronic pyelonephritis
e. Membranous glomerulonephritis

97. Edema in nephrotic syndrome are caused by:
a. Decreased oncotic pressure
b. Activation of the renin-angiotensin-aldosterone system
c. Increased secretion of vasopressin
d. Thrombosis of renal vein
e. Sometimes due to primary water and salt retention

98. Which of the following are correct regarding biopsy in nephrotic syndrome?
a. Must be avoided in cases of severe coagulopathies
b. It is the gold standard in adults with nephrotic syndrome
c. It is obligatory at all children with nephrotic syndrome
d. It is not obligatory at all children with nephrotic syndrome
e. It is not necessary in adults with nephrotic syndrome

99. Choose the correct methods regarding the treatment of edema nephrotic syndrome:
a. Moderate restriction of sodium
b. Administration of large doses of diuretics
c. Always must be administered albumin for the increase of oncotic pressure
d. Must be avoided to removal of more than 1 L of liquid per day
e. Administration exclusively of antialdosterone drugs

100. Select the sentences that are characteristic to the typical acute nephritic syndrome
a. Acute onset
b. Macroscopic hematuria

c. Edema
d. Low blood pressure
e. Microscopic hematuria

Glomerular diseases

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1. Acute glomerulonephritis is a kidney disease, which affects:
    a. The renal interstitium
    b. The renal tubules
    c. The glomerulus
    d. The entire reno-urinary system
    e. The efferent arterioles

2. Acute glomerulonephritis is a disease, which injures the kidneys through the following mechanism:
    a. Immune complexes
    b. Autoimmune
    c. Bacterial
    d. Viral
    e. Direct toxicity

3. The main etiological agent that causes acute glomerulonephritis is:
    a. *Escherichia coli*
    b. *Pneumococcus*
    c. *Staphylococcus aureus*
    d. *Group A β-hemolytic streptococcus*
    e. *Klebsiella*

4. After a streptococcal infection, after how many time the acute glomerulonephritis does develop?
    a. 2-3 days
    b. 4-6 days
    c. 1-2 weeks
    d. 1 month
    e. 1.5-2 months

5. The main cause of edema in acute glomerulonephritis is:
    a. The increased vasopressin secretion
    b. The increased activity of the renin-angiotensin system
    c. The increased activity of the kinin-kallikrein system
    d. The decreased oncotic pressure of the plasma
    e. Primary retention of sodium, as a result of inflammatory changes in glomeruli

6. The main cause of arterial hypertension in acute glomerulonephritis is:

a. The hypertonus of the sympathetic nervous system
b. The acute retention of sodium and water, which leads to an increased circulating blood volume and stroke volume
c. Hyperaldosteronism
d. Hypercorticism
e. The decreased activity of the depressing mechanism

7. The lower back pain in the acute glomerulonephritis is caused by:
    a. Bacterial inflammation
    b. Proteinuria
    c. Hypersthenuria
    d. Renal tumefaction, as a result of immune inflammation
    e. Hematuria

8. The main pathogenetic chain of the rapidly progressive glomerulonephritis is:
    a. The antigen is represented by the streptococcal structures
    b. The antigen is presented on the glomerular basement membrane
    c. The activation of the complement system
    d. The activation of inflammatory mediators
    e. The injury of the glomerular basement membrane by the lysosomal enzymes

9. The main morphological manifestation of the rapidly progressive glomerulonephritis is:
    a. The proliferation of the mesangium
    b. The deposition of the antigen-antibody complexes
    c. Endocapillary proliferation
    d. Extracapillary proliferation (crescent formation) in the glomerular capsule
    e. Interstitial edema, fibrosis

10. The main morphological manifestation of the mesangial proliferative glomerulonephritis is:
    a. Endocapillary proliferation
    b. Extracapillary proliferation
    c. Thickening of the basement membrane
    d. Mesangial proliferation
    e. Glomerular neovascularization

11. The main sign of IgA nephropathy is:
    a. Proteinuria
    b. Urinary casts
    c. Recurrent macrohematuria
    d. Chyluria
    e. Hyposthenuria

12. Which drug group helps to decrease the intraglomerular hypertension in chronic glomerulonephritis?
    a. α-adrenoblockers
    b. β-adrenoblockers
    c. Inhibitors of angiotensin-converting-enzyme
    d. Calcium channel blockers
    e. Antiplatelet drugs

13. Which drug group is the basic treatment of the edema in acute glomerulonephritis?
    a. Aldosterone antagonists
    b. Antiplatelet drugs
    c. Diuretics
    d. Carbonic anhydrase inhibitors
    e. Anticoagulants

14. The clinical manifestation of the lipoid nephrosis (minimal change disease) is:
    a. Hypertensive syndrome
    b. Recurrent hematuria
    c. Nephrotic syndrome
    d. Nephritic syndrome
    e. Leukocyturia

15. The main change in the immunogram, in the hematuria caused by the Berger's disease, is:
    a. Hypocomplementemia
    b. Elevated IgG titer
    c. Elevated IgM titer
    d. Elevated IgA titer
    e. Elevated IgD titer

16. Which urinary changes are characteristic for acute glomerulonephritis?
    a. Isosthenuria
    b. Hematuria
    c. Leukocyte casts
    d. Neutrophilic leukocyturia
    e. Chyluria

17. There are NO changes on light microscopy in which morphological type of chronic glomerulonephritis?
    a. Mesangial proliferative
    b. Masangiocapillary
    c. Membranous
    d. Minimal change disease
    e. Focal segmental glomerulosclerosis

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18. Which of the following drug groups has a nephroprotective (antiproteinuric) effect?
    a. Angiotensin receptor blockers
    b. Loop diuretics
    c. Antiaggregant medication
    d. Antibiotics
    e. Keto-analogues

19. Which of the following nephropathies is a proliferative one?
    a. Minimal change disease
    b. Focal segmental hyalinosis
    c. IgA nephropathy
    d. Extramembranous glomerulonephritis
    e. Focal segmental glomerulosclerosis

20. The etiological treatment of the acute glomerulonephritis includes:
    a. Prednisolone
    b. Antibiotics
    c. Cytostatic drugs
    d. Diuretics
    e. Antihypertensive drugs

21. The pathogenetic treatment of acute glomerulonephritis:
    a. Is indicated in all the cases
    b. Is not indicated
    c. Is indicated, depending of the onset of the disease
    d. Is indicated, depending of the degree of proteinuria
    e. Is indicated, if the creatinine level is increased

22. Which one of the following drug groups has a nephroprotective (antiproteinuric) effect?
    a. Angiotensin receptor blockers
    b. Loop diuretics
    c. Antiplatelet drugs
    d. Antibiotics
    e. Keto-analogues

23. The chronic glomerulonephritis has the following etiology:
    a. Poststreptococcal
    b. Only allergic
    c. Only inflammatory
    d. Polyetiological
    e. Neoplastic

24. What dietetically approaches are indicated in the glomerulonephritis, accompanied by the arterial hypertension and edemas?
    a. Limited salt intake to 1.5 g/day
    b. Increased salt intake
    c. Increased fluid intake
    d. Increased high calorie foods intake
    e. Limited carbohydrate foods intake

25. How long does the treatment of the chronic glomerulonephritis last?
    a. Several weeks
    b. 2-3 months
    c. 6 months
    d. From 6 months to 2 years
    e. Lifelong

26. Name the morphological type of glomerulonephritis, where the prednisolone treatment has a minimal influence?
    a. Minimal change disease
    b. Mesangial proliferative
    c. Fibroplastic
    d. Mesangial membranous
    e. Membranous

27. What is the correct prednisone starting dose per kg in the treatment of chronic glomerulonephritis
    a. 0,3 – 0,4 mg
    b. 0,5 – 0,6 mg
    c. 0,7 – 0,8 mg
    d. 1 mg
    e. 2 mg

28. Most often, in young women, the glomerulonephritis can be a manifestation of:
    a. Dermatomyositis
    b. Systemic lupus erytheematosus
    c. Systemic Sclerosis (Scleroderma)
    d. Polyarteritis nodosa
    e. Polymyalgia rheumatic

29. Indications for the initiation of corticosteroid therapy in chronic glomerulonephritis are:
    a. Nephrotic syndrome
    b. Urinary syndrome
    c. Arterial hypertension

d. Renal failure
e. As a preventive treatment

30. For the acute glomerulonephritis, the following affirmation is true:
    a. In the beginning, most patients have hypotension
    b. The indomethacin administration is compulsory
    c. The most frequent form of the disease is the nephrotic form
    d. It is always associated with lumbar pain
    e. It may be manifested with a nephrotic syndrome

31. After the administration of ACE inhibitors for the treatment of chronic glomerulonephritis, we're expecting a positive effect on the:
    a. Hematuria
    b. Proteinuria
    c. Nephrotic syndrome
    d. Arterial hypertension
    e. Peripheral edemas

32. A pregnant woman has the acute glomerulonephritis. The therapeutic approach:
    a. The initiation of the corticosteroid therapy
    b. The termination of the pregnancy as soon as possible
    c. The initiation of the antibiotic therapy
    d. Symptomatic treatment
    e. The acute glomerulonephritis in pregnancy doesn't require any therapeutic approach

33. An 18-years old person, two weeks after an acute tonsillitis, develops edema, macrohematuria and arterial hypertension. The most likely diagnosis is:
    a. Acute glomerulonephritis
    b. Acute pyelonephritis
    c. Flare of chronic glomerulonephritis
    d. Apostematous nephritis
    e. Renal amyloidosis

34. Proteinuria, arterial hypertension, associated with hematuria and edemas, are characteristic for:
    a. Acute glomerulonephritis
    b. Pyelonephritis
    c. Nephrolithiasis
    d. Cystitis
    e. Renal amyloidosis

35. The renal failure in the chronic glomerulonephritis develops:
    a. After 3-5 weeks after the onset of the disease

b. After 1 year after the onset of the disease
c. After 3 years after the onset of the disease
d. From the first days of the disease
e. The onset of renal failure depends of the degree of arterial hypertension

36. The long-term persistence of the urinary syndrome in the acute glomerulonephritis is characteristic, first of all, for:
    a. The tendency of transformation of the acute glomerulonephritis in the chronic one
    b. The preservation of the renal function
    c. The development of the nephrotic syndrome
    d. The development of the chronic renal failure
    e. It is a normal situation

37. Which age group is the most predisposed to develop the acute glomerulonephritis?
    a. Under 2 years
    b. From 2 to 40 years
    c. During climacteric period
    d. Menopausal women
    e. During puberty

38. The group of acute primary glomerulonephritis includes:
    a. Poststreptococcal glomerulonephritis
    b. The glomerulonephritis in polyarteritis nodosa
    c. The glomerulonephritis in SLE
    d. The glomerulonephritis in cytomegalovirus infection
    e. The glomerulonephritis with mesangial deposits of IgA

39. The first-choice antibiotic in the treatment of poststreptococcal glomerulonephritis is:
    a. Erythromycin
    b. Cefazolin
    c. Imipenem
    d. Penicillin
    e. Gentamicin

40. Which group of diuretics is the first choice in the symptomatic treatment of the edemas in the acute glomerulonephritis?
    a. Potassium-sparing diuretics
    b. Thiazide diuretics
    c. Loop diuretics
    d. The choice of diuretic doesn't have any impact on the efficiency of the treatment
    e. Osmotic diuretics

41. The plasmapheresis in the pathogenetic treatment of the subacute glomerulonephritis is efficient:
    a. Only in the pauci-immune type
    b. Only in the anti-glomerular basement membrane antibodies type
    c. Only in the immune-complexes type
    d. In all the types of subacute glomerulonephritis
    e. Only in the treatment of subacute glomerulonephritis in pregnant women

42. The most characteristic morphological picture in the acute glomerulonephritis is:
    a. Mesangial proliferative glomerulonephritis
    b. Interstitial edema
    c. Fibrocellular modifications
    d. Focal proliferation of endothelial cells
    e. Proliferative endocapillary glomerulonephritis

43. Berger's disease is:
    a. A type of hereditary amyloidosis
    b. A sort of drug-induced renal injury
    c. A renal injury in systemic vasculitis
    d. A glomerulonephritis with the deposition of IgA complexes in glomeruli
    e. A hereditary metabolic disorder with renal impairment

44. Which one of the following is characteristic for the acute phase of the acute glomerulonephritis?
    a. Tachycardia
    b. Bradycardia
    c. Extrasystole
    d. Atrioventricular block
    e. Atrial fibrillation

45. The ASO titer in the acute glomerulonephritis is the highest:
    a. In the first 3 weeks of the disease
    b. In the first 6 months of the disease
    c. In the first year of the disease
    d. In the first two years of the disease
    e. In the first 3 years of the disease

46. Which glomerular diseases can be included in „glomerulopathies”?
    a. Only glomerular diseases that somehow affect the glomeruli
    b. Only glomerular diseases where proliferative cellular lesions can't be found at the biopsy

c. Only glomerular diseases where proliferative cellular lesions can be found at the biopsy
d. Glomerular impairment due to an infectious cause
e. Glomerular impairment due to an autoimmune cause

47. Which glomerular diseases can be included in „glomerulonephritis”?
    a. Only the diseases that somehow affect the glomeruli
    b. Only the diseases where proliferative cellular lesions can't be found at the biopsy
    c. Only the diseases where proliferative cellular lesions can be found at the biopsy
    d. Glomerular impairment of infectious cause
    e. Glomerular impairment of autoimmune cause

48. Epithelial proliferation (half-moon shape) found at the renal biopsy is a pathognomonic sign:
    a. Acute poststreptococcal glomerulonephritis
    b. Rapidly progressive glomerulonephritis
    c. Mesangial proliferative glomerulonephritis
    d. Focal segmental glomerulosclerosis
    e. Minimal change disease

49. Which one of the following drug groups has a nephroprotective (antiproteinuric) effect?
    a. Angiotensin receptor blockers
    b. Loop diuretics
    c. Antiplatelet drugs
    d. Antibiotics
    e. Keto-analogues

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50. Which of the following can suggest the transformation of the acute nephritis in the chronic nephritis?
    a. The persistence of the urinary syndrome
    b. The decrease of the renal function
    c. The appearance of the nephrotic syndrome
    d. Macrohematuria
    e. Hypertension from the first days of the disease
51. Which of the following can be a complication of the acute glomerulonephritis?
    a. Interstitial pulmonary edema
    b. Alveolar pulmonary edema
    c. Eclampsia
    d. Acute kidney failure

e. Renal amyloidosis

52. Which of the following changes of the urine are characteristic for acute glomerulonephritis?
    a. Hypersthenuria
    b. Hematuria
    c. Subnephrotic range proteinuria
    d. Cylinders in the urinary sediment
    e. Bacteriuria
53. The treatment principles of the acute glomerulonephritis consist of:
    a. Bed rest, restriction of salt and fluids intake
    b. The treatment of the etiological factor (streptococcal infection)
    c. The symptomatic treatment of edemas and arterial hypertension
    d. In all the cases – pathogenetic treatment with prednisone
    e. Anti-relapse treatment with nephroprotective drugs

54. The most frequent clinical manifestations of the rapidly progressive glomerulonephritis are:
    a. Fulminant onset with refractory edemas, oliguria
    b. Malignant arterial hypertension
    c. In the beginning, possible acute kidney failure, with the transition to chronic renal failure
    d. Hypertension, usually, isn't characteristic
    e. Sudden onset with oliguria or hematuria, but a good healing prognosis

55. The pathogenetic chains, which lead to glomerular proteinuria, are:
    a. The decrease of the negative charge of glomerular basement membrane
    b. The alteration of the glomerular basement membrane by the lysosomal enzymes
    c. The glomerular hypertension
    d. The decreased oncotic pressure of the plasma
    e. The hypoperfusion of renal glomeruli

56. The anticoagulants in the treatment of glomerulonephritis have a positive effect, by:
    a. Inhibiting intraglomerular hypertension
    b. Restoring the negative charge of the glomerular basement membrane
    c. Their diuretic, natriuretic effect
    d. Restoring the platelet count, because the thrombocytosis has a toxic effect on the glomeruli
    e. Decreasing hypercomplementemia, preventing the immune impairment of the glomeruli
57. In the hematuria caused by the Berger's disease, the following changes can be found in the immunogram:

a. Hypocomplementemia
b. Elevated titer of IgG
c. Elevated titer of IgM
d. Elevated titer of IgA
e. Elevated titer of IgE

58. The particularities of the minimal change disease:
    a. Nephrotic syndrome
    b. The absence of some modifications at optical microscopy
    c. Good effect after the corticosteroid therapy
    d. The children are affected more often
    e. Unfavorable evolution of the disease

59. The non-proliferative forms of glomerulonephritis are:
    a. Membranous nephropathy
    b. Minimal change disease
    c. Focal segmental glomerulosclerosis
    d. IgA nephropathy
    e. Membranoproliferative glomerulonephritis

60. The classic triad of the symptoms of the acute glomerulonephritis is:
    a. Edema
    b. Dyspnea
    c. Arterial hypertension
    d. Hematuria
    e. Palpitations

61. Which immunological changes can be found in the poststreptococcal glomerulonephritis?
    a. Elevated titer of the antibodies against the streptococcal antigens
    b. Elevated titer of the renal autoantibodies
    c. The presence of the antinuclear antibodies
    d. Hypocomplementemia
    e. Hypercomplementemia

62. Which of the following can be a complication of the acute glomerulonephritis?
    a. Oliguria in the acute phase of the disease, with the development of the acute renal failure
    b. Massive renal hemorrhage
    c. Eclampsia
    d. Thromboembolic syndrome
    e. Left-sided heart failure

63. What is the purpose of anticoagulants and antiaggregants in the treatment of chronic glomerulonephritis?
    a. Prevention of coronary thrombosis
    b. Prevention of thromboembolic syndrome
    c. Acting on the local processes of intravascular intraglomerular coagulation A
    d. Prevention of renal artery thrombosis
    e. The increase of the ischemiated glomeruli perfusion

64. Which type of the chronic glomerulonephritis manifests with nephrotic syndrome?
    a. Mesangial proliferative
    b. Mesangiocapillary
    c. Membranous
    d. Minimal change disease
    e. Fibroplastic

65. Which are the criteria for differentiation of chronic and acute glomerulonephritis?
    a. The presence of the disuric symptoms
    b. Significant left ventricular hypertrophy
    c. The decrease of the renal dimensions
    d. Significant leukocyturia
    e. The decrease of the blood pressure

    BC

66. Which are the characteristics of the chronic glomerulonephritis that allow its differentiation from the chronic pyelonephritis?
    a. Fever with chills
    b. Asymmetry of renal impairment
    c. Symmetry of renal impairment
    d. Significant proteinuria, associated with hematuria and urinary cylinders
    e. Significant leukocyturia, bacteriuria

67. Which are the indications of the corticosteroid therapy in the chronic glomerulonephritis?
    a. High disease activity
    b. Nephrotic syndrome without hypertension and hematuria
    c. Isolated proteinuria
    d. Isolated hematuria
    e. Hypertension

68. Which are the indications of the cytostatic therapy in the chronic glomerulonephritis?
    a. Steroid-resistant nephrotic syndrome
    b. Active forms of the nephritis
    c. Significant hematuria

d. Isolated proteinuria
e. End-stage renal disease

69. The rapidly progressive glomerulonephritis is characterized by:
    a. Rapidly progressive renal failure
    b. Slowly progressive renal failure
    c. Leukocyturia
    d. Microscopic hematuria
    e. Sometimes, macroscopic hematuria

70. Most frequently, the rapidly progressive glomerulonephritis is characterized by:
    a. Usually moderate glomerular proteinuria
    b. Usually massive glomerular proteinuria
    c. Massive microscopic hematuria
    d. Rapidly progressive renal failure
    e. Slowly progressive renal failure

71. Which of the following nephropathies is a proliferative one?
    a. The IgA nephropathy
    b. The nephropathy in systemic lupus erythematous
    c. The membranoproliferative glomerulonephritis
    d. The membranous glomerulonephritis
    e. The nephropathy in ANCA-associated vasculitis

72. Which are the indications of the cytostatic therapy in the chronic glomerulonephritis?
    a. Steroid-dependent nephrotic syndrome
    b. Active forms of the nephritis
    c. Significant hematuria
    d. Isolated proteinuria
    e. End-stage renal disease

73. Which markers should be supervised in the patients with chronic glomerulonephritis, who are treated with cytostatics?
    a. Serum creatinine
    b. Peripheral blood leukocytes
    c. Cholesterol
    d. ECG
    e. The state of the transparent ocular media

74. The corticosteroids, used in the treatment of the chronic glomerulonephritis, influence the next pathogenetic chains:
    a. They inhibit the antibody synthesis
    b. They inhibit the inflammatory processes

c. They block the activation of the complement system
d. They decrease the permeability of the glomerular basement membrane
e. They decrease the hypercoagulation

75. Which drugs are used in the treatment of the chronic glomerulonephritis?
a. Glucocorticoids
b. Heparin
c. Antiaggregants
d. Penicillin
e. Cytostatics

76. Which of the following can be a manifestation of the chronic glomerulonephritis?
a. Acute nephritic syndrome
b. Nephrotic syndrome
c. Asymptomatic urinary changes
d. Chronic nephritic syndrome
e. Absence of any changes

77. Which of the following affirmations, concerning acute glomerulonephritis, are correct?
a. The hypertension isn't characteristic for the beginning of the disease
b. The encephalopathy is more frequent in children
c. The atypical evolution of the disease is more frequent in the elderly
d. In the elderly, the clinical picture can be dominated by the symptoms of the congestive heart failure
e. The nephrotic syndrome is frequently found

78. Which of the following factors have an unfavorable prognosis in the evolution of the rapidly progressive glomerulonephritis?
a. „Crescent formation" found in more than 60% of glomeruli
b. Significant proteinuria
c. Significant interstitial fibrosis and the atrophy of the renal tubules
d. Glomerulosclerosis and fibrous "half-moons"
e. Polyuria

79. Which of the following affirmations, concerning the IgA nephritis, are correct?
a. The greatest part of the patients develop the nephrotic syndrome
b. The most frequent clinical manifestation is the asymptomatic hematuria
c. Men and children are affected more frequently
d. There is a strong correlation with the respiratory tract infections
e. The IgA deposition in the glomerular mesangium is pathognomonic for the disease

80. Which manifestations aren't characteristic for the acute glomerulonephritis?

a. Persistent low back pain
b. Fever with chills
c. Macrohematuria
d. Drug allergy
e. Cyclic recurrences

81. The glomerulonephritis can be a complication of:
a. Systemic lupus erythematous
b. Hemorrhagic vasculitis
c. Infective endocarditis
d. Multiple myeloma
e. Streptococcal tonsillitis

82. Which symptoms are characteristic for glomerulonephritis?
a. Arterial hypertension
b. Low back pain
c. Urinary changes
d. Edema
e. Dysuria

83. In the pathogenetic treatment of the chronic glomerulonephritis are used:
a. Glucocorticoids
b. NSAID
c. Cytostatics
d. Anticoagulants
e. Antibiotics

84. What are the indications for the pulse therapy with methylprednisolone?
a. High activity of the nephritis
b. Rapidly progressive nephritis
c. Transplant rejection
d. Severely elevated blood pressure in chronic glomerulonephritis
e. Anuria more than 48 hours

85. The sources of the inflammatory cytokines production in glomerulonephritis are:
a. The mesangial cells
b. The mononuclear leukocytes
c. The thrombocytes
d. The polynuclear leucocytes
e. The bone marrow cells

86. Which of the following factors exercise a direct toxic action on the renal tubules and the renal interstitium in glomerulonephritis?
a. Proteinuria

b. Erythrocyturia
c. Transferrinuria
d. Blood hypoperfusion of the renal tubules
e. Urinary tract infection

87. The hemodynamic disorders in the acute glomerulonephritis are caused by:
    a. Hypervolemia
    b. Salt and water retention
    c. Hyperreninemia
    d. Increased prostaglandin levels
    e. Vascular spasm

88. The main factors in the pathogenesis of the arterial hypertension in the chronic glomerulonephritis are:
    a. Salt and water retention
    b. Elevated circulating blood volume and stroke volume
    c. Renal arteries constriction
    d. Hypercatecholaminemia
    e. Elevated blood cortisol levels

89. In the treatment of the chronic glomerulonephritis:
    a. From all the steroid hormones, the methylprednisolone is the preferable one
    b. The cytostatics are used in all the cases
    c. The cytostatics often worsen the renal function
    d. The extracorporeal methods of detoxification play an adjuvant role
    e. The corticosteroids are used in all the cases

90. Which are the characteristics of the chronic glomerulonephritis that allow its differentiation from the essential arterial hypertension?
    a. The blood pressure elevation precede the onset of the urinary syndrome
    b. The urinary syndrome precede the onset of the blood pressure elevation
    c. The frequent development of the infectious complications
    d. Rare hypertensive crises
    e. Marked changes of the ocular fundus

91. From the evaluative point of view, the glomerulopathies are classified in:
    a. Primary
    b. Acute
    c. Rapidly progressive
    d. Idiopathic
    e. Chronic

92. Which of the following can cause a secondary acute glomerulopathy?
    a. Hepatitis B

b. Malaria
c. Toxoplasmosis
d. Mesangial deposition of the IgA antibodies
e. β-hemolytic streptococcus

93. Poststreptococcal acute glomerulonephritis:
    a. Develops more often in men
    b. Develops more often in women
    c. There isn't a gender prevalence
    d. Is the most frequent form of the postinfectious acute glomerulonephritis
    e. The infectious agent is *Streptococcus pneumoniae*

94. What are the indications for the renal biopsy in the poststreptococcal acute glomerulonephritis?
    a. Acute glomerulonephritis with oliguria or anuria
    b. The persistence of the arterial hypertension more than 4 weeks
    c. The first time found acute glomerulonephritis
    d. The persistence of the nephrotic syndrome more than 4 weeks
    e. All the cases of acute glomerulonephritis in children

95. Pathogenically speaking, there are the following types of rapidly progressive glomerulonephritis:
    a. Rapidly progressive glomerulonephritis with anti-mesangial antibodies
    b. Rapidly progressive glomerulonephritis with anti-glomerular basement membrane antibodies
    c. Rapidly progressive glomerulonephritis with immune complexes
    d. Rapidly progressive glomerulonephritis with anti-podocytar antibodies
    e. Pauci-immune rapidly progressive glomerulonephritis

96. Which immunological features are characteristic for the subacute glomerulonephritis?
    a. Hypocomplementemia
    b. Normal level of the serum complement
    c. Hypercomplementemia
    d. The presence of the anti-glomerular basement membrane antibodies
    e. The level of IgA, IgG remains, usually, normal

97. In the pathogenetcimmunosuppressive therapy of the chronic glomerulonephritis are used:
    a. Prednisone
    b. Cyclophosphamide
    c. Methyprednisolone
    d. Atorvastatin
    e. Azathoprine

98. The diet in the treatment of the chronic glomerulonephritis with the “impure” nephrotic syndrome should be:
    a. Hyponatremic
    b. Hypolipidic
    c. Hypoglycemic
    d. Hyperproteic
    e. Hypercaloric

    AB

99. The morphological classification of the primary glomerular nephropathies includes the following forms:
    a. Minimal change disease
    b. Focal segmental glomerulosclerosis
    c. Membranous nephropathy
    d. Tubulointerstitial nephritis
    e. Membranoproliferative glomerulonephritis

100. The clinical manifestations of the *facies nephritica* are:
    a. Facial swelling
    b. Acrocyanosis
    c. Hemorrhagic eruption on the face
    d. Skin paleness
    e. Jugular vein turgescence

101. Etiologically speaking, the glomerular diseases are classified in:
    a. Acute glomerular diseases
    b. Rapidly progressive glomerular diseases
    c. Secondary glomerular diseases
    d. Chronic glomerular diseases
    e. Idiopathic glomerular diseases

102. The ways of the evolution of the acute poststreptococcal glomerulonephritis are:
    a. Healing
    b. Chronicity
    c. Rapidly progressive evolution
    d. Development of septicemia
    e. Development of poststreptococcal endocarditis

103. Which of the following antihypertensive drugs has also an antiproteinuric effect, useful in the treatment of the chronic glomerulonephritis?
    a. Angiotensin-converting-enzyme inhibitors
    b. Loop diuretics

c. Centrally acting antihypertensives
d. Angiotensin receptor blockers
e. Beta-blockers