General pharmacology

Instructions: ***Choose from the proposed variants the correct answer.***

1. How does the bioavailability of the active drugs that are subject to the first liver passage change ?

A. increase;
B. decreases;
C. does not change;
D. increases the half-life;
E. reduces absorption.

2. Which statement under experimental conditions defines the therapeutic index?

A. expresses the report DL_{25} / DE_{25};
B. expresses the report DL_{50} / DE_{25};
C. expresses the report DL_{50} / DE_{50};
D. expresses the report DT_{50} / DE_{100};
E. expresses the report DT_{10} / DE_{100}.

3. What are the typical mechanism of action is due to the interaction with the receptors ?

A. deregulation of ion translocation ;
B. Modification of enzyme activity ;
C. Influence synthesis of nucleic acids ;
D. mimetic ;
E. modification of protein structure .

4. What is the parameter that influences the selectivity of the drugs action?

A. half-life;
B. the mode of administration;
C. binding to plasma proteins;
D. the apparent volume of distribution;
E. dose.

5. Which form of the drug better absorbed by simple diffusion?

A. Coupled with protein ;
B. Coupled with lipoproteins ;
C. Coupled with blood cells ;
D. Lipophilic single unionized coupled ;
E. ionized hydrophilic .

6. What phenomenon can be at repeated administration of drugs?

A. Enhancing synergism ;
B. Summary synergism ;
C. tolerance ;
D. bilateral antagonism ;
E. an competitive antagonism .

7. Which statement regarding the specific (selective) action of the drugs is correct?

A. the drug acts as a reflector ;
B. the drug avoids the first hepatic passage;
C. the drug acts mainly by interacting with a certain subtype of receptors;
D. when the drug selectively binds to certain plasma proteins;
E. when the drug causes specific side effects

8. Which drug listed above inhibits liver enzymes?

A. nicotine; D. benzylpenicillin ;
B. prednisone; E. phenobarbital.
C. cimetidine

9. Which drug cause enzyme induction?

A. allopurinol;
B. disulfiram;
C. phenobarbital ;
D. imipramine;
E. neostigmine

10. The object of pharmacovigilance is:

A. evaluation of pharmacokinetic parameters for new drugs;
B. setting the therapeutic index ;
C. monitoring the recording, evaluation, systematization of adverse reactions;
D. intensive therapeutic study in phase III of the clinical evaluation;
E. specifying drug interactions

11. For the pair of medications exist signed an antagonist competitive in the level of receptors ?

A. morphine, nalorphine; D. cimetidine-oral anticoagulants;
B. guanethidine-ephedrine; E. neostigmine-pilocarpine.
C. ascorbic acid-amphetamine;

12. Which of the following statements defines agonist type of action?
A. metabolic phenomena triggered by the activation of specific phosphatases, dependent on calcium-calmodulin or calcium-phospholipids;
B. drugs that attach to receptors and cause specific effects;
C. the interaction between the drug and the body's molecules;
D. drug interaction with plasma proteins;
E. the intensity of the effect, expressed by the maximum effect.

13. Which statement is correct for passive diffusion?
A. it is made with energy consumption;
B. occurs after the concentration gradient;
C. requires a transportation system;
D. occurs only for weak acids;
E. occurs only for ions

14. Which drug can inhibit microsomal enzymes?
A. carbamazepine;
B. digoxin;
C. rifampicin;
D. cimetidine;
E. theophylline.

15.Which of the following metabolization examples is not a biotransformation process?
A. phenacetin - oxidation - paracetamol;
B. acetylsalicylic acid - hydrolysis - salicylate;
C. norepinephrine - oxidation - normetanephrine;
D. phenylbutazone - oxidation - metabolite II;
E. 6-mercaptopurine - conjugation - 6-mercaptopurine ribonucleotide

16. Select the simplest and most effective membrane penetration path:
A. protein coupling;
B. pinocytosis;
C. active transport;
D. facilitated diffusion;
E. passive diffusion.
17. Which of the following statements regarding of medicines purifie is correct?
A. is mainly done by biotransformation and / or excretion;
B. medicines are stored in tissues;
C. most medicines are purified by binding to receptors;
D. primary pharmacokinetic parameter of purifie is bioavailability;
E. medicines are purified only in unchanged form.

18. Select the most effective mechanism of absorption of drug substances in the digestive tract?
A. pinocytosis;
B. filtering;
C. passive diffusion;
D. active transport;
E. facilitated diffusion.
19. The plasma half-life of a drug is defined in:
A. the drug was eliminated 50% by urine from the body;
B. only 50% of the individuals examined can demonstrate an effect of the drug;
C. plasma drug concentration decreased by 50%;
D. the effect of the drug decreased by half;
E. 50% of the drug is metabolized in the liver.
20. By what term is expressed the action of drugs that cause congenital malformations during pregnancy?
A. mutagenic action;
B. embryotoxic action;
C. carcinogenic action;
D. teratogenic action;
E. fetotoxic action
21. Which of the following substances does not serve as an intracellular secondary messenger?
A. diacylglycerol;
B. inozitoltriphosfate;
C. dextran;
D. cGMP;
E. cAMP.
22. Which phenomenon is occurring when two drugs are co-administered?
A idiosyncrasy;
B. accumulating;
C. drug addiction;
D. sensibization;
E. antagonism.
23. What is the main advantage of the sublingual route of drug administration?

A. it dissolves better in saliva with better interstin absorption;
B. avoids the first hepatic passage;
C. water-soluble drugs are better absorbed;
D. Ionized drugs are better absorbed;
E. gastric irritation is avoided.
24. The genetic polymorphism of whose enzymes cause a more lasting effect of depolarizing miorelaxants?
A. Glucose-6 phosphate dehydrogenase
B. N-acetyltransferases
C. butyrylcholinesterase
D. catalase
E. paraoxonazei
25.Genetic polymorphisms of whose enzymes cause hemolysis of red blood cells
A. Glucose-6 phosphate dehydrogenase
B. N-acetyltransferases
C. butyrylcholinesterase
D. catalase
E. paraoxonazei

CM

1. What are the parameters of clinical pharmacokinetics?
A. Half-life
B. The apparent volume of distribution
C. dose
D. The mechanism of action
E. bioavailability
2. What are the clinical meanings of the half-life?
A. It allows to evaluate the speed of elimination of the drug from the body
B. It allows the determination in which liquid spaces of the body penetrate the drug
C. Allows to determine the doses and the interval between doses
D. It allows the penetration of the cell to be appreciated
E. Allows diffusion appreciation in extracellular space
3. What are the clinical significance of plasma concentration?
A. It is useful in assessing therapeutic efficacy
B. It is useful in determining the degree of coupling with proteins
C. It is useful in assessing adverse reactions
D. It better correlates with the concentration of the drug at the site of action
E. It allows to determine the interval between doses
4. What are the clinical significance of the apparent volume of distribution?
A. evaluate the speed of elimination of the drug from the body
B. the determination in which liquid spaces of the body penetrate the drug
C. appreciated the penetration in the cell
D. determine the doses and the interval between doses
E. appreciation of diffusion in extracellular space

5. What are the characteristics for active transport as an absorption and transport mechanism?
A. It occurs after the concentration gradient
B. It takes place with energy consumption
C. It penetrates the water-soluble and macromelecular substances
D. It penetrates the fat-soluble and non-ionized substances
E. It takes place versus of the concentration gradient
6. What are the characteristics for the facilitated diffusion as an absorption and transport mechanism?
A. It occurs after the concentration gradient
B. It takes place with energy consumption
C. It takes place with transport systems
D. It penetrates the fat-soluble and non-ionized substances
E. It takes place versus of the concentration gradient
7. What are the characteristics of passive diffusion as an absorption and transport mechanism?
A. It occurs after the concentration gradient
B. It takes place with energy consumption
C. It penetrates the fat-soluble and non-ionized substances
D. It penetrates the water-soluble and macromelecular substances
E. It takes place versus of the concentration gradient
8. What are the characteristics for filtration as an absorption and transport mechanism?
A. It occurs after the concentration gradient
B. It takes place with energy consumption
C. It penetrates water-soluble substances with low molecular weight
D. It penetrates the fat-soluble and non-ionized substances
E. It takes place versus the concentration gradient
9. What are the characteristics of pinocytosis as a mechanism of absorption and transport?
A. It occurs after the concentration gradient
B. It takes place with energy consumption
C. It penetrates the water-soluble and macromelecular substances
D. It forms vesicles that detach from the membrane
E. It takes place versus of the concentration gradient
10. What are the clinical significance of the free drug fraction?
A. Does not penetrate through membranes
B. It is responsible for the pharmacological effect
C. It is subject to biotransformation
D. Determines high latency of action
E. It determines a high power and short duration of action
11. What are the clinical significance of the coupled fraction of drugs?
A. Capable of penetrating through membranes
B. Forms deposits in the body
C. It has low latency of action
D. It has a great power and long duration of action
E. It has a low power and long duration of action
12. Urinary excretion of drugs may be influenced by the following factors:
A. Distribution in water sectors
B. Protein coupling

C. Gastric acidity
D. Cytochrome P-450 activity
E. The elimination mechanism
13. What are the mechanisms of phase II of biotransformation?
A. Methylation
B. oxidation
C. Acetylation
D. glucuroconjugation
E. Glutationconjugation
14. By what mechanisms is performed renal elimination?
A. Passive and active tubular secretion
B. Glomerular filtration
C. pinocytosis
D. Facilitated diffusion
E. Active and passive tubular reabsorption
15. Saliva elimination of drugs can be used for the following purposes:
A. study of the mechanism of action
B. study of the pharmacokinetic profile
C. determining the concentration of drugs in the blood or the free fraction
D. determining the metabolic activity of the liver
E. blood circulation diagnostic test
16. What are the parameters of pharmacodynamic action?
A. Global pharmacological effect
B. potency
C. selectivity
D. Primary pharmacological action
E. intensity
17. What are the drug safety parameters?
A. Maximum therapeutic dose
B. Therapeutically manageable area
C. Maximum dose for one dose
D. Therapeutic index
E. Attack dose

18. What are the characteristics of idiosyncrasies?
A. Exaggerated manifestation of known effects
B. It is a variety of tolerance
C. It can be determined by genetic polymorphism
D. Handling of special effects
E. Caused by the presence of antibodies
19. What are the characteristics of withdrawal syndrome?
A. It develops upon suspension of an analogous preparation of the endogenous substrate
B. Some pharmacological agonist develops in suspension
C. Some pharmacological antagonist develops on suspension
D. It is characterized by an increase in the number of receptors and their sensitivity
E. It is characterized by a decrease in the number and activity of the receptors

20.What are the characteristics of functional insufficiency (lack syndrome)?
A. An analogous preparation of the endogenous substrate is developed upon suspension
B. Some pharmacological agonist develops in suspension
C. It is characterized by the disorder of the endogenous analogue secretion
D. It is characterized by an increase in the number of receptors and their sensitivity
E. It is characterized by a decrease in the number and activity of the receptors
21. What are the characteristics of the genetic polymorphism of butyrylcholinesterase?
A. Increases the effect of anti-depolarizing miorelaxants
B. Increases the effect of depolarizing miorelaxants
C. Increases acetylcholine hydrolysis
D. It reduces the hydrolysis of acetylcholine
E. Pharmacological effects disappear
22. What are the characteristics of the genetic polymorphism of catalase?
A. Increases the effect of hydrogen peroxide
B. Reduces the effect of hydrogen peroxide
C. Increases the effect of ascorbic acid
D. Decreases the formation of molecular oxygen
E. Decreases the formation of atomic oxygen
23. What are the characteristics of the genetic polymorphism of N-acetyltransferase?
A. Increases acetylation of drugs in slow acetylators
B. Increases acetylation of drugs at rapid acetylators
C. Increases the half-life of slow acetylators
D. Increases the half-life of rapid acetylators
E. Reduces the half-life of rapid acetylators
24. What are the characteristics of the genetic polymorphism of P-glycoprotein?
A. Increases pump function in the intestinal wall
B. Reduces pump function in the intestinal wall
C. It reduces the concentration of the drug in the blood
D. Increase the concentration of the drug in the blood
E. Reduces the effect of medicines

Cardiovascular tests 2019

I. Simple complementary questions

1. **Which adrenoblocker is used as a cerebral vasodilator?**
   A. phentolamine;
   B. nicergoline;
   C. tolazoline;
   D. propranolol;
   E. oxprenolol.
2. **Excitation of whose receptors produce the positive inotropic effect of dopamine?**
   A. α_1-adrenoreceptors;
   B. α_2- adrenoreceptors;
   C. β_1- adrenoreceptors;
   D. β_2-adrenoreceptors;
   E. N-colinoreceptori.
3. **Which adrenomimetic has the longest antihypotensive duration of action?**

A. epinephrine;
B. ephedrine;
C. norepinephrine;
D. phenylephrine;
E. dopamine.

4. Which adrenomimetic causes low blood pressure?

A. etilefrine;
B. phenylephrine;
C. clonidine;
D. Indanazoline;
E. ephedrine.

5. Which adrenomimetic is most effective in hypoglycemic coma?

A. etilefrine;
B. phenylephrine;
C. norepinephrine;
D. epinephrine;
E. salbutamol.

6. Which β- adrenoblocker may induce intrinsic sympathomimetic activity?

A. propranolol;
B. pindolol;
C. labetalol;
D. metoprolol;
E. sotalol.

7. After the end of the intravenous infusion, whose adrenomimetic will produce a phase of mild hypotension?

A. dopamine
B. nafazoline;
C. norepinephrine;
D. etilefrine;
E. epinephrine.

8. Which group of drugs reduces afterload?

A. dopaminomimetics;
B. cardiac glycosides;
C. calcium channel blockers;
D. Nitrates;
E. ACE inhibitors.

9. Which group of preparations have a predominantly venodilatatory effect?

A. Nitrates;
B. α -adrenolytics;
C. β -adrenomimetics;
D. neglicoside cardiotonic drugs;
E. ACE inhibitors.

10. Which group of drugs produce arterio- and venodilatation?

A. calcium channel blockers;
B. ACE inhibitors;

C. dopaminomimetics
D. vasodilators from the hydralazine group;
E. adenylatcyclase activators.

11. Which cardiac glycoside has the most cumulative effect?

A. strophanthin K;
B. ouabain;
C. digoxin;
D. digitoxin;
E. lanatoside C.

12. Which group of inotropic positive preparations inhibits phosphodiesterase?

A. bipiridines;
B. Nitrates;
C. β -adrenomimetics;
D. calcium channel blockers;
E. ACE inhibitors.

13. Which drug has cardiostimulant action?

A. prazosin;
B. diazoxide;
C. dopamine
D. hydralazine;
E. enalapril.

14. Which cardiac glycoside has a higher bioavailability?

A. strophantin K;
B. dopamine
C. dobutamine;
D. digoxin;
E. digitoxin.

15. Which cardiac glycoside has a longer latency period than the onset of the effect?

A. digitoxin;
B. digoxin;
C. lanatozid C;
D. strophanthin K;
E. corglicon.

16. Which cardiac glycoside have medium lipophility?

A. strophanthin K;
B. ouabain;
C. digitoxin;
D. digoxin;
E. corglicon.

17. Which cardiac glycoside very little is coupled with plasmatic proteins?

A. digoxin;
B. digitoxin;
C. strophanthin;
D. acetyldigitoxin;
E. lanatoside C.

18. Which cardiac glycoside has a longer duration of action after the interruption of treatment?

A. strophanthin K;
B. digitoxin;
C. digoxin;
D. lanatosid C;
E. ouabain.

19. Which cardiac glycoside is metabolizing in the liver ?

A. strophanthin K;
B. corglicon;
C. lanatosid C;
D. digoxin;
E. digitoxin.

20. Which cardiac glycoside has a longer half-life ($T_{1/2}$)?

A. strophanthin K;
B. digitoxin;
C. digoxin;
D. corglicon;
E. lanatoside C.

21. What is the preparation of first choice in ventricular fibrillation?

A. quinidine;
B. disopyramide;
C. verapamil;
D. propranolol;
E. lidocaine;

22. What is the antiarrhythmic drug of first choice in arrhythmias in acute myocardial infarction?

A. quinidine;
B. disopyramide;
C. lidocaine;
D. verapamil;
E. amiodarone**;**

23. Which of the drugs can be indicated in the atrio-ventricular block?

A. verapamil;
B. quinidine;
C. propranolol;
D. strophanthin K;
E. isoprenaline**;**

24. Wich group of antihypertensives is harmless for the elderly pacients?

A. β - adrenoblockers;
B. ganglioblockers;
C. sympatholytics;
D. α - central adrenomimetics;
E. ACE inhibitors.

25. Which group of drugs is contraindicated in patients with hypertension and chronic obstructive pulmonary disease?

A. Central alpha-2-adrenomimetics ;
B. Alpha-adrenoblocks ;
C. Beta-1-adrenoblockers ;
D. Beta-1-beta-2-adrenoblocks .
E. Angiotensin receptor blockers

26. Select the characteristic effect for α - central adrenomimetics:

A. tachycardia ;
B. bradycardia ;
C. constriction of arterioles;
D. veins constriction ;
E. arrhythmias.

27. Select the group of preparations of choice in high blood pressure associated with prostate adenoma: C

A. Central alpha-2-adrenomimetics ;
B. ACE inhibitors ;
C. Alpha-1 adrenoblockers -;
D. Alpha-1-alpha-2- adrenoblockers;
E. Beta-adrenoblockers .

28. The hypotensive action of clonidine is due to:

A. β - adrenoreceptor blockade ;
B. decrease in plasma renin content;
C. decreasing the volume of circulating blood;
D. stimulation of α - adrenoreceptors in the CNS;
E. blocking of peripheral alpha-adrenoreceptors.

29. What drug remedies in the β -adrenoblockers group have vasodilating effect by blocking the alpha-adrenoreceptor?

A. carvedilol;
B. propranolol;
C. atenolol;
D. metoprolol;
E. oxprenolol.

30. Which drug will be used for jugular access of angina pectoris in case of nitroglycerin insupportability?

A. propranolol
B. verapamil
C. captopril
D. bisoprolol
E. molsidomine

II. Multiple complement type questions

Instructions: ***Choose from the proposed variants two or more correct answers.***

1. Which systemic vasoconstrictors are pure α- adrenomimetics?

A. phenylephrine;
B. methoxamine;
C. isoxsuprine;
D. etilefrine;
E. epinephrine.

2. Excitation of adrenoreceptors from which vascular regions can increase blood pressure?

A. coronary heart disease;
B. mezenterial;
C. kidney
D. skin;
E. striated muscles.

3. Which drugs are α_1-adrenoblockers?

A. phentolamine;
B. propranolol;
C. prazosin;
D. metoprolol;
E. terazosin.

4. What are the effects of dopamine in low doses?

A. Inotrop negartiv;
B. Inotrop positive;
C. Spasm of coronary vessels;
D. Dilatation of renal vessels ;
E. Spasm of the renal vessels.

5. Which groups of drugs are effective in the spasm of the vessels of the lower limbs?

A. Non-selective beta-adrenoblockers ;
B. Non-selective alpha-adrenoblockers ;
C. Alpha-1-adrenoblockers ;
D. Alkaloids from Vinca minor ;
E. Xanthin derivatives .

6. What are the effects of dopamine in high doses?

A. Spasm of the mesenteric vessels;
B. Spasm of the skin and mucousa vessels;
C. Spasm of coronary vessels;
D. Dilation of the renal vassels;
E. Spasm of the renal vessels.

7. Which adrenomimetics decrease blood pressure?

A. moxonidine ;
B. guanethidine;
C. phenylephrine;
D. epinephrine;
E. clonidine.

8. By what mechanisms is the hypotensive effect of β- adrenoblocks achieved?

A. blockade of β_2-adrenoreceptors on the postsynaptic membrane;
B. blockade β_1-adrenoreceptors in the heart;
C. blockade β_2-adrenoreceptors vessels striated muscles;

D. blockade of β -adrenoreceptors in the CNS;
E. blockade of β_2-adrenoreceptors on the presynaptic membrane.

9. What are the pharmacokinetic features of the liposoluble β- adrenoblockers?

A. it is hard absorbed from the digestive tract;
B. is strongly coupled with plasma proteins;
C. submit to the first hepatic passage;
D. it is excreted through the urine in unchanged form;
E. they can form active metabolites.

10. Select side effects of alpha-beta-adrenomimetics:

A. Atrio-ventricular block ;
B. tachycardia and arrhythmias;
C. hi perglycemia ;
D. pulmonary edema ;
E. hypotension .

11. The sympathomimetics used as bronchodilators are divided by groups in:

A. α_1-AM;
B. α_2-AM;
C. α , β -AM;
D. β_2-AM;
E. β_1, β_2-AM.

12. In what situations will be the negative dromotropic effect of cardiac glycosides be useful?

A. heart failure with sinus rhythm;
B. atrio-ventricular block;
C. atrial fibrillation, tahisistolic form;
D. supraventricular paroxysmal tachycardia ;
E. chronic heart failure.

13. In what situations will be the inotropic positive effect of cardiac glycosides be unwanted?

A. heart failure with isolated mitral stenosis and sinus rhythm;
B. atrio-ventricular block;
C. chronic congestive heart failure;
D. atrial fibrillation;
E. heart failure with subaortal stenosis.

14. What pharmacokinetic properties are characteristic for digoxin?

A. bioavailability of 40-80%;
B. intense metabolism in the liver;
C. the action after suspension is maintained for 21 days;
D. half-life of 30-40 hours;
E. 20-40% protein coupling.

15. Select contraindications of cardiac glycosides:

A. chronic congestive heart failure stage III-IV NYHA;
B. acute myocarditis;
C. hypertrophic heart disease;
D. heart amyloidosis;

E. atrio-ventricular block.

16. What are the inotropic-positive drug groups?

A. dopaminomimetics;
B. calcium channel blockers;
C. bypyridines;
D. methylxanthines;
E. ACE inhibitors.

17. Which pharmacokinetic properties are characteristic for strophanthin?

A. high lipophility;
B. rapid effect on peroral administration;
C. reduced bioavailability in peroral administration;
D. short effect after suspendation;
E. duration of action i / v is 4-6 hours.

18. Which drugs are predominantly arteriodilatators?

A. minoxidil;
B. amrinone;
C. nitroglycerin;
D. nifedipine;
E. hydralazine.

19. In which situations will the negative dromotropic effect of cardiac glycosides have negative consequences on the body?

A. atrial fibrillation;
B. atrio-ventricular block;
C. WPW syndrome;
D. ventricular tachycardia;
E. supraventricular paroxysmal tachycardia.

21. What effects are characteristic of bipyridines ?

A. negative chronotropic effect;
B. positive inotropic effect;
C. increasing the pre-load;
D. post-loud growth;
E. vasodilator effect.

22. What are the particularities of the antiarrhythmic effect of verapamil?

A. inhibits phase 0 of the action potential ;
B. increases the duration of the action potential due to the elongation of phase 2 of the repolarization;
C. inhibits slow diastolic depolarization ;
D. decreases the duration of phase 3 of the action potential .
E. Myocardial contractility increases ;

23. What are the effects of verapamil on the heart ?

A. Inotrop positive ;
B. Inotrop negative ;
C. Dromotrop negative ;

D. Batmotrop negative ;
E. Batmotrop positive ;

24. What are the effects of phenylephrine is i ?

A. causes vasoconstriction;
B. causes tachycardia;
C. causes bradycardia;
D. increases blood pressure ;
E. decreases blood pressure ;

25. What is characteristic for nebivolol?

A. is β - cardioselective adrenoblocker ;
B. is β - non-selective adrenoblocker ;
C. it has vasodilating action ;
D. manifests vasoconstrictive action ;
E. increases the production of nitrogen monoxide ;

26. What therapeutic effects have verapamil?

A. antiarrhythmic ;
B. antihypotension
C. anti-angina agent ;
D. anxiolytic ;
E. antihypertensive ;

27. What is characteristic for pentoxifylline?

A. inhibits platelet aggregation;
B. stimulates platelet aggregation;
C. improves microcirculation ;
D. mainly improves brain circulation ;
E. is a peripheral and cerebral antiischemic drug.

28. Select the diuretics used to treat pulmonary edema with high blood pressure:

A. furosemide;
B. etacrinic acid;
C. manitol;
D. acetazolamide ;
E. hydrochlorothiazide .

29. List the groups of vasoconstrictive antihypotensive drugs .

A. central alpha-2-adrenomimetics
B. alpha-adrenomimetics
C. dopaminomimetics
D. isothioureric derivatives
E. alpha-beta-adrenomimetice

30. List the indications of isothiouretic derivatives:

A. hyperpensive crisis
B. hypotension caused by ganglioplegics, adrenoblockers;
C. hypotension during spinal anesthesia;
D. pheochromocytoma;
E. hypotension at adrenomimetics inefficiency.

Antischemic drugsCM

1. Along with nitrates in the antianginal drug group are included?
A. Beta-blocking drugs
B. Molsidomine.
C. Clonidine and derivatives
D. trimetazidine.
E. Calcium channel blockers
2. Choose the correct statements about how nitrates work.
A. Through NO stimulates guanylcyclase, increase the concentration of cGMP, which leads to muscle relaxation
B. Biotransformation to active metabolites is thiol dependent
C. They produce high blood pressure
D. It aggravates congestive heart failure
E. Reduce the burden of the heart by venodilation and the postsurgery by arteriodilation
3. Which of the following statements regarding amiodarone is correct:
A. as an antianginal is indicated in the background treatment of ischemic heart disease
B. the duration of the effect disappears rapidly after discontinuation of treatment
C. may be responsible for affecting thyroid function
D. In order to enhance the therapeutic effect, it is recommended to associate it with beta blockers or verapamil
E. The efficacy of amiodarone can be assessed after 2-4 weeks of treatment
4. The antianginal action of calcium blockers is produced by:
A. increased oxygen consumption by stimulating myocardial contractility
B. increased oxygen supply through increased coronary flow
C. decreased post-loud through arteriolodilatation
D. decreasing the frequency of cardiac contractions
E. increased post-loud through arterioloconstriction
5. Bioflavanoids have effects:
A. venotonic (venoconstrictor);
B. venoprotector;
C. angioprotector;
D. antioxidant;
E. antiplatelet
6. Synthetic angioprotectors are:
A. Piricarbat,
B. Calcium Dobesilate,
C. etamsylate
D. Heparin
E. Dipyridamole
7. Synthetic angioprotectors have like indications:
A. atherosclerosis of the cerebral, coronary, peripheral vessels;
B. states after stroke;
C. diabetic angiopathies;
D. obliterating endarteritis, trophic ulcers of the leg
E. thrombembolia of pulmonary artery
8. Select the groups of medicines for juggling migraine attacks:
A. Neopioid analgesics

B. Proton pump inhibitors
C. Alkaloids from ergot
D. Triptans
E. antiemetics
9. Select the drug groups for migraine access prophylaxis:
A. Loop diuretics
B. Opioid analgesics
C. Anti-epileptics
D. Beta-blockers
E. Triptans
10. Select the drug groups for migraine access prophylaxis.
A. Antidepressants
B. antiserotonincs
C. Isothiouric derivatives - ravimig
D. ACEI - lisinopril
E. H2-blockers
11. Adverse reactions of the isothiouric derivative (ravimig):
A. sensation of thoracic constriction;
B. faintness
C. pain or tingling sensations, heat;
D. increase blood pressure;
E. decrease blood pressure;
12. Alkaloids from Vinca minor are:
A. vincamine,
B. verapamil
C. vinpocetine,
D. venoruton
E. vincapan
13. Xanthine derivatives as cerebral vasodilators are:
A. pentoxifylline,
B. xanthinol nicotinate,
C.aminophylline
D. papaverine
E. nitroglycerin
14. The calcium channel blockers as brain vasodilators are:
A. nimodipine,
B. flunarizine,
C. piracetam
D. cinnarizine
E. vinpocetine
15. Drugs used for the prophylaxis and treatment of venous thrombosis:
A. anticoagulants
B. fibrinolytic drugs
C. antiplatelets drugs
D. preparations that improve rheology
E. antifibrilolytic drugs

16. In acute venous thrombosis, the following are used:
A. Direct Anticoagulants
B. fibrinolytic drugs
C. indirect anticoagulants
D. preparations that improve rheology
E. antifibrilolytic drugs

Antianginos CS

1. Choose the correct statement about diltiazem
A. It is a non-selective beta blocker
B. Preferred in medication associated with digoxin
C. It is effective in stable and in vasospastic angina
D. The value of TA does not decrease
E. It is given as a single daily dose
2. Choose the correct statement:
A. Nitrates cannot be injected
B. Transdermal pharmaceutical forms are not suitable for nitrate administration
C. In angina pectoris, sublingual preparations are preferred
D. For nitrate treatment only transdermal administration is given
E. Nitrates cannot be given concomitantly with other angina
3. As an antianginal medication, calcium channel blockers act by:
A. Increased oxygen consumption by the myocardium
B. Atherogenic effect by accumulation of calcium and lipids in the arterial wall
C. Increased heart rate
D. Increased oxygen supply by improving coronary circulation.
E. Blocking of beta -1 adrenergic receptors.
5. Which of the following side effects is not characteristic of organic nitrate therapy:
A. Headache
B. Orthostatic hypotension
C.Hyperglycemia
D. Tachycardia
E. methaemoglobinemia
6. In stable angina are indicated
A. Beta-blocking drugs
B. K + saving diuretics
C.ACE
D. Nitroglycerin administered i.v.
E. Antihypertensives of all classes

7. CM Antianginal drugs act through the following mechanisms:
A. decreased sympathetic tone;
B. NO aport;
C. decrease level of calcium concentration

D. increased parasympathetic tone;
E. decreased oxygen consumption of the myocardium.
8. CM The following statements are correct for nitroglycerin:
A. produces venodilation;
B. is volatile;
C. is antiangina drug;
D. produces arteriolodilatation;
E. does not have an adverse reaction, headache.
9. CM The following adverse effects that occur after nitrate administration are correct:
A. tachyphylaxis;
B. hyperexcitability;
C. faintness;
D. increase in intraocular pressure;
E. headache.
10. CM List the antianginal drugs:
A nitroglycerin;
B. metoprolol;
C. nifedipine;
D. cholestyramine;
E. diltiazem.
1. **CM Beta - non-selective adrenoblockers are contraindicated in:**
A. bronchial asthma;
B. atrium - ventricular block;
C. obliterative endarteritis;
D. angina pectoris;
E. Raynoud disease.
2. CM Select the groups of antihypertensive drugs:
A. alpha – adrenoblocking drugs;
B. alpha - adrenomimetics;
C. beta - adrenoblocker;
D. alpha-2-central adrenomimetics;
E. sympatholytics
3. CS Which of the following antihypertensives is an α1-adrenoblocker?
A. propranolol;
B. hydralazine
C. hydrochlorothiazide;
D. nifedipine;
E. prazosin.
4. CS The shortest duration of hypotensive action is characteristic for:
A. reserpine;
B. guanethidine;
C. trepiriu iodide;
D. tropafen;
E. propranolol.

5. The orthostatic hypotension produced by some antihypertensive drugs is mainly explained by:
A. depressing the heart;
B. dilation of arterioles;
C. increased diuresis;

D. vein dilation;
E. depression of the hypothalamus.

6. Which diuretic is contraindicated in heart failure?
A. furosemide;
B. hydrochlorothiazide;
C. acetazolamide;
D. spironolactone;
E. mannitol.

7. Which group of diuretics can produce acidosis?
A. thiazides;
B. loop diuretics;
C. carboanhydrase inhibitors;
D. antialdosteronic diuretics;
E. osmotic diuretics.

8. Which diuretic can be the cause of deafness in overdose conditions?
A. hydrochlorothiazide;
B. furosemide;
C. acetazolamide;
D. spironolactone;
E. triamterene.

9. The most prolonged antihypertensive action is observed when administering:
A. epinephrine;
B. phenylephrine;
C. dopamine;
D. Norepinephrine;
E. Izoturon.

10. Indicate the hypotensive remedy in the group of beta-adrenoblockers:
A. hydrochlorothiazide;
B. methyldopa;
C. clonidine;
D. hydralazine;
E. metoprolol.

11. Which drug is contraindicated in pheochromocytoma if used alone?
A. tolazoline;
B. phentolamine;
C. dihydroergotoxin;
D. prazosin;
E. propranolol.
12. Which group of diuretics acts on the distal contorted tube?
A. thiazides;
B. loop diuretics;

C. carboanhydrase inhibitors;
D. antialdosteronic diuretics;
E. osmotic diuretics.

13. Propranolol increases the toxic risk of lidocaine, given intravenously as an antiarrhythmic agent, by:
A. displacement of plasma proteins;
B. decreased metabolism following enzymatic inhibition;
C. reduction of renal excretion;
D. decreased hepatic blood flow;
E. increase of the apparent volume of distribution

14. Name the hypotensive remedy with action on the renin-angiotensin system:
A. propranolol;
B. spironolactone;
C. bendazol;
D. captopril;
E. hydrochlorothiazide.

15. Name the diuretic wich take part from carboanhydrase inhibitors group:
A. hydrochlorothiazide;
B. spironolactone;
C. furosemide;
D. triamterene;
E. acetazolamide.

16. Which of the following diuretics is a competing antagonist of aldosterone?
A. hydrochlorothiazide;
B. furosemide;
C. acetazolamide;
D. spironolactone;
E. triamterene.

17. Which diuretic is most effective in the treatment of glaucoma?
A. acetazolamide;
B. hydrochlorothiazide;
C. etacrinic acid;
D. furosemide;
E. triamterene.

18. Furosemide administered in high doses enhances the effect of tonicardias on ectopic automatism by:
A. excessive water removal;
B. hyponatremia;
C. hypokalaemia;
D. hypochloraemia;
E. hypocalcemia.

19. Name the hypotensive remedy with predominantly musculotropic action:
A. hydrochlorothiazide;
B. magnesium sulfate;

C. spironolactone;
D. hydralazine;
E. nifedipine.

20. Indicate the hypotensive remedy from beta1-adrenoblockers group:
A. oxprenolol
B. pindolol
C. atenolol
D. propranolol
E. carvedilol

21. Which of the following diuretics is active even in conditions of advanced renal failure (creatinine clearance below 15 ml / min)?
A. furosemide;
B. hydrochlorothiazide;
C. acetazolamide;
D. spironolactone;
E. aminophylline.

22. In hypertensive crisis can be administered:
A. Trimetaphan;
B. guanethidine;
C. propranolol;
D. hydrochlorothiazide;
E. mannitol.

23. CM Digitalis can produce the following effects, select:
A. increased contraction force;
B. increased atrio-ventricular conductance;
C. increasing ectopic automatism;
D. slowing of the atrio-ventricular conduction time;
E. relative increase in vagal tone.

24. Select the mechanism of action of acetazolamide?
A. increases intraocular pressure;
B. decreases the activity of carboanhydrase;
C. Aldosterone activity decreases;
D. increases glomerular filtration;
E. It decreases the activity of succinate-dehydrogenase.

25. Lidocaine is given intravenously as an antiarrhythmic agent in:
A. atrial fibrillation;
B. ventricular tachycardia;
C. atrial extrasystolysis;
D. atrio-ventricular block;
E. WPW syndrome.

26. Which of the following drugs is a cardiostimulator?
A. Trimetaphan;
B. neostigmine;
C. carbacolin;

D. dobutamine;
E. salbutamol.

27. Name the most convenient ganglion blocker for targeted hypotension:
A. pahicarpină;
B. hexamethonium;
C. pempidine;
D. azametoniu;
E. Trimetaphan.

28. What is the antianginal drug that dilates arterioles?
A nitroglycerin;
B. propranolol;
C. nifedipine;
D. isosorbide dinitrate;
E. atenolol.

29. Which of the following diuretics specifically produces urine alkalinization?
A. furosemide;
B. hydrochlorothiazide;
C. acetazolamide;
D. clopamide;
E. etacrinic acid.

30. Which of the following sympathomimetics selectively stimulates α1-adrenergic receptors?
A. salbutamol;
B. dobutamine;
C. isoprenaline;
D. clonidine;
E. phenylephrine.

31. Choose the mechanism of action of propranolol:
A. stimulation of beta1-adrenoreceptors;
B. predominantly blocks beta2-adrenoreceptors;
C. predominantly blocks beta1-adrenoreceptors;
D. blocks alpha, beta-adrenoreceptors;
E. blocks beta1, beta2-adrenoreceptors.

32. Name the most cumulative cardiac glycoside:
A. digoxin;
B. digitoxin;
C. strofantină;
D. corglicon;
E. lanatozidă.

33. Name the non-competing aldosterone antagonist:
A. hydrochlorothiazide;
B. acetazolamide;
C. etacrinic acid;
D. furosemide;

E. triamterene.

34. Indicate the mechanism of action of the sympatholytics:
A. blocks adrenoreceptors;
B. stimulates adrenoreceptors;
C. blocks N-choline receptors;
D. blocks the transmission of excitation at the level of the presynaptic terminations of the adrenergic fibers;
E. blocks acetylcholinesterase.

35. Indicate the mechanism of action of phenylephrine:
A. excitation of alpha-adrenoreceptors;
B. blocked alpha-adrenoreceptors;
C. predominant excitation of beta2- adrenoreceptors;
D. excitation of beta1, beta2- adrenoreceptors;
E. blocked beta1, beta2 - adrenoreceptors.

36. Which antiarrhythmic drug is of choice for the treatment of ventricular arrhythmias in myocardial infarction?
A. quinidine;
B. amiodarone;
C. lidocaine;
D. propranolol;
E. nifedipine.

37. Nitroglycerin is administered sublingually because:
A. is inactivated by the acidic pH of the gastric juice;
B. irritates the gastric mucosa;
C. is inactivated by a number of intestinal enzymes;
D. it is not absorbed through the gastrointestinal mucosa;
E. is largely inactivated at the first hepatic passage.

38. Which of the following adrenergic antagonists selectively blocks β1-adrenergic receptors?
A. propranolol
B. carvedilol
C. prazosin
D. bisoprolol
E. clonidine

39. The vasodilating effect of nitroglycerin is due to:
A. AMPc accumulation;
B. increase of NO synthesis;
C. decrease of NO synthesis;
D. AMPc reduction;
E. phosphodiesterase inhibition.

40. Which of the following sympathomimetics has the longest duration of action?
A. norepinephrine;
B. dopamine;
C. isoprenaline;
D. ephedrine;

E. epinephrine.
41. The electrocardiographic signs what characterize the positive inotropic effect of the digitalis is determined by:
A. increasing the R-R interval;
B. sub-denivelation of the S-T segment;
C. decrease of QRS duration;
D. increasing the P-R interval;
E. T-wave flattening.

42. Indicate the cause of the increased cardiotoxic action of cardiac glycosides under the influence of saluretics:
A. intensification of Na + ion elimination;
B. intensification of eliminations of Cl- ions;
C. intensification of K + ion elimination;
D. intensification of HCO3- ion elimination;
E. intensification of Ca 2+ ion elimination.

43. It acts by inhibiting carboanhidrase:
A. Furosemide
B. acetazolamide
C.Hydrochlorothiazide
D. chlorthalidone
E. triamterene

44. Choose the K + sparing diuretic:
A. acetazolamide
B. Spironolactone
C.Hydrochlorothiazide
D. chlorthalidone
E. Furosemide

45. Choose the potassium-removing diuretic:
A. Furosemide
B. Spironolactone
C.amiloride
D. triamterene
E. Canrenoat of K

46. Choose the thiazide-related diuretic:
A. Hydrochlorothiazide
B. acetazolamide
C.Spironolactone
D. indapamide
E. Mannitol

47. Thiazide diuretics can have the following effect:
A. Hypoglycaemia
B. hypermagnesemia
C. Hypokalemia
D. hypolipemic
E. Hypernatraemia

48. Furosemide, select characteristicst:
A. Has medium intensity of action
B. It acts at the level of the ascending portion of Henle's loop
C. Decreased K + ion elimination
D. It is inefficient in acute pulmonary edema
E. Does not produce hydroelectric imbalances
49. Note the correct statements regarding the interactions of diuretics with other drugs:
A. Thiazide diuretics enhance uricosaurs
B. Thiazide diuretics potentiate hypoglycemia
C. Thiazide diuretics potentiate antiarrhythmics
D. Thiazide diuretics enhance cardiotonics drugs
E. Anti-inflammatories potentiate the effects of diuretics

50. Write down the correct statements:
A. Triamteren is a naturally occurring compound with a steric structure
B. Spironolactone is composed of structurally analogous semisynthesis of aldosterone
C. Furosemide is a heterocyclic sulfonamide
D. Acetazolamide is a benzoic acid derivative
E. Hydrochlorothiazide has an anthranilic acid structure

51. Diuretic action by renal mechanism have:
A. cardiotonic glycosides;
B. saluretic diuretics;
C. xanthine derivatives;
D. colloids;
E. water, in large quantities.

52. What is the main indication for the use of sympatholithics?
A. high blood pressure;
B. cardiac blockade;
C. hyperacid gastritis;
D. diarrhea;
E. orthostatic hypotension.
53. Name the drug with the most durable action:
A. strofantină;
B. celanidă;
C. corglicon;
D. digoxin;
E. digitoxin.

54. Which of the following antiarrhythmic drugs is the first choice in the treatment of tachyarrhythmias caused by digital poisoning?
A. procainamide;
B. propranolol;
C. quinidine;
D. phenytoin;
E. nifedipine.

55. Indicate the main location of the action of furosemide and etacrinic acid:
A. proximal tubules of the nephron;

B. the ascending segment of the Henle loop;
C. distal nephron tubes;
D. renal glomeruli;
E. Collecting pipes.

56. Which of the following diuretics determines the highest sodium concentration in the final urine?
A. hydrochlorothiazide;
B. mannitol;
C. furosemide;
D. spironolactone;
E. triamterene.

57. What substance is used to increase blood pressure?
A. propranolol;
B. salbutamol;
C. guanethidine;
D. clonidine;
E. phenylephrine.

58. Which of the following antiarrhythmic drugs is absolutely contraindicated in bronchial asthma?
A. propranolol;
B. lidocaine;
C. verapamil;
D. quinidine;
E. atenolol.

59. Which of the diuretics and their mechanisms of action listed below do not correspond to reality?
A. hydrochlorothiazide - inhibits Na + resorption in distal tubes;
B. spironolactone - antagonizes aldosterone;
C. furosemide - inhibits electrolyte reabsorption in the ascending segment of the Henle loop;
D. mannitol - osmotic diuresis;
E. triamterene - inhibits carboanhydrase.

60. Which of the following antiarrhythmic drugs is absolutely contraindicated in Raynaud's syndrome?
A. propranolol;
B. lidocaine;
C. verapamil;
D. quinidine;
E. atenolol

61. What explains the anti-arrhythmic action of propranolol?
A. blocking beta1- adrenoreceptors;
B. blocking the beta2- adrenoreceptors;
C. blocking alpha1- adrenoreceptors;
D. blocking the M-choline receptors;
E. blocking slow calcium channels.

62. Indicate the mechanism of action of metoprolol:
A. predominant excitation of beta1- adrenoreceptors;
B. predominant excitation of beta2-adrenoreceptors;

C. predominant blockade of beta1-adrenoreceptors;
D. blocking alpha, beta-adrenoreceptors;
E. blocking beta1, beta2- adrenoreceptors.

63. All antiarrhythmic drugs in usual doses determine:
A. increased atrio-ventricular conduction velocity;
B. blocking the influx of sodium;
C. Depression of ectopic automatism;
D. blocking potassium efflux;
E. blocking calcium channels.

64. Show the mechanism of antianginal action of beta-adrenoblockers:
A. Musculotropic coronary artery action;
B. reflex reflex coronary action;
C. reducing the need for myocardium in oxygen;
D. expansion of peripheral vessels;
E. central inhibitory action.

65. Indicate the mechanism of action of phentolamine:
A. blocked alpha1, alpha2-adrenoreceptors;
B. dopamine receptor blockade;
C. blocked alpha-beta-adrenoreceptors;
D. predominantly blocked by alpha2-adrenoreceptors;
E. predominantly blocked by beta1-adenoreceptors.

66. Select the mechanism of antianginal action of the validol:
A. Musculotropic coronary artery action;
B. reflex coronary dilatation;
C. decrease the need for myocardium in O2;
D. excessive diminution of the power of cardiac contractions;
E. dilation of peripheral vessels.

67. Some anti-arrhythmic drugs influence ion channels. Which statement is not correct?
A. quinidine blocks Na + channels;
B. lidocaine opens K + channels;
C. amiodarone inhibits K + channels;
D. verapamil blocks Ca ++ channels;
E. procainamide opens the channels of Cl-.

68. In which of the following conditions the use of tonicardias is contraindicated?
A. right heart failure;
B. arterial fibrillation;
C. atrial flutter;
D. acute pulmonary edema;
E. obstructive hypertrophic heart disease.

69. What is the priority of metoprolol as an antianginal remedy over propranolol?
A. does not lower blood pressure;
B. rarely causes bronchospasm;
C. does not disturb atrio-ventricular conductivity;

D. does not alter myocardial contractility;
E. does not change the frequency of heart contractions.

70. Which of the following statements is correct for propranolol:
A. is a cardio-selective beta-blocker with direct sympathomimetic action (partial agonist) and without quinidine type action;
B. is a cardio-selective beta-blocker without direct sympathomimetic action and with quinidine type action;
C. is a non-selective beta-blocker without direct sympathomimetic action and with quinidine type action;
D. is a cardio-non-selective beta-blocker without direct sympathomimetic action and without quinidine type action;
E. is a cardio-non-selective beta blocker with direct sympathomimetic action and quinidine-like action.

71. The mechanism of action of xanthine derivatives as cerebral anti-ischemia consists of:
A. inhibits phosphodiesterase;
B. stimulates adenylatcyclase;
C. inhibits phospholipase A2, required for arachidonic acid synthesis;
D. increases mast cell degranulation;
E. depresses the work of the heart

72. Which modification of the transmembrane potential of myocardial cells is responsible for removing the effects of catecholamines by beta-adrenoblocks?
A. increasing the absolute refractory period;
B. decrease of the speed of systolic depolarization (phase 0);
C. decrease of the slope of slow diastolic depolarization (phase IV);
D. increasing the relative refractory period;
E. growth of slow depolarization (phase III).

73. Which of the following drugs is indicated for the diagnosis of pheochromocytoma?
A. epinephrine;
B. phentolamine;
C. norepinephrine;
D. metoprolol;
E. propranolol.

74. Name the hypotensive remedy with the action on the angiotensin receptors:
A. losartan;
B. spironolactone;
C. bendazol;
D. captopril;
E. hydrochlorothiazide.

75. Which diuretic is most effective in the treatment of epilepsy?
A. acetazolamide;
B. hydrochlorothiazide;
C. etacrinic acid;
D. furosemide;
E. triamterene.

76. For furosemid, the incorrect statement is:
A. inhibits Na + / K + / 2 Cl- transport in the ascending segment of the Henle loop

B. the duration of action after oral administration is 4 - 6 hours
C. has antihypertensive action
D. produces hypocalcuria
E. has hypokalemic effect

77. Choose the correct statement regarding cardiostimulatory drugs:
A. can act by blocking cardiac beta-1 receptors
B. They are beta-1 adrenergic and dopaminergic
C. Not effective in cardiogenic shock
D. Can not be given intracardiac or infusion
E. It is given orally on a long-term basis

78. Choose the correct statement regarding cardiotonic glycoside therapy:
A. Not indicated in the CHI with sinus rhythm
B. Not indicated in paroxysmal tachycardia
C. are indicated cardiac failure and supraventricular tachyarrhythmias
D. The most commonly used compound is digitoxin
E. They cannot be administered by i.v

79. Choose the anti-rhythmic, potassium channel blocker (class 3)
A. esmolol
B. Amiodarone
C. Verapamil
D. Lidocaine
E. Quinidine

80. Choose the class 1A antiarrhythmic drug:
A. mexiletine
B.Metoprolol
C. Verapamil
D. Disopyramide
E. Amiodarone

81. Class 1 antiarrhythmics have a common effect:
A. It blocks calcium channels
B. It blocks potassium channels
C. They all have the same mechanism of action
D. They are sodium channel blockers
E. They have not arrhythmogenic effect

82. Which of the antiarrhythmic drugs is not used as antihypertensives:
A. Verapamil
B. Atenolol
C.Diltiazem
D. mexiletine
Propranolol E.

83. Note the correct statement regarding the pharmacodynamics of cardiotonic glycosides:
A. They have positive inotropic effect and negative chronotropic effect
B. They have a positive dronotropic effect
C. The tonotropic effect is negative
D. They have a negative batmotrop effect
E. They have not extracardiac effects

84. Note the correct statement regarding digoxin:
A. Use only when other cardiotonic glycosides are not effective
B. It is cardiotonic with latency and medium duration of action
C. The doses are kept constant from the beginning and throughout the treatment
D. Do not interact with other drugs
E. It is only given as tablets

85. Which indication does not for nifedipine?
A. high blood pressure;
B. chronic and vasospastic angina;
C. supraventricular tachyarrhythmias;
D. heart failure with high blood pressure;
E. pregnancy-induced hypertension.

86. The most intense bradycardic digitalic and with the highest tendency to accumulate is:
A. digoxin;
B. deslanozid;
C. digitoxin;
D. strophanthin G;
E. lanatocide C.

87. It is given exclusively intravenously:
A. digitoxin;
B. strophanthin G;
C. digoxin;
D. deslanozid;
E. lanatozide C.

88. Which drug causes a negative ionotropic effect:
A theophylline;
B. dobutamine;
C. digoxin;
D. amrinone;
E. verapamil.

89. Which anti-arrhythmic agent is not a sodium channel blocker (class I):
A. disopyramide;
B. lidocaine;
C. quinidine;
D. procainamide;
E. amiodarone.

90. Which of the following statements is false:
A. amiodarone produces photosensitization with gray pigmentation and yellow-brown corneal microdeposits
B. verapamil acts as an antiarrhythmic, anti-anginal and antihypertensive agent
C. amiodarone is associated with beta blockers for better antiarrhythmic therapeutic effect
D. procainamide is a sodium channel blocker
E. quinidine is contraindicated in the complete atrioventricular block

91. Cardiotonic glycosides have the following effect:
A. positive batmotrop effect
B. positive chronotropic effect
C. negative inotropic effect
D. positive dromotropic effect
E. negative tonotropic effect

92. Select the anti-arrhythmic drug that is not in class IB
A. tocainide
B. phenytoin
C. moracizina
D. amiodarone
E. mexiletine

93. The indication for the administration of cardiotonic glycosides is:
A. A-V block
B. sinus bradycardia
C. supraventricular tachyarrhythmias
D. ventricular tachycardia
E. WPW syndrome

94. Digitoxin has the following pharmacokinetic properties:
A. It does not absorb well per enteral
B. has very long T 1/2
C. is not liver biotransformed
D. does not bind to plasma proteins
E. does not show a cumulative tendency

95. Digoxin has the following pharmacokinetic properties:
A. has higher liposolubility than digitoxin
B. accumulates in renal failure
C. accumulates in hepatic insufficiency
D. has short T 1/2 (several hours)
E. has very long T 1/2 (6-7 days)

96. The strophantine group is characterized by the following property:
A. high digestive absorption
B. short action latency and duration
C. slow removal from the body
D. intense accumulation in the body
E. administration exclusively enteral

97. Verapamil:

A. is a sodium channel blocker
B. has major cardiac depressant action
C. is not absorbed enteraly
D. is given intravenously, in doses higher than enteral
E. combination with beta-blockers and quinidine is recommended

98. Which of the following statements is false?
A. Renal impairment decreases digoxin clearance
B. Hypokalaemia promotes arrhythmias even at low doses of digitalis
C. Hepatic insufficiency increases plasma digoxin concentration, with toxic phenomena, requiring dose reduction
D. Digitalis is contraindicated at therapeutic doses in the atrio-ventricular block
E. Calcium salts administered i.v. it works synergistically with digitalis

99. Which of the following antiarrhythmic drugs is part of the IA calsa according to VaughanWilliams classification?
A. Phenytoin
B. mexiletine
C. propafenone
D. Disopyramide
E. encainide

100. Which antiarrhythmic drug can promote the development of a reversible lupoid syndrome?
A. Amlodipine
B. Diltiazem
C. Felodipine
D. procainamide
E. Lidocaine

101. Which medicine belongs to class I B:
A. flecainide
B. Ecainida
C. propafenone
D. Amiodarone
E. mexiletine

102. Which medicine belongs to class I C?
A. Procainamide
B. Disopyramide
C. propafenone
D. Amiodarone
E. Lidocaine

103. Which β-adrenoblocker is used parenterally only and has a very short duration of action, being metabolized by plasma esterases?
A. bopindolol
B. esmolol
C.Carvedilol
D. Labetalol
E. Betaxolol

104. CM What are the properties of digoxin?
A. average digestive absorption
B. predominantly renal elimination
C. has parasympatholytic action
D. is preferentially distributed in the myocardium
E. has T1 / 2 of about 1.5 days

105. CM What are the properties of amrinone:
A. inhibits phosphodiesterase
B. increases the cytoplasmic concentration of cAMP
C. has a positive inotropic effect
D. has a pro-arrhythmogenic adverse effect
E. produces arteriolar vasoconstriction

106. CM Which preparations may exhibit an inotropic negative effect:
A. verapamil
B. nifedipine
C. amiodarone
D. propranolol
E. digoxin

107. It is class IA antiarrhythmic drug:
A. procainamide
B. propafenone
C. mexiletine
D. lidocaine
E. tocainide

108. CM About verapamil what statement is incorrect:
A. It is well absorbed by the enteral way
B. is subject to the first insignificant liver passage
C. has antiarrhythmic effects
D. has antianginal effects
E. has antihypertensive effects

109. CM Which of the following statements is true:
A. Digoxin is contraindicated in liver failure
B. Hypokalaemia promotes block A-V when administering cardiotonic glycosides
C. Calcium salts i.v. manifests synergism and antagonism with the digital
D. Ca blockers remove the bradycardia produced by digitalis
E. The digitalis are administered exclusively orally

110. CM Which drugs are inotrop positive?
A. Dobutamine
B. milrinone
C.Trimetazidine
D. Dopamine
E. nicergoline

111. CM Which antiarrhythmic drugs are calcium channel blockers?
A. Quinidine

B. Diltiazem
C. Lidocaine
D. esmolol
E. Verapamil
112. Choose the correct statements:
A. Dobutamine is not given in acute heart failure.
B. Phosphodiesterase inhibitors can be used i.v. in acute congestive heart failure, refractory to other treatments.
C. Amrinone and milrinone are commonly used in chronic heart failure
D. Theophylline and aminophylline selectively inhibit myocardial phosphodiesterase
E. Adrenomimetic beta 1 drugs decrease myocardial contraction force

113. It is given exclusively intravenously:
A. digitoxin;
B. strophanthin G;
C. digoxin;
D. deslanozid;
E. lanatozide C.

114. CS Digitalics with the most intense bradycardic effect and with the highest tendency to accumulate is:
A. digoxin;
B. deslanozid;
C. digitoxin;
D. strophanthin G;
E. lanatocide C.

115. CM Select groups of inotropic positive drugs used in heart failure:
A. Methylxantines
B. Beta-1 adrenomimetics
C. Cardiac glycosides
D. bypyridines
E. Calcium channel blockers

116. CM Select blocking of sodium channels drugs (class I):
A. disopyramide;
B. lidocaine;
C. quinidine;
D. procainamide;
E. amiodarone.

117. CM Verapamil has the following pharmacodynamic properties:
A. Negative batmotrop effect
B. Negative inotropic effect
C. Negative dromotropic effect
D. Positive batmotrop effect
E. Negative chronotropic effect

118. CM What are the therapeutic indications of nifedipine?
A. high blood pressure;
B. stable and vasospastic angina pectoris;

C. supraventricular tachyarrhythmias;
D. heart failure with high blood pressure;
E. high blood pressure in pregnancy.

119. CM What are the pharmacological properties of biperidines (amrinone, etc.):
A. positive inotropic effect at high doses
B. does not influence heart rate
C. produces arteriolar vasodilation, even at low doses
D. is indicated in supraventricular arrhythmias
E. increases kidney flow
120. CM What are the indications of cardiotonic glycosides:
A. Chronic heart failure Gr.I-II with sinus rhythm
B. Hypertrophic heart disease
C. Chronic heart failure III-IV
D. supraventricular tachyarrhythmias
E. Chronic heart failure with atrial fibrillation

121. CM What are the pharmacodynamic effects of dobutamine:
A. Peripheral vascular resistance decreases
B. increases heart rate
C. decreases coronary blood flow
D. Decreases renal blood flow with increased diuresis
E. improves the relationship between oxygen intake and consumption in acute myocardial infarction

122. CM They are β1-adrenolytic with vasodilating action:
A. Carvedilol
B. Labetalol
C.Nebivolol
D. Propranolol
E. acebutolol

123. CM They are β-adrenolytic with associated alpha-adrenolytic action:
A. Labetalol
B.Metoprolol
C.Timolol
D. oxprenolol
E. Carvedilol

124. CM Which effects are responsible for the antihypertensive effect of β-adrenoblockers:
A. Inhibition of renin secretion in the renal juxtaglomerular system
B. Positive chronotropic effect
C. Negative chronotropic effect
D. Cardioprotective effect
E. Positive inotropic effect

125. CM They are selective agonists of imidazolinic receptors I-1:
A. Phentolamine
B. rilmenidine
C. Phenylephrine
D. moxonidine
E. nicergoline

126. CS select the neprilisin inhibitor.
A. enalapril
B. sacubitril
C. valsartan
D. triamterene
E. losartan

Cardiovascular CM

1. Which of the following diuretics is associate in HTA treatment?
A. Hydrochlorothiazide
B. acetazolamide.
C. Furosemide
D. amiloride
E. Mannitol

2. Saluretic diuretics (loop diuretics):
A. Increase excretion of sodium and chloride ions
B. May cause hypokalaemia
C. They may be associated with antihypertensive medication
D. It is not given in severe renal failure
E. Decrease excretion of potassium and magnesium ions

3. Diuretics are drugs that can be indicated in:
A. Hypertension
B. Angina pectoris crisis
C. Chronic heart failure
D. Glaucoma
E. Edema of different etiologies

4. CM Which of the following statements is true for all saluretic(loop) diuretics?
A. increase urinary sodium excretion;
B. increase urinary excretion of potassium;
C. increase urinary calcium excretion;
D. alkaline urine;
E. tend to decrease volume

5. Loop diuretics (furosemide) are characterized by:
A. long duration of action;
B. short duration of action;
C. average potassium removal effect (K +);
D. high efficiency;
E. average efficiency.

6. Sparing potassium (K +) diuretics are:
A. antialdosteronic - competitive antagonists of aldosterone;

B. carbonic anhydrase inhibitors;
C. loop diuretics;
D. thiazides,
E. antialdosteronic - non-competitive aldosterone antagonists

7. Furosemide is the diuretic of choice in:
A. acute pulmonary edema (i.v.);
B. primary hyperaldosteronism;
C. chronic renal failure (in high therapeutic doses);
D. edema from liver cirrhosis;
E. Acute congestive glaucoma.

8. Furosemide:
A. causes intense diuresis;
B. retains water in the lumen of the nephron by osmotic mechanism;
C. is a loop diuretic;
D. specifically produces alkaline urination;
E. has a short-term effect.

9. Intravenous mannitol is the diuretic of choice in:
A. acute pulmonary edema;
B. acute renal failure;
C. chronic renal failure;
D. cerebral edema;
E. Acute congestive glaucoma.

10. List the diuretics that eliminate potassium (K +):
A. hydrochlorothiazide;
B. spironolactone;
C. furosemide;
D. triamterene;
E. acetazolamide

11. Thiazides (hydrochlorothiazide) have the following characteristics:
A. strong potassium removal effect (K +);
B. potassium retention effect (K +);
C. short duration of action;
D. average efficiency;
E. average duration of action.

12. List the diuretics that sparing potassium:
A. mannitol
B. amiloride

C. triamterene
D. acetazolarnida
E. indapamide

13. Furosemide has the following characteristics:
A. belongs to the class of potassium-sparing diuretics
B. has a modest and sustainable diuretic action
C. the diuretic effect is dose dependent
D. is contraindicated in acute heart failure
E. produces hydroelectrolyte imbalances more frequently than hydrochlorothiazide

14. Hydrochlorothiazide may cause the following adverse effects:
A. hyperuricemia
B. hyperglycemia
C. hyperkalemia
D. hypokalaemia
E. hypoglycemia

15. Hydrochlorothiazide has the following action:
A. is a competitive antagonist of aldosterone in the distal contorted tube
B. causes metabolic imbalances of hyperglycemia and hyperlipemia
C. is used in barbiturate poisoning
D. causes hypochloremic alkalosis
E. is administered per os and iv in emergencies

16. The mannitol prezent the following action:
A. It is not absorbed at the digestive sistem
B. is indicated in acute intoxication, with substances that are eliminated renal
C. has a long latency (greater than 24 hours)
D. can have virilizing effect in women
E. is contraindicated in patients with gout

17. CS Specify the correct statement regarding spironolactone:
A. Inhibits sodium reabsorption in the cortical terminal segment of the Henle loop
B. the effect of cardiotonic decreases
C. is the diuretic of choice in cerebral edema
D. produces sexual impotence in men and gynecomastia
E. has antidiuretic effect in pituitary insipidus diabetes

18. CM Spironolactone has the following effects:
A. It acts predominantly in the ascending segment of Henle's loop
B. has a reduced oral bioavailability as a relief of the effect of intense first hepatic passage
C. produces sexual impotence

D. has long latency and long duration of action
E. is the diuretic of choice used in cerebral edema

19. Which of the following statements regarding acetazolamide is correct?
A. acts on the proximal contorted tube
B. produces metabolic acidosis
C. reduces intraocular pressure
D. acidifies the urine
E. produces gastric hypersecretion

20. Which diuretics are used in acute poisoning with substances that are excreted in the kidney?
A. hydrochlorothiazide
B. mannitol
C. chlorthalidone
D. furosemide
E. spironolactone

21. Which of the listed side effects is found in the treatment of saluretic(loop) diuretics?
A. hyperkalemia
B. hyponatremia
C. hypomagnesemia
D. hypochloremic alkalosis
E. hypoglycemia

22. Anti-aldosteronic diuretics are:
A. spironolactone
B. triamterene
C. clopamide
D. chlorthalidone
E. mannitol

23. Diuretics can be used in:
A. diabetes
B. diabetes insipidus
C. HTA
D. acute pulmonary edema
E. cerebral edema

24. List the long-acting diuretics:
A. hydrochlorothiazide
B. spironolactone
C. indapamide
D. amiloride

E. polythiazide

25. Spironolactone has the following effects:
A. It has synergistic effect with aldosterone
B. decreases urinary excretion of K +
C. stimulates urinary excretion of K +
D. is a diuretic with high efficacy
E. is administered in HTA with hyperaldosteronism

26. What metabolic effects can thiazide diuretics produce?
A. Hyperuricemia
B. Hyperglycemia
C. hypolipemic
D. hyperazotaemia
E. Hypoglycemia

27. Spironolactone may cause the following adverse effects:
A. Sexual impotence
B. Virilization in women
C. Hipernatriemie
D. bronchoconstriction
E. High blood pressure

28. The correct statements are:
A. Thiazide diuretics antagonize the effect of uricosaurs
B. furosemide produces hypochloremic alkalosis
C. Non-steroidal anti-inflammatories potentiate the effect of diuretics
D. acetazolamide is used as an adjuvant in epilepsy
E. The duration of action of clopamide is 24 hours

29. Thiazide diuretics may decrease in blood:
A sodium
B.potassium
C.chlor
D. glucose
E. cholesterol

30. Thiazide diuretics may antagonize the effects for:
A. Lithium salts
B. ammonium chloride
C.cardiotonics
D. oral hypoglycemic agent
E. uricosuric drugs

31. Can cause hyperkalaemia, select diuretics:
A. furosemide
B. clopamide
C. triamterene
D. spironolactone
E. amiloride
32. Name the anti-hypertensive remedies with central action:
A. clonidine;
B. sodium nitroprusside;
C. guanethidine;
D. pempidină;
E. methyldopa

33. What are the effects of α-adrenomimetics?
A. decreases blood pressure;
B. increases blood pressure;
C. dilates the pulmonary vessels;
D. reduces microcirculation;
E. intensifies microcirculation.

34. Which antianginal preparations have big clinical efficacy?
A. nifedipine;
B. dipyridamole;
C. propranolol;
D. isosorbide dinitrate;
E. Validol.

35. List the characteristics of nitroglycerin?
A. It mainly relaxes the veins;
B. increase the synthesis of NO;
C. decreases the need for myocardium in oxygen;
D. inhibits NO synthesis;
E. causes venoconstriction.

36. Which of the following drugs can cause bradycardia?
A. propranolol;
B. quinidine;
C. digoxin;
D. hydralazine;
E. furosemide.
37. Select the indications for dopamine use:

A. cardiogenic shock;
B. atrial fibrillation;
C. acute hypotension;
D. chronic hypotension;
E. acute heart failure.

38. What are the effects of the use of beta1- adrenomimetics?
A. intensifying contractions of the heart;
B. tachycardia;
C. increasing the automaticity of the heart;
D. relaxation of the bronchial muscles;
E. bronchial spasm.

39. Which drugs are blocking of the ionic membrane channels of Na?
A. digoxin;
B. quinidine;
C. prazosin;
D. procainamide;
E. nitroglycerin.

40. Which of the following statements is correct for α-adrenoblockers?
A. produce vasodilation;
B. bradycardia;
C. reduce microcirculation;
D. tachycardia;
E. improves microcirculation.

41. Propranolol is contraindicated in:
A. supraventricular arrhythmias;
B. atrio-ventricular block;
C. bronchial asthma;
D. angina pectoralis;
E. Raynaud's disease.

42. Select cardioselective β-adrenoblockers:
A. propanol;
B. talinolol;
C. timolol;
D. atenolol;
E. metoprolol.

43. Which of the following drugs take part of the antiarrhythmic group?

A. reserpine;
B. lidocaine;
C. verapamil;
D. quinidine;
E. nifedipine.

44. List the side effects of furosemide:
A ototoxicity;
B. hyperkalemia;
C. dehydration;
D. hipernatriemie;
E. hypokalemia.

45. List the effects of nootropes:
A sedative;
B. antidepressant;
C. intensifies metabolic processes;
D. acts on specific receptors;
E. improves the associative functions of the CNS.

46. Which of the following drugs are contraindicated in angina?
A. isoprenaline;
B. epinephrine;
C. guanethidine;
D. propranolol;
E. verapamil.

47. Which of the following statements is correct for beta-adrenergic blockers?
A. increase the effort capacity in the healthy man;
B. decreases the frequency of cardiac contractions with decreased oxygen consumption;
C. produce relaxation of the uterus;
D. are first choice in stable angina;
E. are the first choice in vasospastic angina.

48. Which of the following antihypertensive drugs works at presynaptic level?
A. clonidine;
B. reserpine;
C. propranolol;
D. guanethidine;
E. hydralazine.

49. Select the diuretics with the most pronounced potency:
A. hydrochlorothiazide;
B. furosemide;

C. etacrinic acid;
D. amiloride
E. triamterene.

50. Which of the following antianginal drugs is contraindicated in the presence of the atrio-ventricular block?
A. propranolol;
B. nifedipine;
C. isosorbide dinitrate
D. verapamil;
E. diltiazem.

51. Which actions are characteristic for conversion enzyme inhibitors?
A. increase blood pressure;
B. acts on angiotensinic receptors;
C. lower blood pressure;
D. decreases angiotensin II level;
E. reduce pre- and post-loud.

52. Which of the following drugs can be indicated in the case of arrhythmias caused by digitoxin?
A. nifedrină;
B. verapamil;
C. phenytoin;
D. potassium salts;
E. dimeraptol.

53. With which diuretic preparations should thiazides be used concomitantly?
A. spironolactone;
B. acetazolamide;
C. mannitol;
D. furosemide;
E. triamterene.

54. What effects are characteristic of cardiac glycosides?
A. negative inotrop;
B. dromotrop negative;
C. chronotrop negative;
D. positive dromotrop;
E. positive inotrop.
55. Selectt osmotic diuretics:
A. furosemide;
B. urea;
C. etacrinic acid;
D. mannitol;

E. spironolactone.
56. Which of the following drugs may cause the rebound phenomenon in stop of long treatment?
A. clonidine;
B. captopril;
C. furosemide;
D. prazosin;
E. propranolol.
57. What is characteristic for strophantine?
A. rapid effect;
B. cumulates intensively;
C. accumulates poorly;
D. it is strongly coupled with plasma proteins;
E. slow effect.
58. Which of the following drugs is used in hypertensive crisis?
A. Trimetaphan;
B. nifedipine;
C. reserpine;
D. captopril;
E. propranolol.

Teste hemostaticele

1. The mechanism of action of direct anticoagulants consists of:
A. Interfering the hepatic synthesis of vitamin K-dependent coagulation factors
B. Connection with antithrombin III to formation of a complex with anticoagulant action
C. Direct activation of plasminogen to formation of plasmine
D. Inhibition of platelet functions by different mechanisms
E. Direct injury of fibrin fibers.

2. Select the principles of dosing of streptokinase in pulmonary artery thromboembolism:
A. For therapeutic purposes, 40.000-60 000 UA are administered in infusion for 4-6 hours, followed by the fractional introduction i/v of 5-10 000 UA every 4-6 hours 10-14 days.
B. 100-350 mg once daily or 300-500 mg once every 3 days
C. For therapeutic purpose 0.1ml / 10kg, twice a day, prophylactic once a day for 10-14 days
D. 300-800 mg /on a day during the meal
E. Initially, 250 000 UA dissolved in 50 ml isotonic solution or 5% glucose solution in infusion for 30 min, then 750 000 UA dissolved in 500 ml saline or glucose solution for 7-8 hours in infusion.

3. Select the mechanism of action of clopidogrel and ticlopidine:
A. It prevents thromboxane synthesis (TX-A2)
B. It increases the amount of cAMP in platelets
C. Direct action on platelet membrane
D. Block of platelet receptors for ADP
E. Block of thromboxane receptors (TX-A2)

4. Select the correct statement about folic acid:
A. Inhibits the central nervous system
B. It acts on the coagulation of blood
C. It influences the formation of purine and pyrimidine nucleotides
D. Stimulates the central nervous system
E. Acts directly on plasminogen

5. Select the correct answer for oral anticoagulants:
A. They do not penetrate the placental barrier
B. They have no teratogenic effect
C. They can cause various malformations of the central nervous system (of the fetus), if they are used during the pregnancy
D. They can be given for the treatment and prophylaxis of thrombosis during pregnancy
E. They do not cause liver, kidney injury

6. Select the correct answer about the acetylsalicylic acid:
A. It possesses anti-aggregating effect at doses greater than 500mg
B. Administered in high doses, loses selectivity over platelet cyclooxygenase, responsible for the formation of TX A2
C. The anti-aggregating action is short-term and requires frequent administration
D. Initially, it develops antipyretic and analgesic action and after antiaggregant and anti-inflammatory action
E. The latency of the anti-aggregating effect is 5-7 days.

7. Select the indication of phytomenadione:
A. Bleeding caused by overdosage with coumarin anticoagulants:
B. Hemorrhages produced by fibrinolytic overdose
C. Bleeding caused by overdose of standard heparin
D. Hemorrhages produced by overdose of heparins with low molecular weight
E. Bleeding caused by overdose of antiaggregants.

8. Select the mechanism of action of ε-aminocaproic acid:
A. Decreases the capillary permeability, increases the degree of platelet adhesion.
B. Inhibits plasminogen activators by preventing plasmin formation, stimulates platelet adhesion and aggregation
C. Participates in the synthesis of liver factors of coagulation
D. It specifically neutralizes the heparin
E. Stimulates the platelet formation from megakaryocytes

9. Aprotinin is indicated in bleeding by overdose of:
A. Coumarin anticoagulants
B. Fibrinolytic overdose
C. Standard heparin
D. Heparins with low molecular weight
E. Anti-aggregants

10. Select the mechanism of action of low molecular weight heparins (HMMM):
A. They inhibit the formation of coagulation factors and C, S proteins in the liver.
B. They specifically and irreversibly inhibit thrombin, including the thrombin from the thrombus, with which they form a stable complex.
C. They are coupled with antithrombin III, predominantly inhibiting the action of factor IIa and partially of factor Xa of coagulation.
D. In complex with antithrombin III, they inhibit the action of Xa factor of coagulation
E. They are coupled with antithrombin III and factor X a

11. Name the most common dextran adverse reaction:
A. Allergic reaction
B. Retrosternal pain
C. Pulmonary edema
D. Nephrotoxic effect
E. Cerebral edema

12. Name the specific blocker of glycopeptide IIb / IIIa receptors from platelet:
A. Sulfinpyrazone
B. Pentoxiphylline
C. Dipiritamole
D. Tirofiban
E. Ridogrel

13. Name the selective thromboxane synthetase inhibitor:
A. Sulfinpyrazone
B. Pentoxiphylline
C. Dipyridamole
D. Tirofiban
E. Ridogrel

14. Name the mechanism of the anti-aggregating action of acetylsalicylic acid:
A. It inhibits thromboplastin activity and prevents the passage of prothrombin into thrombin
B. It binds calcium ions into the blood
C. It inhibits the synthesis of prostaglandins and thromboxane
D. It activates antithrombin III
E. It activates factors IX, X, XI, XII, and kalikrein.

15. Which of the anti-aggregates acts through cAMP?
A. Dextran 40;
B. Prostacyclin;
C. Ticlopidine.
D. Clopidogrel;
E. Acetylsalicylic acid;

16. Which drug is preferable for long-term prophylaxis of venous thrombosis?
A. Acenocumarol;
B. Standard heparin;

C. Streptokinase;
D. Acetisalicylic acid;
E. Dipyridamole.

17. Name the mechanism of action of fibrinolytics:
A. Forms the complex with antithrombin III, which has anticoagulant properties;
B. Activates the plasminogen with formation of plasmin;
C. Inhibits platelet aggregation by different mechanisms;
D. Inhibits hepatic synthesis of vit.K-dependent coagulation factors;
E. Inhibits metabolism of arachidonic acid.

18. Name the mechanism of action of the protamine:
A. Activates the coagulation cascade;
B. Inactivates the antithrombin;
C. Inactivates heparin;
D. Activates the factors VIII and IX of coagulation;
E. Activates the clotting factors XI and XII of coagulation.

19. Name the best drug for long-term prophylaxis of venous thrombosis:
A. Acenocoumarol;
B. Standard heparin;
C. Streptokinase;
D. Acetylsalicylic acid;
E. Dipyridamole.

20. Name the phytomenadione indication:
A. Keratitis;
B. Rheumatoid arthritis;
C. Angina pectoris;
D. Parenchymal hemorrhage;
E. Muscle pain.

21. Indicate the medication in fibrinolytic overdose:
A. Phytomenadione;
B. Aminocaproic acid;
C. Protamine sulphate;
D. Etamsylate;
E. Ticlopidine.

22. Name the mechanism of action of indirect anticoagulants:
A. Inhibits thromboplastin activity;
B. It binds calcium ions into the blood;
C. Inhibits the transformations of prothrombin and proconvertin into active forms in the liver;
D. Activates antithrombin III;
E. Activates the transformations of factors IX, X, XI, XII into active factors.

23. Indicate the drug that changes the coagulation time:

A. Heparin;
B. Acenocoumarol;
C. Acetylsalicylic acid (in small doses);
D. Carbazochrome;
E. Dipyridamole

24. Select the proportion between protamine sulfate and heparin, necessary for neutralization of the last one:
A. 0.5 ml protamine at 100 U heparin;
B. 1 ml protamine at 100 U heparin;
C. 1.2 ml protamine at 100 U heparin;
D. 1.5 ml protamine at 100 U heparin
E. 2 ml protamine at 100 U heparin

25. Which of the following drugs is not from antithrombotic group?
A. Heparin;
B. Streptokinase;
C. Ethyl biscumacetate;
D. Acetylsalicylic acid;
E. Aprotinin.

26. Select the laboratory investigation that ensure the effectiveness and harmlessness of fibrinolytic medication:
A. Coagulation time (maintained 2-3 times N);
B. Thrombin time (not more than 2 times the N value);
C. Recalculation time (not more than 2 times the N value);
D. Cephalin time (2 times the value of N);
E. Ethanol test (positive).

27. Name the drug that is not from hemostatic group:
A. Phytomenadione;
B. Etamsylate;
C. Aprotinin;
D. Acenocoumarol;
E. Protamine sulfate.

28. In which of clinical situation phytomenadione is not so effective as a hemostatic?
A. Bleeding from prolonged treatment with orally administered tetracycline or sulfamide;
B. Bleeding in patients with mechanical jaundice;
C. Bleeding in patients with large bowel resection;
D. Bleeding by hyperfibrinolysis;
E. Bleeding by overdose of coumarin anticoagulants.

29. Name the heparin antagonist:
A. Thrombin;
B. Acenocoumarol;
C. Menadione;

D. Protamine sulfate;
E. Fibrinogen.

30. In acute thrombosis, if 6 months ago, the patient made a treatment with streptokinase, it is recommended:
A. To keep the drug, because its effectiveness has already been demonstrated;
B. To keep the drug, but to increase the dose;
C. To keep the drug, but to reduce the dose;
D To change the drug, because tolerance to it has developed;
E. To change the drug to avoid allergic reactions;

31. Name the topical drug used for stopping bleeding from small vessels:
A. Phytomenadione;
B. Calcium chloride;
C. Acetylsalicylic acid;
D. Thrombin
E. Fibrinogen.

32. Name the criteria that confirms the effectiveness of heparin:
A. The coagulation time after Li-Wait should be 7-10 minutes;
B. The coagulation time after Li-Wait should be 10-15 minutes;
C. The coagulation time after Li-Wait should be 20-25 minutes;
D. The prothrombin index 50-70%;
E. The prothrombin index 70-105%;

33. Name the mechanism of action of sodium citrate:
A. It binds the calcium ions;
B. Inhibits thrombin activity;
C. Depresses the thromboplastin synthesis;
D. Inhibits the synthesis (activation) of prothrombin and proconvertin in the liver;
E. It promotes platelet aggregation.

34. Which of the following affirmations is not true for heparin?
A. Heparin is isolated from animal tissues;
B. Bad heparin is absorbed from the digestive tract;
C. The rate of heparin clearance is dose-dependent;
D. The effect of heparin can be antagonized by protamine;
E. Heparin passes into breast milk.

35. Which of the anti-aggregants inhibits prostaglandin synthesis?
A. Dextran 40;
B. Dipyridamole;
C. Prostacyclin;
D. Acetylsalicylic acid;
E. Ticlopidine.

36. Name the drug with direct influence on the factor X of the coagulation:

A. Acenocoumarol;
B. Heparin;
C. Sodium citrate;
D. Nadroparin;
E. Warfarin.

37. Name the criteria that demonstrate the effectiveness of indirect anticoagulants:
A. Prothrombin index> 40%;
B. The prothrombin index 50-70%;
C. Prothrombin index <70-100%;
D. International Standardization Index> 4;
E. International Standardization Index <2;

38. What is the latency of the warfarin action?
A. 24 hours;
B. 24-36 hours;
C. 36-48 hours;
D. 48-72 hours;
E. 72-96 hours.

39. Which of the following statements about vitamin B12 is false?
A. Vitamin B12 administration is therapeutically useful in case of deficiency;
B. Macrocytic anemia due to vitamin B12 deficiency is improved by folic acid administration;
C. Contrary to folic acid, vitamin B12 may favorably influence funicular myelosis that occurs in pernicious anemia;
D. Vitamin B12 is the best antidote in case of administration of a maximum dose of methotrexate;
E. After gastrectomy, we expect a vitamin B12 deficiency even that orally intake is sufficient.

40. Name the group of drugs allowed for use in pregnant women:
A. Direct anticoagulants;
B. Indirect anticoagulants - coumarin derivatives;
C. Indirect anticoagulants - indandion derivatives;
D. Anti-aggregant-inhibitors of cyclooxygenase;
E. ADP receptor anti-aggregants;

41. Which statement is false for H1- histamine receptor blockers?
A. They are used to relieve itching;
B. They reduce the symptoms of allergic rhinitis;
C. They do not influence gastric acid secretion triggered by histamine;
D. Some H1 antagonists are used as sedatives;
E. They are the first drugs of choice used in anaphylactic shock.

42. Select the contraindication for antihistamines H1:
A. Bronchial asthma;
B. Parkinson's syndrome;
C. Postoperative vomiting;
D. Drivers;

E. Contact dermatitis.

43. Name the most common side effects of dextran?
A. Allergic reaction;
B. Retrosternal pain;
C. Pulmonary edema;
D. Nephrotoxic effect;
E. Cerebral edema.

44. What is the effective time of action of dextran 70?
A. Up to 4 hours;
B. Up to 8 hours;
C. Up to 12 hours;
D. Only 60 min;
E. Up to 24 hours.

II. CM

1. Name the drugs that use in bleeding caused by the overdose of indirect anticoagulants:
A. Phytomenadione.
B. Protamine sulfate.
C. Ticlopidine.
D. Menadione.
E. Fresh or frozen plasma.

2. Select the drugs for treatment and prophylaxis of venous thrombosis:
A. Direct anticoagulants
B. Indirect anticoagulants
C. Fibrinolytic drugs
D. Anti-platelets
E. Antifibrinolytics

3. What are the interactions of oral indirect anticoagulants with the following groups of drugs:
A. Oral antidiabetic drugs increase the effect of oral anticoagulants by moving them from the albumin.
B. Oral antidiabetics decrease the effect of anticoagulants.
C. Statins decrease the effect of oral anticoagulants.
D. Statins increase the effect of oral anticoagulants by moving them from albumin.
E. Antiplatelets stimulate the action of anticoagulants and as a result increase the risk of bleeding.

4. The pharmacokinetic properties of standard heparin are:
A. Heparin is absorbed from the mucosa of the gastrointestinal tract
B. It is absorbed well after subcutaneous and intravenous administration
C. Cross the placental barrier.
D. TS after intravenous injection is variable, depending on the dose
E. A subcutaneous injection of the bioavailability of heparin is limited to 25-30%.

5. Select the correct statements for low molecular weight heparins compared to standard heparin:
A. Possesses superior bioavailability for subcutaneous administration

B. T1/2 is longer.
C. The anticoagulant effect for subcutaneous administration is longer
D. The action of inhibiting the IIa (thrombin)factor is stronger
E. The action of inhibiting the Xa factor is weak or null.

6. Select the correct statements for specific thrombin inhibitors compared to heparins:
A. The efficacy is greater and the adverse reactions are less
B. Does not cause complications caused by inactivation by F4, platelet
C. Does not require laboratory control
D. Exerts a good effect on coagulability parameters
E. Causes important interactions with other drugs

7. Select the pharmacokinetic properties of oral anticoagulant:
A. The action of oral anticoagulants is slow and long-lasting
B. It does not penetrate the placental barrier
C. It binds in a small proportion to plasma proteins
D. In plasma, in 90-99% it is bind by albumin
E. They cannot be used as an emergency medication

8. Select the correct answers that relate to ticlopidine:
A. Ticlopidine prevents ADP (adenosine diphosphate) binding to P2y purine platelet receptors, which results in inhibition of platelet activation
B. It is not fixed by plasma proteins
C. Constant plasma concentration is achieved quickly after several days of treatment
D. It will be administrated only after a benefit-risk balance has been made, due to numerous adverse reactions
E. It is a harmless drug that does not cause dangerous side effects

9. Select the fibrinolytic properties:
A. Fibrinolytics are effective within the first 24 hours after the onset of acute myocardial infarction and cerebral infarction.
B. Proportion between benefits/risks of fibrinolytic is favorable for patients with high risk of thrombosis and dangerous thromboembolism
C. Fibrinolytics will not be associated with heparins due to potentiation of the fibrinolytic effect
D. Fibrinolytics have a short half-life, so to maintain their effect over time, they should be introduced intravenously in infusion.
E. Anistreplaze has a longer half-life, lasting effect, which allows it to be administered in intravenous in bolus injections.

10. Select the correct statements about the mechanism of action of the antiplatelet agents:
A. Indobufen: inhibits thromboxane synthetase, selectively decreases TXA2 formation.
B. Dipyridamole activates platelet adenylate cyclase, increasing the amount of cAMP in platelets.
C. Pentoxifylline inhibits phosphodiesterase, increasing the amount of cAMP in the smooth muscle cells of vessels, in platelets and erythrocytes.
D. Dextrans inhibit thromboxane A2 receptors, and coagulation factor VIII, which stimulates platelet aggregation.

E. Eptifibatide selectively blocks fibrinogen binding to platelet GPIIb / IIIa receptors, due to RGD-like action, inhibiting platelet aggregation.

11. Name the cianocobalamine indications:
A. Pernicious anemia;
B. Megaloblastic anemia;
C. Neuritis;
D. Iron deficiency anemia;
E. Myocardial infarction.

12. Select the indications for the use of antifibrinolytics:
A. Actinic disease;
B. Thrombophlebitis;
C. Acute pancreatitis;
D. Traumatic, hemorrhagic and septic shock;
E. Myocardial infarction.

13. Select the indications for using of the fibrinolytic:
A. Pulmonary thromboembolism;
B. Acute myocardial infarction;
C. Arterial and venous thrombosis;
D. Thrombocytopenia;
E. Actinic disease;

14. Select the indications for the use of indirect coagulants:
A. Gastric bleeding;
B. Thrombophlebitis;
C. Parenchymal and capillary hemorrhages;
D. In overdose of indirect anticoagulants;
E. Arterial and venous thrombosis.

15. Name the mechanisms of heparin anticoagulant action:
A. It activates antithrombin III;
B. It stops the activity of factors IX, X, XI, XII, and calicrein;
C. It inhibits thromboplastin activity and blocks the passage of prothrombin into thrombin;
D. It inhibits prothrombin synthesis in the liver;
E. It binds calcium ions into the blood.

16. Select the indications of anti-aggregates drugs:
A. Prophylaxis of arterial thrombosis;
B. Acute myocardial infarction;
C. Ischemic heart disease;
D. cerebral circulatory disorders;
E. Parenchymal and capillary hemorrhages

17. Explain the long-acting effect of acetylsalicylic acid on platelet?

A. It has a high half-life;
B. It irreversibly inactivates thrombocyte cyclooxygenase;
C. It electively achieves high persistent concentrations in platelet cytoplasm;
D. Platelets do not have systems that restore cyclooxygenase inactivated by acetylsalicylic acid;
E. It stabilizes thrombocyte membranes by preventing the release of arachidonic acid.

18. In what cases will you prescribe the next drugs?
A. Fraxiparin in antithrombin III insufficiency
B. Protamine sulfate in overdose of direct anticoagulants
C. Etamzilate in overdose of indirect anticoagulants
D. Aminocaproic acid in fibrinolytic overdose
E. Phytomenadione in overdose with platelet anti-aggregates

19. Name the indications for the use of antifibrinolytic remedies:
A. Hemorrhages caused by increased fibrinolysis;
B. Thrombosis predisposition;
C. Liver cirrhosis;
D. Overdose of streptokinase;
E. Parenchymal hemorrhages.

20. Select the links of the mechanism of antifibrinolytic action of aminocaproic acid:
A. Decrease plasmin activity;
B. Acts directly on the fibrin, stabilizing it;
C. Inhibits plasminogen activators;
D. Acts as an inhibitor on the different proteolytic enzymes;
E. Blocks the activators of plasminogen (fibrinolysin) conversion into plasma.

21. Select the links of the mechanism of anti-aggregation action of dipyridamole:
A. Inhibits cyclooxygenase and thromboxane formation;
B. Blocks platelet phosphodiesterase;
C. Stimulates platelet adenylate cyclase;
D. Stimulates platelet phosphodiesterase;
E. Increases cAMP in platelets.

22. Name the pharmacokinetic properties for indirect anti-coagulants:
A. It is absorbed from the digestive tract;
B. It is metabolized slowly;
C. It is highly bound to plasma proteins;
D. It is excreted unchanged through the urine in large proportion;
E. The slow installation of the effect is due to a cumulative process.

23. Select the most effective drugs for prophylaxis of arterial thrombosis?
A. Heparin;

B. Streptokinase;
C. Acenocoumarol;
D. Dipyridamole;
E. Acetylsalicylic acid.

24. Select the side effects of fibrinolytic:
A. Systemic bleeding;
B. Thrombocytopenia;
C. Anaphylactic shock;
D. Alopecia;
E. Myocardial rupture.

25. Select the best anticoagulant, which will be given during the preoperative period for the patients who will be supposed to neurosurgical intervention, interventions on the urogenital tract, prostate, for the prophylaxis of thrombosis and thromboembolism:
A. Warfarin.
B. Heparin.
C. Nadroparin
D. Ticlopidine.
E. Acetylsalicylic acid.

26. Select the side effects of ethyl biscumacetate:
A. Hepatotoxicity;
B. Ototoxicity;
C. Teratogenicity;
D. Neurotoxicity;
E. Nephrotoxicity.

27. Characterized the pharmacokinetic properties of protamine sulfate:
A. It is given subcutaneously
B. It is given intravenously
C. The action manifests in 1-2 minutes
D. The action manifests in 10-20 minutes
E. The action is manifested within 1 hour.

28. Select the pharmacokinetic properties of oral anticoagulants:
A. Absorption is 80-90% at oral administration
B. Absorption is 20-40% at oral administration
C. Binding with plasma albumin is 97-99%
D. They do not mate with plasma albumin
E. They are rapidly eliminated in an unchanged form from the body

29. Select the anti-platelet drugs:
A. Direct thrombin inhibitors
B. Phosphodiesterase inhibitors

C. Inhibitors of GP IIb / IIIa receptors
E. Coumarin derivatives
E. Idandionic derivatives

30. Name the contraindications of fibrinolytic:
A. Acute myocardial infarction with ST-segment elevation on ECG
B. Hemorrhagic stroke
C. Treatment with oral anticoagulants
D. Refractory hypertension ≥180 / 95
E. Pulmonary artery thromboembolism

31. Name the plasma volume substitutes that cause a pseudoagglutination:
A. Dextran 70;
B. Human albumin;
C. Starch;
D. Dextran 40;
E. Jelatinol.

32. Name the drugs used in hemophilia A:
A. Factor VIII concentrate;
B. Factor IX concentrate;
C. Factor XIII concentrate;
D. Prothrombin complex concentrate;
E. Thrombin

33. Name the contraindication of heparin:
A. Severe hypertension;
B. Status asthmatics;
C. Predisposition to bleeding;
D. Hard liver disease;
E. Insufficiency of coagulation factors.

34.Select the topical remedies that use for stopping bleeding from small vessels:

A. Phytomenadione;
B. Calcium chloride;
C. Acetylsalicylic acid;
D. Thrombin;
E. Fibrine.

35. Select the specific characteristics of the iron drugs:
A. The daily requirement for a healthy adult is about 1mg in men and 1.4mg in women;
B. It is mostly absorbed in the stomach;
C. Gastric food and antacids decrease its bioavailability;
D. Absorption is higher in patients with iron-deficiency anemia than in healthy persons;
E. After absorption, it is transported by the plasma beta-glycoprotein.

36. Select the drugs that can be used as local hemostatic:
A. Epinephrine;
B. Thromboplastin
C. Thrombin;
D. Fibrin;
E. Phytomenadione.

37. Select the characteristics that correspond to vitamin B12 (cyanocobalamin):
A. It is mainly absorbed in the stomach;
B. It cannot be absorbed in patients with total gastrectomy;
C. The daily requirement is 1–2.5 mg;
D. Liver deposits are 1–10 mg;
E. Parenteral administration in high doses contributes to preferential elimination through urine.

38. Name the drug used in hemophilia B:
A. Factor VIII concentrate;
B. Factor IX concentrate;
C. Factor XIII concentrate;
D. Prothrombin complex concentrate;
E. Thrombin

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I. :

1. Select the enzyme drug preferred for ultrasonographic examination:
A. Mezym forte
B. Creon 25
C. Pankreoflet
D. Festal
E. Enzystal

2. Which enzyme drug will be preferred in the treatment of chronic pancreatitis associated with hypoacid gastritis:
A. Digestal
B. Panzynorm forte
C. Creon
D. Pankreoflat
E. Enzystal

3. Select the group of drug that does not inhibit the secretion of hydrochloric acid:
A. M-cholinoblockers
B. Proton pump inhibitors
C. H2-blockers
D. Antacids

E. Somatostatin analogues

4. Select the group of anti-ulcer drugs with gastroprotective and anti-secretory effect:
A. Bismuth preparations
B. Somatostatin analogues
C. Analogs of prostaglandins
D. Aluminum preparations
E. Magnesium preparations

5. Select the group of anti-ulcer drugs with gastroprotective and antihelicobacter pilory effect:
A. Somatostatin analogues
B. Analogues of prostaglandins
C. Aluminum preparations
D. Bismuth preparations
E. Magnesium preparations

6. Select the antisecretory drug with antigastrinic action:
A. Omeprazole
B. Pirenzepine
C. Octreotide
D. Roxatidine
E. Proglumide

7. Select the best group of anti-ulcer drug for ulcer prophylaxis produced by non-steroidal anti-inflammatory drugs (according to the mechanism of action):
A. Antacids
B. M-cholinoblockers
C. Analogs of prostaglandins
D. Somatostatin analogues
E. Proton pump inhibitors

8. Select the drug from H2-histaminoblockers for which is characteristic such side effects as: gynecomastia, galactorrhea, oligospermia?
A. Roxatidine
B. Nizatidine
C. Famotidine
D. Ranitidine
E. Cimetidine

9. Select the group of gastric antisecretory agents with anti-helicobacter pylori effect:
A. H2-histaminoblockers
B. Antigastric drugs
C. Somatostatin analogues
D. Proton pump inhibitors
E. M-cholinoblockers

10. Select the group of gastric antisecretory drugs that have the strongest effect:
    A. H2-histaminoblockers
    B. Antigastric preparations
    C. Somatostatin analogues
    D. Proton pump inhibitors
    E. M-cholinoblockers

11. Which gastric antisecretory group has the most lasting effect?
    A. H2-histaminoblocks
    B. Antigastric preparations
    C. Proton pump inhibitors
    D. Somatostatin analogues
    E. M-cholinoblockers

12. Select a group of antisecretory drug that inhibit the cytochrome P_{450} system?
    A. Proton pump inhibitors
    B. Antigastric preparations
    C. Somatostatin analogues
    D. Analogies of prostaglandins
    E. M-cholinoblockers

13. Name the reason for the use of proton pump inhibitors in therapeutic doses over 8 weeks:
    A. Danger for sexual disturbances
    B. Hypergastrinemia with hyperplasia of enterochromaffine-like cells
    C. Stimulation of the cytochrome P_{450} system
    D. Reducing the bioavailability of the preparations
    E. Decreased vagus nerve tonus

14. Select the group of antibiotics with prokinetic effect:
    A. Penicillins
    B. Aminoglycosides
    C. Macrolides
    D. Tetracyclines
    E. Ansamycins

15. Select the drug with cholelitholytic action:
    A. Alochol
    B. Cholenzim
    C. Ursodezoxycholic acid
    D. Cholaflux
    E. Febicol

16. Name the cholecystokinetic drug:
    A. Magnesium sulphate
    B. Cholaflux
    C. Cholenzim

D. Ursodezoxycholic acid
E. Phenobarbital

17. Which laxative and purgative drug can act by softening the stool and increasing the osmotic pressure:
A. Laminarid
B. Magnesium sulphate
C. Lactulose
D. Bactisubtil
E. Castor oil

18. Select the mechanism of action of spasmolytics (smooth muscle antispasmodics):
A. Inhibits cyclooxygenase
B. Inhibits phosphodiesterase
C. Inhibits adenylatcyclase
D. Inhibits lipooxygenase
E. Inhibits xanthinoxidase

19. From which group of antivomitives is ondansetron:
A. Cannabinoids
B. Dopaminergic antagonists
C. Serotoninergic antagonists
D. H1-blockers
E. Neuroleptics

20. Determine the group of drugs used to remove the intestinal contents for a urgent surgery:
A. Irritant laxatives with synthetic origin
B. Osmotic purgatives
C. Drugs that increase the volume of the intestine
D. Sena containing drugs
E. Emolient laxatives

21. Select the groups of anti-vomiting drugs used anti-cancer therapy induced vomiting:
A. H1-antihistamines
B. Serotonin antagonists
C. Spasmolytics
D. Cannabinoids
E. Local anesthetics

22. Name antidiarrheal drug, the opioid-related:
A. Atropine
B. Diosmectin
C. Bactisubtil
D. Loperamide

E. Bifiform

23. Which laxative group is the best for the patients who have a difficult stool removal?
    A. Bulk laxatives
    B. Stool softening
    C. Osmotic purgatives
    D. Purgatives with action on the large intestine
    E. Purgatives with action on the small intestine

24. Select the drug that decreases the surface tension of the gas bubbles:
    A. Medicinal charcoal
    B. Polyfepane
    C. Neostigmine
    D. Dimethicone
    E. Festal

25. Name the group of drugs with specific anti-inflammatory action in Crohn's disease:
    A. Cholelitholytics
    B. Hepatoprotectors
    C. Azo-compound drugs(azathioprine)
    D. Mineralocorticoids
    E. Cytoprotectors

26. Which drug has a direct protective effect on ulcerative lesions?
    A. Cimetidine;
    B. Acetazolamide;
    C. Sucralfate;
    D. Omeprazole;
    E. Sodium bicarbonate.

27. The effect of omeprazole on parietal cells is manifested by:
    A. Competitive inhibition of the effect of gastrin
    B. Competitive inhibition of histamine in H2-receptors
    C. Irreversible inhibition of H + / K + ATP-ase
    D. Irreversible inhibition of adenylate cyclase
    E. Blockage of prostaglandin receptors.

28. Which of the following drugs is a non-systemic antacid?
    A. Sodium bicarbonate;
    B. Ranitidine;
    C. Sucralfate;
    D. Misoprostol;
    E. Magnesium hydroxide.

29. Which of the following drugs can have a constipating effect?
    A. Magnesium hydroxide;
    B. Aluminum hydroxide;
    C. Ranitidine;
    D. Calcium carbonate;
    E. Pirenzepine.

30. Name the drug that cannot decrease flatulence:
    A. Carminative;
    B. Parasympathomimetics;
    C. Surfactants;
    D. Adsorbent;
    E. Antacids.

31. Which of the antivomitive drugs make a prokinetic effect?
    A. Serotoninergic antagonists;
    B. H1-antihistamines;
    C. Dopaminergic antagonists;
    D. Colinolitice;
    E. Neuroleptics.

CM B.

1. Select the groups of drugs used for therapeutic purposes in the hyposecretion of digestive glands:
    A. M-colinoblockers
    B. anticholinesterase inhibitors
    C. Ganglioblocantele
    D. M-cholinomimetics
    E. Peripheral myiorelaxants

2. Name the substitution drugs used in the hyposecretion of the gastric glands:
    A. Abomine
    B. Creon
    C. Pepsin
    D. Pepsidil
    E. Pancreatin

3. Select monocomponent drugs used in pancreatic hyposecretion:
    A. Abomine
    B. Triferment
    C. Creon
    D. Pankreoflet
    E. Panzynorm forte

4. Select the possible combinations of drugs used in pancreatic hyposecretion:

A. Pancreatin + adsorbents
B. Pancreatin + bile extract + herbal extract
C. Pancreatin + antihelicobacter drugs
D. Pancreatin + prokinetic drugs
E. Pancreatin + bile extract + hemicellulase

5. Wich can be the components from the complex enzymatic drugs used in pancreatic hyposecretion:

A. Hemicellulouse
B. Dimetilpolixiloxan
C. Aprotinin
D. Artificial gastric juice
E. Bile extract

6. Select whatis the goul of use enzyme preparations in the treatment of chronic pancreatitis:

A. Treatment of infection
B. Treatment of persistent pain
C. Regeneration of the duodenal mucosa
D. Treatment of malabsorption
E. Treatment of dysmicrobism

7. Which drugs will be preferred in the treatment of chronic pancreatitis associated with hepatocolecystitis:

A. Pancreatin + bile extract + hemicellulouse
B. Pancreatin + bile extract + plant extract
C. Pancreatin + adsorbent preparations
D. Pancreatin in small doses
E. Pancreatin + bile extract + gastric mucosal extract

8. What are the effects of hemicellulose or cellulose from the combined enzyme drugs used in the treatment of pancreatic hyposecretion:

A. Lipid cleavage
B. Carbohydrate cleavage
C. Splitting of non-digestible fibers
D. Protein cleavage
E. Reduction of fermentation processes

9. What are the basic actions of pancreatin from the combined enzyme drugs used to treat pancreatic hyposecretion:

A. Lipid cleavage
B. Carbohydrate cleavage
C. Splitting of non-digestible fibers
D. Reducing fermentation processes
E. Protein cleavage

10. What are the effects of bile extract from the combined enzyme drugs used in the treatment of pancreatic hyposecretion:
    A. Proteolytic effect
    B. Choleretic effect
    C. Amylolytic effect
    D. Increases the absorption of fat-soluble vitamins
    E. Adsorbent effect

11. Select the groups of drugs used in the treatment of gastric or duodenal ulcer:
    A. Antihelicobacter drugs
    B. Gastro- and cytoprotective
    C. Anti-Inflammatory drugs
    D. Substitution preparations
    E. Antacids

12. What are the disadvantages of atropine used in the treatment of gastric or duodenal ulcer:
    A. Non-selective action (blocks M1, M2 and M3 cholinoreceptors)
    B. Selective action (blocks m1-choline receptor)
    C. Requires higher doses for antisecretory effect
    D. Systemic effects (tachycardia, hyposalivation, etc.)
    E. Effective in nighttime pain

13. What are the particularities of the anti-ulcer effect of pirenzepine:
    A. It blocks m1, m2 and m3 colinoreceptors
    B. It accumulates selectively in the parietal cells
    C. It produces hyposecretion of the salivary, sweat glands
    D. Reduces markedly vagus secretion
    E. Has the action more marked than atropine

14. What are the manifestations of the anti-ulcer effect of H2-histaminoblockers:
    A. Reduces the volume of gastric juice, secretion of hydrochloric acid and pepsin
    B. Reduces the volume of gastric juice without altering the secretion of hydrochloriacid and pepsin
    C. Inhibits basal and stimulated secretion
    D. Quickly relieves pain
    E. Inhibits only basal secretion

15. The antisecretory mechanism of H2 – histamino blockers is due to:
    A. Stimulates adenylate cyclase
    B. Inhibits adenylate cyclase
    C. Increases the concentration of cAMP and calcium
    D. It decreases the concentration of cAMP and calcium
    E. It decreases the activity of phospholipase C

16. The mechanism of the antisecretory action of M-cholinoblockers is due to:

A. Inhibits adenylatcyclase
B. Inhibits phospholipase C
C. Increases cAMP concentration
D. It decreases the concentration of inositoltriphosphate and diacylglycerol
E. Increases the concentration of inositol triphosphate and dialcylglycerol

17. Select H2-histamino-blockers from generation III:
A. Nizatidine
B. Ranitidine B.
C. Roxatidină
D. Famotidine
E. Cimetidine

18. In what cases H2-histamino-blockers are prescribed in large doses?
A. Gastric ulcer
B. Gastric bleeding
C. Hyperacid gastritis
D. Zollinger-Ellison syndrome
E. Reflux esophagitis

19. For what reasons is cimetidine practically not used as an anti-ulcer drug?
A. It has a long-lasting effect of inhibiting gastric secretion
B. Has a short-term effect of inhibiting gastric secretion
C. It has a higher incidence of adverse reactions
D. Is not suppused to metabolism
E. It is metabolized more intensely

20. What are the particularities of the mechanism of action of proton pump inhibitors as antisecretors?
A. It turns into the active form
B. They are prepared in active form
C. It irreversibly blocks the secretion of hydrogen ions
D. Exerts bacteriostatic effect on H.Pylori
E. Inhibits gastrin secretion

21. What are the particularities of the anti-ulcer effect of proton pump inhibitors:
A. Inhibits basal, nocturnal and stimulated secretion
B. The stable effect is observed over 2-5 days
C. Inhibit reversible H + K + -ATP-aza
D. Inhibits pepsin secretion more markedly
E. It manifests the strongest anti-secretory effect

22. Name the pharmacokinetic particularities of H2-histamino-blockers as anti-ulcerous drugs:
A. High bioavailability
B. Large distribution volume

C. Low coupling with plasma proteins
D. High coupling with proteins
E. Various bioavailability

23. Name the consequences of marked inhibition of gastric secretion by proton pump inhibitors:
A. Retention of ulcer healing
B. Fostering intestinal infections
C. Reducing the effects of other drugs
D. Increased nitrosamine levels
E. Enterochromaffin cell atrophy

24. Name the particularities of the gastroprotective effect of prostaglandin analogues:
A. Improvement of circulation in the mucosa
B. Inhibition of the proton pump
C. Increased bicarbonate secretion
D. Vasoconstriction in the mucosa with decreased secretion
E. Reducing the influence of the vagus

25. What are the components of the mechanism of action of prostaglandin analogues?
A. Stimulation of adenylatcyclase activity
B. Decreasing the cAMP level
C. Decreased secretion of hydrogen ions
D. Increasing the cAMP level
E. Inhibition of adenylatcyclase

26. Select the indications for the use of prostaglandin analogues:
A. Zollinger-Ellison syndrome
B. Ulcer prophylaxis caused by non-steroidal anti-inflammatory drugs
C. Ulcer prophylaxis in smokers
D. Prophylaxis of seasonal ulcer
E. Prophylaxis of ulcer in case of alcohol abuse

27. Why the prostaglandin analogues are contraindicated for pregnant women?
A. Carcinogenic action
B. oxytocic action
C. Teratogenic action
D. The imminence of abortion
E. Mutagenic action

28. Name the components of the antisecretory mechanism of action of somatostatin analogues:
A. Interacts with specific membrane receptors to stimulate adenylatcyclase
B. Interacts with specific membrane receptors with adenylatcyclase inhibition
C. Increases the concentration of cAMP
D. It decreases the concentration of cAMP
E. It blocks vegetative lymph nodes

29. Select the groups of drugs used in the treatment of nonspecific ulcerative colitis:
    A. Citoprotectoars
    B. Azo-compound(azothioprine)
    C. Glucocorticoids
    D. Cephalosporins
    E. Nitroimidazole derivatives

30. Name the groups of receptors whose inhibition will contribute to the development of the antivomotive effect of neuroleptics?
    A. It blocks H2-histaminergic receptors
    B. It blocks dopaminergic receptors
    C. It blocks serotoninergic receptors
    D. It blocks purinergic receptors
    E. It blocks opioid receptors

31. Select the groups of symptomatic and pathogenetic antidiarrheal drugs:
    A. Enzymatic preparations
    B. Astringent preparations
    C. Biological preparations
    D. Opioid preparations
    E. Adsorbent preparations

32. Select osmotic laxatives-purgatives:
    A. Magnesium sulphate
    B. Bisacodyl
    C. Castor oil
    D. Lactulose
    E. Paraffin oil

33. Select irritant purgatives:
    A. Magnesium sulphate
    B. Bisacodyl
    C. Castor oil
    D. Lactulose
    E. Paraffin oil

34. What side effects are characteristic for omeprazole:
    A. Hypergastrinemic rebound effect
    B. Development of gastrointestinal candidiasis
    C. photosensitivity
    D. Risk of hepatitis
    E. The risk of interstitial nephritis

35. Protectors of the gastric mucosa are:
    A. Diosmectita
    B. Bismuth salts
    C. Analogues of prostaglandins

D. Sucralfate
E. bisacodyl

36. Determine the active antimicrobials for H.Pylori:
A. Chloramphenicol
B. Metronidazole
C. Clarithromycin
D. Cefazoline
E. Amoxicillin

37. Determine the most commonly used hepatoprotective agents in hepatic encephalopathy:
A. Hepasteril
B. Lactulouse
C. Neomycin
D. Methionine
E. Liv-52

38. Determine the effects of hepatoprotectors:
A. Antivomitive
B. Membrane stabilizer
C. Detoxifying agent
D. Antioxidant
E. Gastroprotector

39. Which of the following drugs predominantly acts as a protective agent on the gastro-duodenal mucosa?
A. Sucralfate.
B. Ranitidine;
C. Bismuth compounds;
D. pirenzepine;
E. Famotidine;

40. What drugs can increase intestinal transit?
A. Loperamide;
B. Sucralfate;
C. Aluminum hydroxide;
D. Magnesium oxide;
E. Izafenină.

41. Select the contraindications of choleretic drugs
A. Acute hepatitis;
B. Atherosclerosis;
C. Mechanical jaundice;
D. Biliary colic;
E. Malabsorption states.

42. Select antidiarrheal drugs:
    A. Loperamide;
    B. Bisacodyl;
    C. Bactisubtil;
    D. Diosmectină;
    E. Atropine.

43. Select anti-flatulence drugs or groups of drugs:
    A. Medical charcoal;
    B. Dimethicone;
    C. Plant carminatives;
    D. Scopolamine;
    E. Parasympathomimetics.

44. Metoclopramide is contraindicated in the following cases:
    A. A pheochromocytoma;
    B. Hypertension;
    C. Epilepsy;
    D. Tardive dyskinesia;
    E. Breast cancer.

45. Metoclopramide may cause the following side effects:
    A. drowsiness;
    B. Neurosis;
    C. Hypotension;
    D. Extrapyramidal symptoms;
    E. High blood pressure.

46. Select contraindications of loperamide:
    A. Intestinal obstruction;
    B. Acute and pseudomembranous ulcerative colitis;
    C. First trimester of pregnancy;
    D. Acute diarrhea;
    E. Lactation.

47.Select hepatoprotective drugs:
    A. Silymarin;
    B. Riboxin;
    C. Sirepar;
    D. Sulpiride;
    E. Essentiale (soybean oil).

48. Bactisubtil is indicated in the following cases:
    A. Diarrhea;
    B. Colitis;
    C. Vomiting;

D. Sepsis;
E. Dysbacteriosis.

49. Select the drugs that can inhibit gastric secretion:
A. Antigastric substances;
B. Carboanhydrate inhibitors;
C. Parasympatholytics;
D. Antacids;
E. H2-histaminergic blockers.

Respyratory system
SC

1. SC. Choose the group of adrenomimetics drugs that have selective bronchodilatory action?
A. Alpha-beta-adrenomimeticele
B. Beta-1-adrenomimetics
C. Alpha-1-adrenomimetics
D. Alpha-2-adrenomimetics
E. Beta-2-adrenomimetics

2. SC. Select the group of cholinergic drugs that has bronchodilatory action?
A. M-cholinomimetics
B. M-cholinoblockers
C. M-N-cholinomimetics
D. N-colinoblockers
E. N-cholinomimetics

3. SC. Name the 5-lipooxygenase inhibitor used as a bronchodilator:
A. Ozagrel
B. Ketotifen
C. Zileuton
D. Montelukast
E. Troventol

4. SC. Name the αβ-adrenomimetic drug that is used as a bronchodilator:
A. Salbutamol
B. Epinephrine
C. Orciprenaline
D. Fenoterol
E. Salmeterol

5. SC. Name the long-acting adrenomimetic that is used as a bronchodilator:
A. Fenoterol
B. Formoterol
C. Pirbuterol

D. Salbutamol
E. Terbutaline

6. **SC. Name the selective short-acting adrenomimetics used as a bronchodilator:**
   A. Fenoterol
   B. Clenbuterol
   C. Formoterol
   D. Salmeterol
   E. Isoprenaline

7. **SC. Select the long-acting duration of bronchodilators from the adrenomimetics group:**
   A. 5-10 min
   B. 12-24 hours
   C. 0.5-2 hours
   D. 10-12 hours
   E. 3-6 hours

8. **SC. Select the short-acting duration of adrenomimetics group that are used as bronchodilators:**
   A. 5-10 min
   B. 12-24 hours
   C. 0.5-2 hours
   D. 10-12 hours
   E. 3-6 hours

9. **SC. Select the ultra long-acting duration of adrenomimetics group that are used as bronchodilators:**
   A. 5-10 min
   B. 24 hours
   C. 0.5-2 hours
   D. 10-12 hours
   E. 3-6 hours

10. **SC. Name the drug that inhibits the leukotrienic receptor and is used as a bronchodilator:**
    A. Zileuton
    B. Montelukast
    C. Cetirizine
    D. Salbutamol
    E. Astemizole

11. **SC. Wich effect of alpha-beta-adrenomimetics drugs could be helpful in bronchial asthma except the bronchodilator one:**
    A. Systemic vasoconstriction and increasing the blood pressure
    B. Spasm of the alveolar sphincter

C. Systemic vasodilation and decreasing blood pressure
D. Vasoconstriction of bronchial mucosa vessels and decreasing permeability
E. Vasodilation of bronchial mucosal vessels and increasing permeability

12. SC. Select the latent action of salbutamol used in inhalatory way:

A. 2-10 min
B. 30-60 min.
C. 1-2 hours.
D. 2-4 hours
E. 4-6 hours

13. SC. Select the latent action of salmeterol used in inhalatory way:

A. 2-5 min.
B. 5-10 min.
C. 10-30 min.
D. 4-6 hours
E. 6-8 hours

14. SC. Name the cause of the reduced bioavailability of isoprenaline:

A. Reduced absorption from the digestive tract
B. Rapid absorption from the digestive tract
C. Formation of non-absorbable complexes
D. Inactivation in the intestinal wall and liver
E. Predominance of the ionized form

15. SC. Select the action of the main metabolite of isoprenaline:

A. Beta-adrenoblocker
B. Beta -adrenomimetic
C. Alpha-adrenomimetic
D. Alpha-adrenoblocker
E. M-cholinoblocker

16. SC. Why duration of action of salmeterol is longer than salbutamol?

A. It is absorbed slower from the digestive tract
B. Has a higher lipophility
C. Has a higher hydrosolubility
D. Is rapidly absorbed from the digestive tract
E. Is metabolized more fast

17. SC. What is the bioavailability of beta-adrenomimetics at the correct inhalation administration?

A. 90%
B. 60%
C. 30-70%
D. 10-20%
E. 50-80%

18. SC. Select αβ-adrenomimetic that has psychostimulatory action:

A. Epinephrine
B. Isoprenaline
C. Ephedrine
D. Terbutaline
E. Hexoprenaline

19. SC. Name the cause of tremor of fingers at using the β2-adrenomimetic as bronchodilators:

A. Excitation of alpha-adrenoreceptors
B. Excitation of beta-1-adrenoreceptors
C. Blocking of beta-1-adrenoreceptors
D. Blocking of beta-2-adrenoreceptors
E. Excitation of beta-2-adrenoreceptors

20. SC. Name the cause of headache and dizziness at using bronchodilatory adrenomimetics:

A. Beta-1-adrenoreceptor excitation
B. Excitation of alpha-adrenoreceptors
C. Excitation of beta-2-adrenoreceptors
D. Blocking of beta-2-adrenoreceptors
E. Blocking of alpha-adrenoreceptors

21. SC. Select the mechanism of bronchodilation action of methylxanthines:

A. Blocking the M-cholinoreceptors
B. Adenosine antagonism
C. Antagonism with acetylcholine
D. Antagonism with noradrnaline
E. Histamine antagonism

22. SC. Name the cardiovascular effect most commonly found after using therapeutic doses of methylxanthines:

A. negative chronotrop
B. negative dromotrop
C. negative batmotrop
D. negative inotrop
E. positive inotrop

23. SC. Select the duration of effect of aminophylline after intravenous administration:

A. 6-8 hours
B. 30-45 min
C. 120-240 min
D. 12-18 hours
E. 20-24 hours

24. SC. Why methylxanthines are not used as antianginal agent?

A. Causes coronary artery constriction with tachycardia and increased oxygen consumption
B. Causes coronary artery constriction with bradycardia and increased oxygen consumption
C. Causes coronary artery dilation with tachycardia and increased oxygen consumption
D. Causes coronary artery dilation with bradycardia and increased oxygen consumption
E. Causes coronary artery constriction with tachycardia and decreased oxygen consumption

25. SC. Select the basic indication for the internal administration of methylxanthines:
A. Prophylaxis of asthma attacks as first choice drugs
B. Jugular access of asthma attack
C. Systematic treatment of asthma as preparations of the first choice
D. Prophylaxis of asthma attacks in the ineffectiveness of adrenomimetics, glucocorticoids
E. Asthmatic status

26. SC. Select the dosage of aminophylline for intravenous administration:
A. Initially the attack dose, then maintenance
B. The maintenance dose throughout the serious crisis
C. Gradually increasing doses
D. Attack doses throughout the crisis
E. Initially the test dose, then the attack dose

27. SC. Select the dosage for internal administration of theophylline and aminophylline:
A. Initially the attack dose, then maintenance
B. Initially the test dose, then the attack
C. Doses of attack throughout the treatment
D. Gradually increasing the dose
E. The maintenance dose throughout the treatment

28. SC. Select the effective plasma concentration of aminophylline:
A. 5-7.5 μg / ml
B. 20-30 μg / ml
C. 30-40 μg / ml
D. 100 μg / ml
E. 10-12 μg / ml

29. SC. The stable therapeutic concentrations at the internal administration of methylxanthines are achieved:
A. After 8 hours
B. After 3 days
C. After 12 hours
D. After 24 hours

E. After 7 days

30. SC. Indicate the way of administration of methylxanthines that currently is omitted from use:

A. Rectal
B. Intravenous through bolus
C. Internal
D. Intramuscular
E. Intravenous infusion

31. SC. Select the main indication of inhaled glucocorticoids:

A. Jugulation of bronchial asthma access
B. Status asthmaticus
C. Avoiding exacerbations of bronchial asthma at physical effort
D. Prevention of reflective bronchospasm (surgery, etc.)
E. Background treatment of bronchial asthma

32. SC. Name the period needed to install the stable effect of inhaled glucocorticoids:

A. 5-7 days
B. 5-15 min.
C. 2-4 hours
D. 12-24 hours
E. 6-8 hours

33. SC. Name the period needed to install the stable effect of mast cell degranulation inhibitors in the treatment of asthma:

A. In 7 days
B. In 12-24 hours
C. In 24-48 hours
D. In 3-4 weeks
E. In 3-4 months

34. SC. Name the indication for antileukotriene drugs:

A. Jugulation of bronchial asthma attacks
B. Asthmatic status
C. Systematic treatment of bronchial asthma
D. Pulmonary edema
E. Pulmonary hypertension

35. SC. How the sputum character changes after using secretory stimulating expectorants with reflex action?

A. Viscous with volume increase
B. Abundant liquid with a high protein content
C. Abundant liquid with aqueous component (water)
D. Liquid in normal volume
E. Liquid with small amounts of mucus

36. SC. Select the dosage regimen of secretory stimulating expectorants with reflex action:

A. Every 6 hours
B. Every 4 hours
C. Every 60 min.
D. Every 2 hours
E. Every 8 hours

37. SC. Explain how the character of sputum changes after using acetylcysteine?

A. Decreases viscosity with sputum fragmentation
B. Abundant liquid with a high protein content
C. Abundant liquid with aqueous component (water)
D. Liquid in normal volume
E. Liquid with small amounts of mucus

38. SC. Name the cause of the bioavailability reduction of bromhexine:

A. It absorbs weakly from the digestive tract
B. It absorbs well from the digestive tract
C. Is subjected intensely to the first hepatic passage
D. Is quickly excreted by the bile
E. Is rapidly excreted through the urine

39. SC. Indicate why the bioavailability of ambroxol is greater than bromhexine:

A. It is absorbed weaker from the digestive tract
B. Is weaker subject to the first hepatic passage
C. Is subjected more intensely to the first hepatic passage
D. It is better absorbed from the intestines
E. It is eliminated more intensely by the bile

40. SC. Select the duration of action of ambroxol:

A. 12-16 hours
B. 2-4 hours
C. 4-6 hours
D. 8-12 hours
E. 4-8 hours

41. SC. Select the duration of the anti-cough effect of codeine:

A. 12 hours
B. 1-2 hours
C. 4-6 hours
D. 8 hours
E. 16 hours

42. SC. Characteristics the anti-coughing effect of codeine:

A. Inhibits cough reflex arc

B. Increases bronchial secretion
C. Increases cilliar motility
D. The effect appears at analgesic doses
E. The effect appears at lower doses than the analgesic ones

43. SC. Which drug group will be prescribed in cough with difficult sputum elimination?
A. Decongestants
B. Expectorants
C. Humectants
D. Sedatives
E. Opioids

44. SC. Select the long-acting M-cholinoblocker used as bronchodilators:
A. Ipratropium
B. Aclidiniu
C. Pirbuterol
D. Clenbuterol
E. Tiotropium

MC

1. MC. Select the groups of bronchodilators:
A. M-colinoblockers
B. Inhibitors of mast cell degranulation
C. Methilxantines
D. Alpha-adrenomimetics
E. Antileukotrienes

2. MC. Name the groups of adrenergic drugs used as bronchodilators?
A. Alpha-adrenomimetics
B. Beta-1-beta-2-adrenomimetics
C. Beta-2-adrenomimetics
D. Beta-1-adrenomimetics
E. Alpha-beta-adrenomimetics

3. MC. Name the β2-adrenomimetics used as bronchodilators:
A. Clenbuterol
B. Ephedrine
C. Terbutaline
D. Fenoterol
E. Isoprenaline

4. MC. Name the inhaled glucocorticoids used as bronchodilators:
A. Fluticasone

B. Dexamethasone
C. Budesonide
D. Beclomethasone
E. Prednisolone

5. MC. Name the leukotrienic receptor antagonists used as bronchodilators:
A. Fenoterol
B. Montelukast
C. Zileuton
D. Zafirlukast
E. Salbutamol

6. MC. Name the ultra long-acting M-cholinoblockers used as bronchodilators:
A. Ipratropium
B. Tiotropium
C. Glycopyrronium
D. Oxitropium
E. Umeclidiniu

7. MC. Name the mast cell degranulation inhibitors used as bronchodilators:
A. Astemizole
B. Nedocromil
C. Ketotifen
D. Terfenadine
E. Chromoglylicic acid

8. MC. Name the systemic glucocorticoids used as bronchodilators:
A. Beclomethasone
B. Dexamethasone
C. Methylprednisolone
D. Fluticasone
E. Prednisolone

9. MC. Name the alpha-beta-adrenomimetics used as bronchodilators:
A. Isoprenaline
B. Ephedrine
C. Terbutaline
D. Epinephrine
E. Orciprenaline

10. MC. Name the ultra long-acting beta2-adrenomimetics used as bronchodilators:
A. Indacaterol
B. Salmeterol
C. Vilanterol
D. Formoterol
E. Fenoterol

11. MC. Name the long-acting beta-adrenomimetics used as bronchodilators:

A. Clenbuterol
B. Formoterol
C. Indacaterol
D. Fenoterol
E. Salmeterol

12. MC. Name the short- acting beta2- adrenomimetics:

A. Salbutamol
B. Formoterol
C. Fenoterol
D. Terbutaline
E. Salmeterol

13. MC. List the M-cholinoblockers used as bronchodilators:

A. Ipratropium
B. Aclidiniu
C. Pirbuterol
D. Clenbuterol
E. Tiotropium

14. MC. Name the methylxanthines used as bronchodilators:

A. Platifilina
B. Aminophylline
C. Ephedrine
D. Theophylline
E. Terfenadine

15. MC. Name the components of bronchodilatory mechanism of adrenomimetics:

A. Inhibits adenylatcyclase
B. Stimulates adenylatcyclase
C. Increases c GMP
D. Increases c AMP
E. Decreases c AMP

16. MC. Select the effects for beta-2-adrenomimetics:

A. Systemic vasodilation with high blood pressure
B. Coronary vasodilation
C. Relaxation of the uterus
D. Vasoconstriction of bronchial mucosal vessels
E. Stimulation of skeletal muscles

17. MC. Select the characteristic effects for beta-1 and beta-2-adrenomimetics:

A. Positive inotrop
B. Negative inotrop
C. Positive chronotrop

D. Positive batmotrop
E. Dromotrop negative

18. MC. Name the therapeutic benefits of adrenomimetics in bronchial asthma:

A. Mainly dilation of the large caliber bronchi
B. Mainly dilation of small-caliber bronchi
C. Increased mucociliary transport
D. Decreased mucociliary transport
E. Increased chlorine and water secretion in bronchial secretion

19. MC. Select of the therapeutic benefits of adrenomimetics in bronchial asthma:

A. Remove the bronchospasm produced by different stimuls
B. Remove the bronhospasm produced by histamine
C. Vasocontriction with decongestion of the bronchial mucosa
D. Decrease the pressure of carbon dioxide in the blood
E. Vasodilation of bronchial mucosal vessels

20. MC. Select the enzymes involved in epinephrine inactivation:

A. Phosphodiesterase
B. MAO
C. Xanthine oxidase
D. Catechol-o-methyltransferase
E. Dopa-decarboxilase

21. MC. Select the indications of adrenomimetics as bronchodilators:

A. Jugulation of bronchial asthma access
B. Prophylaxis of asthma attacks
C. Pulmonary edema
D. High blood pressure
E. Chronic obstructive pulmonary disease

22. MC. Indication of non-selective adrenomimetics:

A. Spasm of the cerebral vessels
B. Disorders of atrio-ventricular conductibility
C. Imminent miscarriage
D. Cardiogenic shock when cardiac glycosides are contraindicated
E. Imminent premature birth

23. MC. Indications of bronchodilator adrenomimetics:

A. Arrhythmias
B. Bronchial asthma attacks
C. Prophylaxis of bronchial asthma access
D. Asthmatic status
E. High blood pressure

24. MC. Indications of bronchodilators β2-adrenomimetics:

A. Spontaneous abortion imminence
B. Spasm of the cerebral vessels
C. Arrhythmias
D. High blood pressure
E. Premature brth imminence

25. MC. Adrenomimetics with bronchodilatory action are used with caution in:
A. Hyperthyroidism
B. Chronic obstructive pulmonary disease
C. Angina pectoralis
D. High blood pressure
E. Imminent miscarriage

26. MC. Tolerance to beta-adrenomimetics can be determined by:
A. Cerebral vasodilation
B. Increased of alpha-adrenoreceptor density
C. Formation of metabolites with beta-adrenoblocking action
D. Formation of metabolites with beta-adrenomimetic action
E. Decrease of beta-adrenoreceptor density

27. MC. Name the side effects caused by the excitation of beta-2-adrenoreceptors from the brain vessels:
A. Agitation
B. Headache
C. Euphoria
D. Dizziness
E. Anxiety

28. MC. Name the side effects caused by the excitation of beta2-adrenoreceptors in the CNS:
A. Headache
B. Restlessness
C. Anxiety
D. Dizziness
E. Agitation

29. MC. Name side effects caused by excitation of beta-1-adrenoreceptors:
A. Myocardial ischemia
B. Arrhythmias
C. Cerebral vasodilation
D. Peripheral vasodilation
E. Tachycardia

30. MC. Select the components of the therapeutic benefit of M-cholinoblockers in asthma:
A. Dilates large and medium caliber bronchi
B. Dilates small-sized bronchi

C. Prevents hypertrophy of the smooth muscles of the bronchi
D. Inhibits the release of mediators from mast cells
E. Increases bronchial secretion

31. MC. Select the indications of m-cholinoblocks as bronchodilators:
A. Bronchial asthma, severe form
B. Bronchial asthma, mild form
C. Bronchial asthma attacks
D. Chronic obstructive pulmonary disease
E. Bronchial asthma that does not respond to adrenomimetics, glucocorticoids

32. MC. M-cholinoblockers are indicated in bronchospasm induced by:
A. Histamine administration
B. Physical effort
C. Inhalation of dust
D. Administration of bradykinin
E. Surgery

33. MC. Oxytropiu as a bronchodilator in contrast to atropine is characterized by:
A. Shorter duration of action
B. Absence of systemic effects
C. Important systemic effects
D. Longer duration of action
E. Higher action latency

34. MC. Name the M-cholinoblockers without systemic side effects :
A. Platifiline
B. Tiotropium
C. Atropine
D. Oxitropium
E. Scopolamine

35. MC. Select the mechanisms of the bronchodilatory action of methylxanthines:
A. Blocking adenosine receptors
B. Blocking adenylatcyclase
C. Blocking phosphodiesterase
D. Adrenoreceptor blockade
E. Blocking of choline receptors

36. MC. Name the components of the therapeutic benefit of methylxanthines in asthma:
A. Increased mucociliary transport
B. Decrease of mucociliary transport
C. Increased contractility of the diaphragm
D. Anti-inflammatory action

E. Increased release of mast cell mediators

37. MC. For the bronchodilating effect of methylxanthines is characteristic:

A. Lower intensity than adrenomimetics
B. Higher intensity than adrenomimetics
C. Correlation with plasma concentration
D. Does not correlate with plasma concentration
E. Effective only in reflective bronchospasm

38. MC. Methylxanthin enhances breathing through:

A. Increased reactivity of respiratory centers to carbon dioxide
B. Dilatation of large caliber bronchi
C. Increase in minute volume by stimulating bulbous centers
D. Increasing the frequency of breaths
E. Reflective stimulation of bulbar centers

39. MC. Select the cardiovascular effects observed after using methylxanthines:

A. Negative inotrop
B. Positive inotrop
C. Positive chronotrop
D. Chronotrop negative
E. Positive dromotrop

40. MC. Select the effects of methylxanthines on the digestive tract:

A. Relaxation of the lower sphincter of the esophagus
B. Increase in the tone of the small and large intestine
C. Stimulation of hydrochloric acid secretion
D. Decreasing the tone of the small and large intestine
E. Decrease of digestive enzyme secretion

41. MC. What are the indications for methylxanthin other than asthma:

A. Angina pectoris
B. Apnea in preterm infants
C. Migraine
D. Cardiac arrest
E. Acute pulmonary edema

42. MC. Select the contraindications of methylxanthines:

A. Acute gastric and duodenal ulcer
B. Epilepsy
C. Chronic obstructive pulmonary disease
D. Migraine
E. Acute myocardial infarction

43. MC. Select the cardiovascular side effects after using methylxanthines:

A. Palpitations
B. Bradycardia
C. Hypotension
D. Tachycardia
E. Atrioventricular block

44. MC. Select the neurological side effects after using methylxanthines:

A. Drowsiness
B. Seizures
C. Tremor
D. Depression
E. Excitation

45. MC. Select the drugs that can reduce the effect of methylxanthines through pharmacokinetic interactions:

A. Barbiturates
B. Rifampicin
C. Cimetidine
D. Chloramphenicol
E. Antacids

46. MC. What are the components of the therapeutic benefit of glucocorticoids in asthma:

A. Improves mucociliary transport
B. Causes bronchodilation by reflectory mechanism
C. Favors the action of beta-adrenomimetics
D. Shows anti-inflammatory effect
E. Inhibits collagen synthesis

47. MC. Select the effects that are characteristics for ketotifen:

A. H1-antihistamin
B. Psychostimulant
C. Sedative
D. Anxiolytic
E. Neuroleptic

48. MC. List the expectorants with reflex action:

A. Potassium iodide
B. Infusion or mortgage extract
C. Mucaltine
D. Ammonium chloride
E. Licorice juice

49. MC. Name the components of the secretolytic mechanism of action of proteolytic enzymes:

A. Breaks the disulfide bridges of the mucosal aggregate

B. Breaks the hydrogen bonds in the mucus
C. Form new disulfide bridges
D. Breaks down the deoxyribonucleic acid fibers
E. Stimulates the center of the vagus

50. MC. Which effects other than the secretolytic are characteristic for thiolic derivatives:

A. Increases surfactant production
B. Increases the synthesis of glutathione
C. Shows mild antitussive effect
D. Decreases nitrate tolerance
E. Increases tolerance to nitrates

51. MC. Select contraindications for thiol derivatives:

A. Acute gastric and duodenal ulcer
B. Bronchial asthma
C. Hemoptysis
D. Bronchiectasis
E. Pregnancy

52. MC. Select the side effects of acetylcysteine:

A. Retrosternal pain
B. Nasal bleeding
C. Constipation
D. Excitation
E. Cough, bronchospasm when inhaled

53. MC. Name the centrally acting nonopioid antitussives:

A. Dextromethorphan
B. Oxeladine
C. Glaucine
D. Codeine
E. Clofenadol

54. MC. Select opioid antitussives:

A. Folcodine
B. Glaucine
C. Dextromethorphan
D. Codeine
E. Oxeladine

55. MC. Name the non-specific antitussive groups with peripheral action:

A. Local anesthetics
B. Humectants
C. Analeptics
D. Opioids
E. Mucilaginous cells

56. MC. Select antitussive drugs with mixed-action:

A. Dextromethorphan
B. Benzonate
C. Prenoxidiazine
D. Benbroperine
E. Bronholitin

57. MC. When using opioids as antitussives, the following side effects can be observed:

A. Inhibition of breathing
B. Increase in intra-abdominal pressure
C. Drug addiction
D. Seizures in children
E. Diarrhea

58. MC. The use of antitussives is preferable in:

A. Night cough
B. Cough in bronchial asthma
C. Cough that contributes to the airborne spread of the infection
D. Cough that accentuates the irritation of the laryngeal and tracheobronchial mucosa
E. Wet cough with moderate sputum

59. MC. Select the indications of the centrally acting analeptics:

A. Arterial hypotension in the elderly
B. Heart failure in the elderly after infectious diseases
C. Arterial hypotension in overdose with ganglioblockers
D. Asphyxia in brain trauma
E. Newborns asphyxia

60. MC. Among the representatives of beta-adrenomimetic bronchodilators are not listed:

A. Salbutamol
B. Ipratropium
C. Fenoterol
D. Orciprenaline
E. Ketotifen

61. MC. The following actions are characteristic for analeptics with central action:

A. Stable and lasting action
B. Reducing the effect on repeated administration
C. Does not possess selective action on the CNS
D. Short and unstable action
E. Increases the frequency and minute-volume of breaths

ANALGESICS / ANTI-FLAMMATORY - (SC)

1. Urinary retention in pacient with acute myocardial infarction may be the result of the administration of the following drug:

A. Morphine;
B. Lidocaine;
C. Heparin;
D. Nitroglycerin;
E. Streptokinase.

2. Which centrally acting analgesic has mixed mechanism of action?

a. Pentazocine ;
b. Fentanyl ;
c. Tramadol ;
d. Tilidine ;
e. Butorphanol .

3. Determine the most potent opioid analgesic.

A. Codeine ;
B. Pentazocine ;
C. Morphine ;
D. Fentanyl ;
E. Trimeperidine .

4. In case of acetylsalicylic acid, unlike indomethacin, it is more pronounced:

A. The analgesic effect;
B. The anti-aggregant effect;
C. The anti-inflammatory effect
D. The inhibition of prostaglandin synthesis;
E. The antipyretic effect;

5. What is the duration of the analgesic effect of morphine (after subcutaneous injection)?

a) 20–30 min;
b) 4-5 hours;
c) 8-12 hours;
d) 12-24 hours;
e) 1-2 hours.

6. What preparation is part of DMARDs (disease-modifying antirheumatic drugs)?

a) hydroxychloroquine
b) prednisolone

c) meloxicam
d) celecoxib
e) rofecoxib

7. Explain the mechanism of analgesic effect of NSAID ?
a) inhibition of prostaglandin synthesis in peripheral tissues and, consequently, reduction of nociceptor sensitivity
b) influence on central component of pain
c) disturbance of the transmission of impulses at the level of the posterior horns of the spinal cord
d) blockade of transmission to the thalamus and the limbic system
e) blockade of opioid receptors

8 . The mechanism of anti-inflammatory effect of glucocorticoids is:
A. they induce lipocortin synthesis, which subsequently inhibits phospholipase A2
B. they increase capillary permeability
C. they stimulate phospholipase A2
D. they intensify phagocytosis
E. they increase leukocyte migration to the inflamed area

9 . Which of the following non-steroidal anti-inflammatory drugs is arylpropionic acid derivative:
A. diclofenac
B. acetylsalicylic acid
C. rofecoxib
D. ketoprofen
E. meloxicam

10 . Which of the following anti-inflammatory drugs is salicylic acid derivative:
A. nimesulide
B. acetylsalicylic acid
C. codeine
D. diclofenac
E. naproxen

11 . The contraindication of glucocorticoids is:
A. inflammatory diseases
B. allergic diseases
C. osteoporosis
D. shock states
E. autoimmune diseases

12 . Select right statement about dexamethasone:
A. it has more intense antiinflammatory effect then hydrocortisone and prednisolone
B. it may cause serious anaphylactic reactions
C. it is contraindicated in patients with a tendency to edema
D. it has intermediate duration of action (12-36 hours)
E. it do not produce steroid diabetes

13 . Which of the following statements about acetylsalicylic acid is false?
A. it is platelet antiaggregant
B. it is a non-steroidal anti-inflammatory drug
C. it inhibits COX- 1
D. it inhibits selectively COX-2

E. it is used in the treatment of rheumatoid arthritis

14 . An analgesic drug was prescribed during post-operative period. It alleviated the pain, induced a better subjective state, also sleep was installed 30 min after s/c administration. What drug was prescribed?
a) morphine
b) acetylsalicylic acid;
c) lidocaine;
d) diazepam;
e) dexketoprofen.

15 . When do the stable anti-inflammatory effect of methotrexate develop?
A. In 2 hours;
B. Over 1 week;
C. Over 4-6 weeks;
D. After some months;
E. Over 1 year.

16 . What vitamin preparation will decrease methotrexate side effects?
a) ascorbic acid;
b) tocopherol;
c) retinol acetate;
d) folic acid;
e) ergocalciferol.

17 . 6-mercaptopurine is metabolite of:
a) methotrexate
b) cyclophosphamide
c) azathioprine
d) cyclosporine
e) chlorambucil

ANALGESICS / ANTI- FLAMMATORY DRUGS - (MC)

1. **Morphine can produce the following effects :**
a) depression of the cough center
b) respiratory depresion
c) decreased ciliary motility of the tracheo–bronchial epithelium
d) bronchospasm
e) bronchodilation

2. Non-opioid analgesics with peripheral action are indicated in the following cases:
a) tendinitis
b) high fever
c) joint pain
d) acute pancreatitis
e) ulcer

3. Salicylic acid derivatives can cause following side effects:
a) stomach ulcer
b) bone marrow toxicity

c) Reye syndrome
d) bronchospasm
e) coagulation disorders

4. What side effects are typical for opioid analgesics?
a) dependence
b) tachycardia
c) tolerance
d) bronchospasm
e) anxiolytic effect

5. Explain the mechanism of analgesic effect opioids?
a) they inhibit prostaglandin synthesis in peripheral tissues and, consequently, reduce the sensitivity of nociceptors
b) they influence the central component of pain
c) they disturb the transmission of impulses at the level of the posterior horns of the spinal cord
d) they decrease the production of bradykinin
e) they block opioid receptors

6. The mechanism of action of non - steroidal anti-inflammatory drugs is:
A. inhibits cyclooxygenase-1 (COX1);
B. inhibits cyclooxygenase-2 (COX2);
C. stimulates thromboxane synthesis ;
D. inhibits prostaglandin formation ;
E. prevents the formation of free radicals .

7. The following statements about indomethacin are correct:
A. it is a non - steroidal anti - inflammatory drug;
B. it inhibits non-selectively COX;
C. it is a platelet anti-aggregant;
D. it blocks specifically COX2;
E. it produces marked hydrosaline retention.

8. The following adverse effects are specific to corticosteroids:
A. trunk obesity ;
B. hydro-electrolytic retention ;
C. stomac ulcer;
D. cataract ;
E. hypoglycemia .

9. Select therapeutic indications of glucocorticoids:
A. adrenal insuficiency;
B. rheumatic diseases;
C. adreno-genital syndrome in children ;
D. osteoporosis ;
E. anaphylactic shock .

10. What complications appear after prolonged use of anti-inflammatory steroids?
a) high blood pressure
b) low blood pressure
c) ulceration of the stomach mucosa
d) osteoporosis

e) hypoglycemia

11. Name the steroid anti-inflammatory drugs:
A. prednisone
B. indomethacin
C. dexamethasone
D. ranitidine
E. ketoprofen

12. NSAIDs are used to treat the following conditions:
A. rheumatoid arthritis
B. gastroduodenal ulcer
C. osteoarthritis
D. ankylopoietic spondylitis
E. migraine

13. The adverse effects of corticosteroids are:
A. delaying growth of children
B. osteoporosis
C. psychosis
D. adrenal insufficiency after withdrawal
E. hypothyroidism

15. The anti-inflammatory effect of glucocorticoids is determined by the following mechanisms:
A. they decrease capillary permeability
B. they stabilize lysosomal membrane
C. they decrease collagenase activity
D. they increase phagocytosis and migration of leukocytes into the inflamed area
E. they induce lipocortin synthesis

16. Name the non - steroidal anti - inflammatory drugs side effects:
A. gastroduodenal ulcer
B. gastritis complicated with haemorrhage
C. allergic reactions
D. protein catabolism
E. arterial hypertension

17. Ibuprofen has the following effects :
A. analgesic
B. anti-inflammatory
C. antirheumatic
D. antispastic
E. it can cause ulcer

18. The following statements about piroxicam are true:
A. it is an anti - inflammatory and analgesic drug
B. it stimulates prostaglandin synthesis and leukocyte migration into the inflamed area
C. it is administered only parenterally
D. it produces gastrointestinal adverse effects
E. it is administered in rheumatoid arthritis

19. Select the correct statements about prednisolone:
A. Its effect magnitude is the same as prednisone effect

B. it is used only locally
C. it has long duration of action
D. it has more intense antiinflammatory effect than hydrocortisone
E. depress the shaft hypothalamic-pituitary-adrenal May pronounced as dexamethasone

20. Non -steroidal anti-inflammatory drugs (NSAIDs) have the following effects :
A. anti-inflammatory
B. analgesic
C. antipyretic
D. stable effect is observed after 2-3 months of continuous administration
E. gastroprotective

21. Which statmements about anti-inflammatory effect of glucocorticoids are true:
A. they stimulate cyclooxygenase trough lipocortine
B. they increase the amount of prostaglandins
C. they increase the migration of leukocytes into the inflamed area
D. they stabilize lysosomal membrane
E. they inhibit both exudative and proliferative phases of inflammation

22. Non -steroidal anti–inflammatory drugs can produce:
A. epigastric pain
B. neuralgias
C. hydrosaline retention
D. decreased bleeding time
E. bronchodilation

23. Diclofenac :
A. inhibits phospholipase A2
B. has analgesic properties
C. is contraindicated degenerative joint disorders
D. is used in the treatment of asthma in those sensitized to acetylsalicylic acid
E. diminishes the synthesis of prostaglandins

24. Glucocorticoids :
A lead to hypercorticism, if stopped suddenly after long treatment
B. speed up wound healing
C. produce erythropenia and anemia
D. can produce glaucoma and cataracts
E. decrease the number of lymphocytes and inhibit the formation of antibodies

25. Select non-steroidal anti-inflammatory drugs that can be given topically:
A. acetylsalicylic acid
B. diclofenac
C. ketorolac
D. phenylbutazone
E. indomethacin

26. Which of the following statements is correct regarding the mechanism of anti - inflammatory effect of corticosteroids?
A. corticosteroids have intense anti-inflammatory action;
B. they induce the formation of lipocortine;
C. they inhibit phospholipase A2;

D. they increase prostaglandin formation;
E. they increase the formation of leukotrienes .

27. Which of the following side effects are specific to non - steroidal anti - inflammatory drugs?
A. gastro-duodenal ulcer;
B. worsening of asthma symptoms;
C. interstitial nephritis;
D. bradycardia ;
E. orthostatic hypotension .

28. Phenylbutazone enhances the effects of :
A. loop diuretics
B. oral hypoglycemic agents
C. coumarin anticoagulants
D. captopril
E. salbutamol

29. Among the pharmacodynamic actions of NSAIDs are :
A. inhibition of preterm labor
B. premature closure of the ductus arteriosus
C. myosis
D. thay can prolong the duration of labor
E. thay can induce preterm labor

30. The adverse effects of NSAIDs include:
A. hyperkalaemia
B. epigastric pain
C. skin rash
D. hypokalaemia
E. photosensitization

31. Adverse effects of indomethacin are:
a. gastric ulcer
b. agranulocytosis
c. produces more frequently, compared to the other NSAIDs, CNS disorders
d. headache
e. poliuria

32. Select effects of glucocorticoids on blood:
a. they produce lymphopenia
b. they produce eosinopenia
c. they produce eosinophilia
d. they produce leukopenia
e. they produce polymorphonuclear leukocytosis

33. DMARDs have following features:
A. they have anti - inflammatory effect
B. they modify the evolution of the rheumatic process
C. their effect persists months or years after stopping therapy
D. they improve only symptoms
E. their effect occurs immediately after beginning of treatment

34. Gold salts have following properties:
A. they bind to plasma proteins in a large proportion
B. they inhibit phagocytosis and migration of macrophages, leukocytes, synoviocytes
C. thay have stimulatory effect on the reticuloendothelial system
D they are effective in the visceral, progressing forms and Felty syndrome
E. thay are contraindicated in lupus erythematosus

35. Which of these anti-inflammatory drugs are COX-2 selective:
A. diclofenac
B. nimesulide
C. rofecoxib
D. ketoprofen
E. meloxicam

36. Penicillamine :
A. It is a thiolic derivative .
B. It is a beta-lactam antibiotic .
C. Has the ability to chelate copper .
D. It is used in rheumatoid arthritis .
E. it does not produce hematological side effects.

37. When using NSAIDs, the following principles will be followed:
A. The patients respond individually to NSAIDs
B. two NSAIDs can be associated to produce better effect
C. to use only one NSAID in maximum tolerated dose, if this does not work to change the drug D. If the patient has responded to an NSAID, try to reduce dose
E. if the patient does not respond to NSAIDs, glucocorticoids must be associated

38. Select the right analgesics for a patient with biliary clolic:

a) morphine , exclusively ;
b) morphine with drotaverine ;
c) baralgine;
d) gabapentin;
e) amitriptyline .

39. Name the adverse reactions of gold compounds:
A. hematologic disorders
B. proteinuria
C. pulmonary infiltration
D. arterial hypertension
E. arrhythmias

40. Name contraindications of methotrexate as antirheumatic drug :
A. Hematopoietic disorders
B. Kidney failure
C. Epilepsy
D. Hypertension
E. Hepatic impairment

41. Select specific antirheumatic:
A.Hidroxiclorochina

B.Metotrexat
C. Auranofin
D. Piroxicam
E. Indomethacin

42 . The following effects are specific to corticosteroids:
A. hyperglycemia ;
B. hypercholesterolemia ;
C. increased elimination of sodium and water ;
D. CNS disturbances;
E. hyperkalemia.

43 . Phenylbutazone has the following characteristics :
A. intense anti - inflammatory effect
B. non - selectively inhibits prostaglandin synthesis
C. the percentage of binding small to proteins in plasma
D. causes ulcer
E. cause fluid retention and arterial hypertension

HORMONS, METABOLISM - SC

1 . The statins mechanism of action is:
a) inhibition of lipolysis in adipose tissue
b) fixation of bile acids in the intestine as an insoluble complex
c) competitive inhition of HMG-CoA reductase
d) stimulation of lipoprotein lipase activity
e) inhibition of hepatic synthesis of VLDL

2. Select the lipid lowering agent that selectively decreases the absorption of cholesterol from the intestine:
a) lovastatin;
b) nicotinic acid;
c) cholestyramine;
d) ezetimib;
e) probucol.

3. Select the lipid lowering agents which mainly decrease the serum triglyceride level:
a) fibrates;
b) nicotinic acid preparations;
c) anionic resins;
d) statins;
e) unsaturated fatty acid preparations.

4 . Selective estrogen receptor modulators (SERMs) represent:
a) a class of bone tissue anabolic
b) antiosteoclastic agents
c) cholesterol lowering agent
d) drugs used for hipouricemia
e) non-steroidal anti-inflammatory drugs

5. **Choose the indication of anabolic steroids:**
a) obesity;

b) acceleration of callus formation during fracture healing
c) hypertension;
d) hyperglycemia;
e) mixedema.

6. **Which of the following about dexamethasone is true?**
a) it produces hydrosaline retention greater than cortisone;
b) it has a short effect;
c) it has a long lasting effect;
d) it does not depress the hypothalamic-pituitary-adrenal axis;
e) it has a weaker anti-inflammatory effect than cortisone.

8. **Which of the following corticosteroids cause the most intense sodium and water retention?**
a) hydrocortisone;
b) dexamethasone;
c) methylprednisolone;
d) prednisolone
e) triamconolone .

9. **Glucocorticoids are contraindicated in the following conditions?**
a) herpetic keratitis;
b) status asthmaticus;
c) malignant lymphoma;
d) rheumatoid arthritis;
e) autoimmune hepatitis .

10. Select the indication for anti-thyroid preparations:
a) cretinism;
b) diabetes mellitus;
c) impotence;
d) thyrotoxicosis;
e) mixedema.

11. Prednisolone is contraindicated in:
a) during bronchial asthma crisis;
b) status asthmaticus;
c) allergic rhinitis;
d) collagenosis;
e) duodenal ulcer .

12. List the effect of ergocalciferol on metabolism:
a) it stimulates the synthesis of nucleic acids;
b) it depresses the synthesis of nucleic acids;
c) it increases the permeability of the intestinal epithelium for calcium and phosphorus;
d) it stimulates the decarboxylation of α–ketoacids;
e) it inhibits the decarboxylation of α–ketoacids.

13. Select the indication for nicotinic acid :
a) malignant lipoma;
b) hypertriglyceridemia;
c) fatty dystrophy of the liver;
d) iron deficiency anemia;
e) rickets .

14. Choose the hormone preparation derived from the amino acids:
a) calcitonin;
b) prednisolone ;
c) estradiol ;
d) levothyroxine ;
e) progesteron .

15. Choose the hormone preparation with polypeptide structure:
a) triiodothyronine ;
d) dihydrotestosterone ;

b) levotiroxine ;
c) prednisolone;
e) insulin .

16. **Which of the following effects is determined by the action of the anti-thyroid preparations?**
a. tachycardia;
b. bradycardia;
c. increased basal metabolism;
d. exophtalmos;
e. increase in body temperature.

17. The administration of iodine preparations in thyrotoxicosis produce the following:
a) they reduce the amount of thyroid hormones in circulation;
b) they increase thyroid gland vascularization;
c) they increase rapidly basal metabolism;
d) they stimulate TSH secretion;
e) they increase the volume of the thyroid gland.

18. **Choose which anti-thyroid preparation inhibits thyroid hormon synthesis by the epithelial cells of the thyroid follicles:**
a) liothyronine;
b) propranolol;
c) thiamazole;
d) prednisolone;
e) levotiroxine.

19. The prolonged effect of long-acting insulin is based on:
a) a significant part of proinsulin in these insulin preparations;
b) a mixture of inhibitors of insulin activators;
c) a slow absorption from the injection site by the formation of microprecipitate;
d) on a slower metabolism in the liver;
e) addition of substances that reduce the binding of antibodies activated by insulin.

20. Name the most active hormonal preparation of the thyroid gland:
a) novotiral;
b) thyroxine;
c) triiodothyronine**;**
d) thyroidine;
e) tireocomb .

21. Select the combined preparation (T_3+T_4+Potassium iodide) of the thyroid gland:
a) levothyroxine;
b) novotiral;
c) thyreocomb;
d) liothyronine;
e) propylthiouracil .

22. Select the preparation that destroys the follicles of the thyroid gland:
a) methylthiouracil;
b) propylthiouracil;
c) thiamazole;
d) propranolol;
e) radioactive iodine.

23. Choose human insulin with intermediate action:
a) insulin lispro;
b) insulin aspart;
c) insulin glargine;
d) insulin detemir;
e) human insulin isophane.

24. Acarbose develop the hypoglycemic effect by:
a) increasing sensitivity of the liver, muscles to insulin;
b) decreasing insulin resistance;
c) increasing glucose uptake by skeletal muscles;
d) decreasing carbohydrate uptake from the intestine;
e) increasing insulin release.

25. Meglitinides achieve the hypoglycemic effect by:
a) increasing sensitivity of the liver, muscles to insulin;
b) decreasing insulin resistance;
c) increasing glucose uptake by skeletal muscles;
d) decreasing carbohydrate uptake from the intestine;
e) increasing insulin release.

26. Select the mechanism of action for tolrestate:
a) it prevents the transformation of glucose into sorbitol;
b) it decreases insulin resistance;
c) it increases glucose uptake by skeletal muscles;
d) it decreases carbohydrate uptake from the intestine;
e) it increases insulin release.

27. Glucocorticoid replacement therapy are indicated in:
a) Addison's disease;
b) anaphylactic shock;
c) glomerulonephritis.
d) rheumatoid arthritis;
e) asthma;

28. Which preparation is the most effective in hypoglycemic coma?
a) ethylphrine;
b) norepinephrine;
c) salbutamol;
d) propranolol;
e) epinephrine;

29. When do stable clinical effect of thioamide derivatives develop?
a) 1-2 hours
b) 7 days
c) 3 weeks
d) 6-8 weeks
e) 12-24 hours

30. Glucocorticoids for adrenal suppression are indicated in?

a) anaphylactic shock
b) bronchial asthma
c) adrenogenital syndrome in children
d) lupus erythematosus
e) Cushing syndrome

31. Select the drug that stimulates the function of the osteoblasts, increases renal tubular calcium reabsorption:
a) alendronate;
b) ibandronate;
c) risedronate;
d) raloxifen;
e) teriparatide.

32. What is the half-life of levothyroxine in euthyroid patient?
A. 1-2 hours
B. 7 days
C. 3 days
D. 14 days
E. 12 hours
33. What is the half-life of levothyroxine in hypothyroidism?
A. 1-2 hours
B. 7 days
C. 3 days
D. 14 days
E. 12 hours
34. What is the half-life of levothyroxine in hyperthyroidism?
A. 1-2 hours
B. 7 days
C. 3 days
D. 14 days
E. 12 hours
35. What is the half-life of liothyronine?
A. 1-2 hours
B. 7 days
C. 1-2 days
D. 10-14 days
E. 12 hours
36. When is the stable clinical effect of levothyroxine installed?
A. 1-2 hours
B. 7 days
C. 1-3 days
D. 10-14 days
E. 12-24 hours
37. When is the stable clinical effect of liothyronine installed?
A. 1-2 hours
B. 5-7 days
C. 1-3 days
D. 10-14 days
E. 12-24 hours
38. Which preparation inhibits the conversion of T_4 into T_3 at the periphery?
A. liothyronine

B. levothyroxine
C. methylthiouracil
D. tiamazol
E. propylthiouracil

39. Levothyroxine-suppressive therapy is used for:
A. primary hypothyroidism
B. congenital neonatal hypothyroidism
C. thyroid gland nodules
D. mixedema coma
E. thyroidectomy

40. What is the initial dose of insulin in a newly diagnosed diabetes patient?
A. 1 IU / kg
B. 0.7-1 IU / kg
C. 0.2 - 0.6 IU / kg
D. 0.7-0.8 UI / kg
E. 0.1 IU / kg

41. What is the initial dose of insulin in children with newly diagnosed diabetes?
A. 1 IU / kg
B. 0.7-1 IU / kg
C. 0.2 - 0.6 IU / kg
D. 0.7-0.8 UI / kg
E. 0.1 IU / kg

42. What is the initial dose of insulin in pregnant women with newly diagnosed diabetes?
A. 1 IU / kg
B. 0.7-1 IU / kg
C. 0.2 - 0.6 IU / kg
D. 0.7-0.8 UI / kg
E. 0.1 IU / kg

43. What is the initial dose of insulin in diabetic coma?
A. 1 IU / kg
B. 0.7-1 IU / kg
C. 0.2 - 0.6 IU / kg
D. 0.7-0.8 UI / kg
E. 0.1 IU / kg

44. Which syndrome will prevail in the development of acute hypoglycemia?
A. dyspeptic syndrome
B. liver disturbance symptoms
C. increased sympathetic activity symptoms
D. central nervous symptoms
E. renal symptoms

45. Which syndrome will predominate in the case of slow development of hypoglycemia?
A. dyspeptic syndrome
B. liver disturbance symptoms
C. increased sympathetic activity symptoms
D. central nervous symptoms
E. renal symptoms

46. What is the main cause of the atrophy sectors of adipose tissue within the insulin lipodystrophy?
A. Inflammatory processes
B. Immunological processes
C. Destructive processes
D. Apoptosis processes
E. Local anabolic processes induced by insulin

47. What is the main cause of the fatty tissue hypertrophy sectors in the insulin lipodystrophy?
A. Inflammatory processes
B. Immunological processes
C. Destructive processes
D. Apoptosis processes
E. Local anabolic processes induced by insulin
48. What is the most serious adverse reaction of antidiabetic biguanides?
A. hypoglycemic coma
B. lipodystrophy
C. lactic acidosis
D. dyspeptic disorders
E. agranulocytosis
49. Determine the glucocorticoid with the most marked activity:
A. hydrocortisone
B. triamcinolone
C. dexamethasone
D. prednisolone
E. prednisone
50. Glucocorticoids are used for diagnostic purposes in:
A. anaphylactic shock
B. bronchial asthma
C. adrenogenital syndrome in children
D. lupus erythematosus
E. Cousing syndrome

HORMONS, METABOLISM - MC

1. Select side effects for prednisolone:
a) high blood pressure;
b) gastro-duodenal ulcer;
c) retention of sodium and water;
d) hyperkalemia;
e) central nervous excitation.

2. Chronic high-dose prednisolone treatment may cause the following side effects:
a) decrease of endogenous corticotropin secretion;
b) increased susceptibility to infections;
c) hypoglycemia;
d) hydroelectrolytic disturbances;
e) osteoporosis;

3. **Glucocorticoids are indicated in the following conditions:**
a) severe active hepatitis;
b) non-specific ulcerative colitis;
c) rheumatoid arthritis;
d) exacerbation of chronic infections;
e) anaphylactic shock .

4. **High doses of thyroid hormone preparations may produce the following side effects:**
a) aggravation of angina pectoris;
b) restlessness, insomnia;
c) inhibition of STH secretion;
d) cardiac decompensation;
e) bradycardia

5. Indicate the effects of thyroid hormone preparations:
a) increased basal metabolism;
b) tremor;
c) tachycardia;
d) exophthalmia;
e) bradycardia .

6. Glucocorticoids show effects:
a) antiallergic;
b) immunostimulating;
c) anti-inflammatory;
d) hypotensive;
e) bronchoconstriction .

7. Thyroid hormone preparations have the following pharmacological effects:
a) they decrease the speed of basal metabolism in the body;
b) they increase the level of cholesterol in the blood;
c) they increase the frequency and contractility of the heart;
d) they amplify thermogenesis;
e) hyperglycemia.

8. Indicate the complications of glucocorticoid therapy:
a) hyperglycemia; .
b) hypertension;
c) osteoporosis;
d) hyperkalaemia;
e) migraine

9. **List glucocorticoids with low systemic absorbtion:**
a) fluticasone;
b) hydrocortisone acetate;
c) beclomethasone;
d) fluocinolone acetonide;
e) dexamethasone .

10. Which hormonal preparations are used in the hypothyroidism:
a) levothyroxine;
b) teriparatide;
c) vasopressin;
d) thyroglobulin;
e) liothyronine .

11. Select mixt thyroid hormone preparations (T3+T4):
a) levothyroxine;
b) novothyral;
c) thyreocomb;
d) liothyronine;
e) thyreotom .

12. List the effects of thyroid hormone preparations on SCV:
a) they increase O_2 consumption in the heart;
b) they decrease O_2 consumption in the heart;
c) they increase the cardiac output;
d) they decrease cardiac output;
e) they increase blood pressure.

13. List the effects of thyroid hormone preparations on lipid metabolism:
a) they stimulate the passage of cholesterol into bile acids;

b) they produce hypercholesterolemia;
c) they facilitate LDL uptake by liver cells;
d) they stimulate lipolysis;
e) they inhibit lipolysis.

14. Thyroid hormone substitution therapy are indicated in:
a) congenital hypothyroidism;
b) myxedema coma;
c) non-toxic diffuse goiter;
d) thyroid carcinoma;
e) total thyroidectomy in thyroid carcinoma.

15. **Select the relative contraindications of thyroid hormone preparations:**
a) acute myocardial infarction;
b) ischemic heart disease;
c) diabetes mellitus;
d) cardiac arrhythmias;
e) subclinical hypothyroidism .

16. Select preparations that decrease thyroid hormone synthesis:
a) methylthiouracil;
b) propylthiouracil;
c) thiamazole;
d) propranolol;
e) tireocomb .

17. List thioamide derivatives indications:
a) diffuse toxic goiter;
b) before treatment with iodine preparations;
c) thyroid cancer;
d) myxedema;
e) before surgical treatment in case of thyrotoxicosis.

18. **Choose the correct statements for thyroid hormone preparations:**
a) levothyroxine is the most suitable preparation for substitution therapy ;
b) the activity of levothyroxine is predictable and the action is sustainable ;
c) liothyronine is drug of choice for long-term treatment ;
d) liothyronine is given less frequently compared to levothyroxine ;
e) liothyronine is given when a rapid effect is required.

19. Choose human insulin with ultra-fast and very short action:
a) insulin lispro;
b) insulin aspart;
c) insulin glargine;
d) insulin detemir;
e) human insulin isophane.

20. Choose slow-acting, long-lasting human insulin :
a) insulin lispro;
b) insulin aspart;
c) insulin glargine;
d) insulin detemir;

e) human insulin isophane.

21. Select prandial insulins:
a) insulin lispro;
b) insulin aspart;
c) insulin glargine;
d) regular insulin;
e) human insulin isophane.

22. Choose basal insulin:
a) insulin lispro;
b) insulin detemir;
c) insulin glargine;
d) regular human insulin;
e) human insulin isophane.

23. Select the correct statements about insulin glargine:
a) slow absorption, without the peak of the action;
b) the stable concentration is installed over 2-4 days after the first injection;
c) it ensures faster dissociation of hexamers into monomers;
d) it is injected directly before or immediately after the meal;
e) it decreases the frequency of nocturnal hypoglycemia.

24. Select the right statements about insulin aspart:
a) the beginning of the action - 10-20 min, with a maximum action between 0.5-3 hours;
b) the stable concentration is installed over 2-4 days after the first injection;
c) it ensures faster dissociation of hexamers into monomers;
d) it is injected directly before or immediately after the meal;
e) it decreases the frequency of nocturnal hypoglycemia.

25. List the side effects specific to insulin treatment:
a) hypoglycemia;
b) insulin edema
c) hyperkalaemia
d) lipodystrophy;
e) decrease in body weight.

26. Select the correct statements regarding the metabolic effects of insulin:
a) intensification of anabolic processes;
b) intensification of catabolic processes;
c) stimulation of glycogenolysis;
d) stimulation of glycogen storage;
e) intensification of gluconeogenesis.

27. Select oral antidiabetic drugs that increase insulin release:
a) sulphonylurea derivatives;
b) meglitinides;
c) the incretins;
d) acarbose;
e) biguanides .

28. Which preparations increase the sensitivity of the target cells to insulin?

a) acarbose;
b) tolrestat
c) metformin;
d) pioglitazone;
e) rosiglitazone .

29. Thiazolidinediones achieve the hypoglycemic effect by:
a) increasing sensitivity of the liver, skeletal muscles to insulin;
b) decreasing insulin resistance;
c) increasing skeletal muscles glucose uptake;
d) decreasing carbohydrate uptake by the intestine;
e) increasing insulin release.

30. Select the indications for meglitinides:
a) type 2 diabetes mellitus;
b) type 1 diabetes mellitus;
c) type 2 diabetes in combination with metformin;
d) type 2 diabetes during pregnancy;
e) diabetes mellitus type 2 as a supplement to diet and exercise.

31. Select the contraindications for meglitinides:
a) type 2 diabetes mellitus;
b) type 1 diabetes mellitus;
c) type 2 diabetes in combination with metformin;
d) type 2 diabetes during pregnancy;
e) ketoacidosis and diabetic coma.

32. What are the criteria of safety during meglitinides treatment?
a) blood glucose control;
b) eye exam;
c) monitoring of liver test;
d) monitoring of lung function (chest x-ray);
e) monitoring of platelet count.

33. Select side effects for acarbose:
a) abdominal discomfort;
b) meteorism;
c) diarrhea;
d) agranulocytosis;
e) visual disturbances .

34. Select adverse reactions to metformin:
a) dyspeptic disorders;
b) lactic acidosis;
c) megaloblastic anemia;
d) frequent hypoglycemia in case of monotherapy;
e) visual disturbances .

35. Select side effects for sulphonylurea derivatives:
a) dyspeptic disorders;
b) lactic acidosis;
c) megaloblastic anemia;

d) hypoglycemia;
e) haematological disorders .

36. Select contraindications for sulphonylurea derivatives:
a) type 1 diabetes mellitus;
b) type 2 diabetes during pregnancy;
c) diabetes mellitus type 2 as a supplement to diet and exercise;
d) diabetic coma;
e) diabetes mellitus type 2 during major trauma or surgery.

37. Choose indications for metformin:
a) type 2 diabetes mellitus with obesity;
b) type 2 diabetes mellitus in combination with sulphonylurea derivatives;
c) metabolic syndrome and insulin resistance, impaired glucose tolerance;
d) type 1 diabetes mellitus;
e) diabetes mellitus type 2 during pregnancy.

38. During treatment with metformin, the following will be monitored:
a) serum lactate level;
b) heart rate and blood pressure;
c) complete blood count;
d) chest x-ray;
e) eye exam.

39. Select long-acting glucocorticoids:
a) prednisone;
b) dexamethasone;
c) triamcinolone;
d) betamethasone;
e) beclomethasone .

40. Note the effects of glucocorticoids:
a) anti-inflammatory action;
b) anti-allergic action;
c) immunosuppressive action;
d) inhibition of gastric secretion;
e) euphoria .

41. What are the mechanisms of anti-inflammatory effect of glucocorticoids?
a) inhibition of phospholipase A2;
b) inhibition of cyclooxygenase;
c) inhibition of eicosanoid synthesis from arachidonic acid;
d) inhibition of prostaglandin synthesis, exclusively;
e) inhibition of leukotriene synthesis, exclusively;

42. The mechanisms of antiallergic effect of glucocorticoids are:
a) they prevent the antigen-antibody reaction;
b) they prevent inflammatory reactions developing during allergy;
c) they decrease the release of histamine;
d) theyvprevents hyperergic reactions;
e) they decrease the formation and storage of histamine and serotonin.

43. Which glucocorticoids are largely inactivated in the placenta?
a) Hydrocortisone;
b) Prednisolone;
c) Dexamethasone;
d) Betamethasone;
e) Budesonide.

44. Which glucocorticoids will be preferred to prevent the respiratory distress syndrome in newborns?
a) Hydrocortisone;
b) Prednisolone;
c) Dexamethasone;
d) Betamethasone;
e) Budesonide.

45. Choose the inactive glucocorticoids that are subsequently activated in the liver:
a) Hydrocortisone;
b) Prednisolone;
c) Cortisone;
d) Prednisone;
e) Dexamethasone.

46. What statements about glucocorticoids are correct?
a) it is well absorbed from the digestive tract;
b) food reduce the rate of absorption, but not its degree;
c) they are absorbed slowly during 2-3 hours, the foods used concurrently decreasing the absorption;
d) their effect are installed quickly, over 30 min. after administration;
e) their effect are installed relatively slowly, after at least 2 hours after administration.

47. Which statements about dexamethasone action are correct?
a) it has moderate anti-inflammatory effect;
b) it has depressing action on the hypothalamo-pituitary function;
c) it has moderate mineralocorticoid effects;
d) it possesses a long-term action;
e) it contributes to hydrosaline retention.

48. Which statements regarding the metabolic action of glucocorticoid are correct?
a) they increase gluconeogenesis on the basis of amino acids;
b) they potentiate the action of the administered insulin;
c) they potentiate the action of oral antidiabetics;
d) they increase the process of lipogenesis in the trunk and face;
e) they enhance glycogen synthase activity.

49. Which statements about glucocorticoid suppression therapy are true?
a) Most of the dose is indicated in the evening;
b) It is indicated in children with adrenogenital syndrome;
c) Most of the dose is indicated in the morning;
d) Glucocorticoids are prescribed in physiological doses;
e) Glucocorticoids are prescribed in higher than physiological doses.

50. Select the indications for glucocorticoid pulse therapy:
a) anaphylactic shock;

b) severe autoimmune diseases;
c) status asthmaticus;
d) adrenogenital syndrome in children;
e) allergic rhinitis.

51. Which statements about glucoccorticoid pulse therapy are true?
a) severe autoimmune diseases in emergency cases;
b) very high doses of glucocorticoids are used for 1-2 days, maximum 3 days;
c) physiological doses of glucocorticoids are used for 1-2 days, maximum 3 days;
d) if discontinued abruptly, does not imply danger of adrenal insufficiency;
e) if discontinued abruptly, imposes risk of hypocorticism;

52. Select the indications for deoxycorticosterone:
a) acute adrenal insufficiency;
b) marked dehydration;
c) rheumatoid arthritis;
d) hypertension;
e) anaphylactic shock.

54. Select fibrates (hypolipidemic drugs):
a) clofibrate
b) nicotinic acid
c) benzafibrate
d) gemfibrozil
e) fenofibrate

55. Fibrates mainly lower the plasma level of triglycerides by:
a) trapping of bile acids in the intestine as an insoluble complex
b) stimulation of lipoprotein lipase activity
c) inhibition of lipoprotein lipase activity
d) inhibition of hepatic synthesis of VLDL
e) inhibition of hepatic LDL synthesis

56 **. Which of the adverse effects listed below are characteristic for statins?**
a) hepatotoxicity with moderate increase of transaminases level
b) vasomotor symptoms
c) increasing the plasma level of uric acid
d) increasing the blood glucose level
e) myopathy (dose-dependent)

57. Which of the following drugs decrease cholesterol absorption and accelerate its elimination through the intestine:
a) statins;
b) anionic resins;
c) fibrates;
d) ezetimib;
e) heparin.

58. Raloxifene:
a) increases bone mineral density in the lumbar spine
b) has antiestrogenic effect in the breast
c) has stimulatory effect on the endometrium

d) does not change the total cholesterol level
e) relieves urogenital symptoms during menopause

59. Select the correct statements about calcitonin:
a) it is administered intranasally and parenterally;
b) it is administered internally;
c) it inhibits the resorption of bone tissue;
d **)** it increases renal tubular reabsorption of calcium;
e) it decreases renal tubular reabsorption of calcium.

60. What is the mechanism of action of calcitonin?
a) it inhibits the function of osteoclasts;
b) it reduces progressively the number of osteoclasts;
c) it increases renal tubular reabsorption of calcium;
d) it stimulates the function of the osteoblasts;
e) it increases intestinal absorption of calcium and phosphorus;

61. Name the contraindications for the use of bisphosphonates:
a) pregnancy;
b) hypocalcemia;
c) inability to maintain the orthostatic position for at least 30 minutes;
d) Paget's disease;
e) glucocorticoid-induced osteoporosis.

62. Name the indications for the use of bisphosphonates:
a) postmenopausal osteoporosis;
b) hypocalcemia;
c) bone metastases in neoplasms;
d) Paget's disease;
e) glucocorticoid-induced osteoporosis.

63. Name the correct statements regarding farmacokinetics of bisphosphonates:
a) reduced absorption and bioavailability (1-3%);
b) increased absorption and bioavailability (80-85%);
c) $t_{1/2}$ in bones - from a few months to a few years;
d) plasmatic $t_{1/2}$ - 4-6 hours;
e) it is recommended to be administered after meals.

64. **Select the pharmacokinetic properties of levothyroxine:**
a) the beginning of action - 12-14 hours;
b) the beginning of action - 4-8 hours;
c) the clinical effect manifests over 10-15 days;
d) the clinical effect manifests over 1-3 days;
e) duration of effect after discontinuation - 2-3 weeks.

65. **Select the pharmacokinetic properties of liothyronine:**
a) the beginning of the action - 12-14 hours;
b) the beginning of the action - 4-8 hours;
c) the clinical effect manifests over 10-15 days;
d) the clinical effect manifests over 1-3 days;
e) the duration of the effect after discontinuation - 1week.

66**. Which of the following statements refer to prednisolone?**
a) it is absorbed well after oral administration;
b) it inhibits endogenous corticoliberin secretion;
c) it inhibits prostaglandin and leukotriene synthesis;
d) it decreases the level of glucose in the blood;
e) in the case of a single high dose administration, it does not lead to atrophy of the cortico-adrenal glands.

67. **Which of the following statements refer to glucocorticoids?**
a) they can produce osteoporosis;
b) they can lead to hyponatremia;
c) they can cause muscle atrophy;
d) they may lead to hypokalemia;
e) they may cause impaired glucose tolerance;

68. Calcitonin has following effects:
a) it induce bone resorption
b) it inhibits osteolysis
c) it increases the number of osteoclasts after chronic administration
d) analgesic effect
e) antiemetic effect

Parkinson
SC

1. **CS. Which of the antiparkinson drugs is a dopaminomimetic with indirect action:**
   A. trihexyphenidyl
   B. bromocriptine
   C. Nakom
   D. selegiline
   E. biperiden

2. **CS. Which of the antiparkinson drugs is a central cholinoblocker:**
   A. Madopar
   B. Bemantan
   C. tolcapone
   D. biperiden
   E. pergolide

3. **CS. Which antiparkinson drug is inhibiting NMDA – receptors:**
   A. Sinemet
   B. Nakom
   C. memantine
   D. Madopar
   E. Tolcapon

MC

1. **MC. What are the benefits of combined levodopa's antiparkinson drugs:**
   A. Prevents decarboxylation of levodopa at the periphery

B. Slow release of levodope
C. Increases bioavailability at the CNS level
D. Treatment may be abruptly discontinued without side effects
E. It does not affect the psycho-emotional state of the patient

2. **MC. Which mechanisms are characteristic for antiparkinson drugs:**
   A. Release of dopamine from the presynaptic membrane
   B. inhibition of MAO - A
   C. Inhibition of COMT
   D. Blocking NMDA glutamatergic receptor
   E. Release of serotonin
3. **MC. Wich antiparkinson drugs are dopaminergic agonists with direct action:**
   A. reserpine
   B. methyldopa
   C. pyridoxine
   D. procyclidine
   E. Dietazine
4. **MC. Antihistamines as adjuvants will be used in parkinsonism in the following situations:**
   A. Easy initial forms
   B. Late and severe forms of the disease
   C. Mild forms in patients who do not support cholinoblockers
   D. Drug induced parkinsonism
   E. Patients with sleep disorders after levodopa administration
5. **MC. What are the effects of levodope:**
   A. Reducing rigidity and hypokinesis
   B. Improves the mental state
   C. Stimulates prolactin secretion
   D. Inhibits somatotropic secretion
   E. Vasodilation in the splanchnic and renal area
6. **MC. What are the precautions for administration of Bromocriptine:**
   A. Pregnancy
   B. Arterial hypertension, arrhythmia
   C. psychosis
   D. Association with oral contraceptives
   E. Ulcerative disease
7. **CM. What are the characteristics of Trihexyphenidyl:**
   A. It mainly blocks the CNS colinoreceptors
   B. Antiparkinsonian effect - superior compared to other groups
   C. It is better supported than dopaminomimetics
   D. Side effects - choline-blocking effects
   E. Contraindication - psychosis in history

Antiepileptic
SC

1. **SC. Which drug is of choice in seizures of unknown genesis:**
   A. Pregabaline
   B. felbamate
   C. acetazolamide
   D. carbamazepine
   E. diazepam
2. **SC. Which of the antiepileptic drugs has a teratogenic effect - spina bifida, cardio-vascular malformations:**

A. Valproic acid drugs
B. GABA agonists
C. barbiturates
D. hydantoins
E. Minostilbens

3. **SC. When using antiepileptic drugs, severe hypovitaminosis will develop:**
A. vigabatrin
B. felbamate
C. Valproic acid
D. Phenobarbital
E. Lamotrigine

MC

1. **MC. What are the pharmacokinetic parameters of antiepileptics:**
A. Good absorption
B. High bioavailability
C. Formation of active metabolites
D. Reduced metabolism
E. Induction of microzomial enzymes
2. **MC. What are the mechanisms of action of antiepileptic drugs:**
A. Blocking of L-type calcium channels
B. Activation of the GABA- ergic system
C. Antagonism with adenosine in the brain
D. Stimulating glutaminate release
E. Carbohydrate inhibition in the epileptic area
3. **MC. What side effects are characteristics for phenytoin as an antiepileptic drug:**
A. Reversible choreiform movements
B. Liver necrosis
C. Hypovitaminosis D, K, B
D. leukocytosis
E. alopecia
4. **MC. Which symptomatic anticonvulsant drugs may stronger inhibit the respiratory center:**
A. Sodium oxibat
B. chloralhydrate
C. Magnesium sulphate
D. diazepam
E. Phenobarbital
5. **MC. Wich drugs will be used in status epilepticus:**
A. Clonazepam
B. Carbamazepine
C. Fenitoine sodium
D. Gabapentine
E. Diazepam
6. **MC. Wich drugs will be indicated in minor crisis of epilepsy:**
A. Fenitoine
B. Etosuximide
C. Valproic acid
D. Phenobarbital
E. Carbamazepine

7. **MC. What are the principles of rational use of antiepileptics:**
   A. Indicates when epileptic seizures are common
   B. It is recommended to combine antiepileptic drugs
   C. The suspension of treatment is abrupt and at any time
   D. There is a correlation between plasma concentrations and therapeutic or toxic effects
   E. Treatment eficacity depends on compliance with the administration time

CENTRAL NERVOUS SYSTEM
SC

1. **SC. Patient A with schizophrenia with an aggressive and excitation syndrome, high blood pressure. In the case of hypertensive crisis the use of captopril, nifedipine did not result in a positive effect. Drug B was administered which reduced blood pressure but in turn caused drowsiness, apathy, inhibition, annoying xerostomia. What antipshychotic drug is of choice in hypertension emmergency (crisis)?**
   A. penfluridol
   B. fluspirilen
   C. Chlorpromazine
   D. Sulpirid
   E. Fluphenazine
2. **SC. What antipsychotic drug you will indicate to a patient with complicated vascular encephalopathy?**
   A. Diazepam
   B. Amitriptiline
   C. Chlorpromazine
   D. Novo-passit
   E. Piracetam
3. **SC. What antipsychotic drug you will indicate to a patient with complicated vascular encephalopathy?**
   A. Diazepam
   B. Amitriptiline
   C. Chlorpromazine
   D. Novo-passit
   E. Piracetam

4. **SC. What drug will you indicate to the patient with depression with anxiety ?**
   A. diazepam
   B. alprazolam
   C. amitriptyline
   D. droperidol
   E. chlorpromazine

5. **SC. To a patient with schizophrenia was prescribed Haloperidol. After several months after treatmment initiation appeared motor disorders , late dyskinesia. What is the cause of these side effects ? Wich action is responsible for extrapyramidal disorders of antipsychotics:**
    A. stimulates muscarinic receptors – M-cholinomimetic
    B. M-cholinoblocker action
    C. Serotoninolotic C
    D. Dopamine blocker
    E. Alpha-adrenoblocker
6. **SC. A patient with sleep disorders. The doctor prescribed a drug with a duration of action of 8-10 hours. What hypnotic drug is responsible for the second day - sleepiness, decreased attention and ability to work ?**
    A. Oxazepam
    B. nitrazepam
    C. Phenobarbital
    D. zopiclone
    E. melatonin
7. **SC. What antipsychotic drug you will indicate to a patient with complicated vascular encephalopathy?**
    A. Diazepam
    B. Amitriptiline
    C. Chlorpromazine
    D. Novo-passit
    E. Piracetam

8. **SC. What drug will you indicate to the patient with depression with anxiety ?**
    A. diazepam
    B. alprazolam
    C. amitriptyline
    D. droperidol
    E. chlorpromazine

9. **SC. Explain the mechanism for psychosedative affect of antipsychotics:**
    A. M-cholinomimetic
    B. GABA-mimetic
    C. Dopaminoblocant
    D. alpha-adrenoblocker
    E. Adrenomimetic
10. **SC. Explain the antipsychotic mechanism of antipsychotics:**
    A. M-cholinomimetic
    B. GABA-mimetic
    C. Dopaminoblocant
    D. dopaminomimetic
    E. Adrenomimetic
11. **SC. Explain the mechanism for hypotensive effect of antipsychotics:**
    A. dopamine blocker
    B. H1-antihistaminic
    C. M-cholinoblock
    D. alpha-adrenoblocker
    E. serotoninolytic

12. SC. By what explains the effect of antiparkinsonian effect of levodopa ?

A. stimulation of cholinergic processes in the central nervous system;
B. depression of cholinergic processes in the central nervous system;
C. stimulation of dopaminergic processes in the central nervous system;
D. depressing dopaminergic processes in the central nervous system;
E. stimulation of serotoninergic processes in the central nervous system

13. SC. What is the main mechanism of the dopaminergic processes disorder in the central nervous system under the influence of antipsychotics?

A. the depletion of the mediators' storage in dopaminergic nerve endings;
B. blocking dopamine receptors
C. impairment of dopamine metabolism ;
D. increased neuronal dopamine uptake;
E. stimulation of dopamine receptors

14. SC. Which group of psychotropic drugs blocks the dopaminergic system in the CNS?

A. barbiturates;
B. general anesthetics;
C. opioid analgesics;
D. antipsychotics;
E. benzodiazepines

15. SC. The antipsychotic effect of neuroleptics is mainly determined by:

A. stimulation of adrenergic processes in the central nervous system;
B. depression of adrenergic processes in the central nervous system;
C. s timulation of dopaminergic processes in the central nervous system;
D. depressing dopaminergic processes in the central nervous system;
E. stimulation of serotoninergic processes in the central nervous system

MC

1. **MC. A patient with psychomotor excitation, instability, aggression. What antipsychotic drug you will prescribe for this patient ?**

A. haloperidol
B. chlorpromazine
C. fluphenazine
D. selegeline
E. phenobarbital

2. **MC. Which drugs you will prescribe for a patient with behavioral disorders, hallucinations, follow-up mania.?**

A. fluoxetine
B. haloperidol
C. droperidol
D. diazepam
E. phenobarbital

3. **MC. Name the basics indications of sedatives:**

A. increased irritability
B. sleep disorders
C. psychosomatic diseases
D. delirium
E. depression

4. **MC. List the sedative drugs:**
    A. Sodium bromide
    B. Korvalol
    C. diphenhydramine
    D. Hawthorn
    E. piracetam
5. **MC. List the thymoleptic antidepressants (with sedative effect):**
    A. amitriptyline
    B. alprazolam
    C. imipramine
    D. nortriptyline
    E. nialamide

6. **MC. What are the groups of drugs hypnoinductive:**
    A. benzodiazepines
    B. H1 - antihistamines
    C. Sedatives
    D. Non – benzodiazepines
    E. Barbiturics

7. **MC. Choose the dopaminergic antiparkinsonian drugs:**
    A. diazepam
    B. levodopa
    C. Pentobarbital
    D. selegiline
    E. Phenobarbital
8. **MC. Choose the groups of drugs hypnocoercive:**
    A. benzodiazepines
    B. H1 - antihistamines
    C. Sedatives
    D. Aliphatic derivates
    E. Barbiturics

9. **MC. Which drugs have sedative effect:**
    A. diazepam
    B. levodopa
    C. diphenhydramine
    D. selegiline
    E. phenobarbital

10. **MC. Wich are the characteristics of hypnoinductor hypnotics:**
    A. acts selectively on specific sites in the GABA-ergic receptor complex;
    B. CNS depression is dose dependent;
    C. the hypnotic effect is more evident in insomnia;
    D. does not shorten the duration of fast sleep;
    E. It's a rebound effect with unpleasant dreams
11. **MC. Wich drugs are used to correct extrapyramidal disorders caused by neuroleptics?**
    A. levodope ;
    B. trihexyphenidyl
    C. diazepam ;
    D. biperiden ;
    E. amantadine

12. MC. Which of the psychotropic groups have anticholinergic effect?

A. nootropes ;
B. lithium salts ;
C. neuroleptics ;
D. benzodiazepines ;
E. tricyclic antidepressants

13. MC. Which group of drugs is part of psycholeptics?

A. Antipsychotics;
B. Psychostimulants;
C. Medullary stimulants;
D. Nootropes
E. Tranquilizants

14. MC. Which drugs may be helpful in minor crisis of epilepsy ?

A. clopromazine ;
B. amantadine ;
C. clonazepam ;
D. valproic acid ;
E. ethosuximide

15. MC. Select indications for antipsychotics (neuroleptics):

A. insomnia
B. enhancing analgesia
C. vomiting of central origin
D. psychomotor excitement in psychiatric diseases
E. hectic depression

16. MC. Which of the following drugs can be uti is it in epilepsy ?

A. chlorpromazine;
B. valproic acid
C. gabapentin
D. phenobarbital
E. trihexiphenidyl

17. MC. Select the indications for anxiolytics:

A. insomnia
B. enhancing analgesia
C. vomiting of central origin
D. psychomotor excitement in psychiatric diseases
E. psychosis with delirium, hallucinations

18. MC. Which drugs may be useful in Parkinson 's disease ?

A. chlorpromazine
B. amantadine
C. carbamazepine
D. droperidol
E. trihexyphenidyl

19. MC. Which of the following drugs is part of the group of excitatory CNS?

A. piracetam
B. baclofen
C. amphetamine
D. valproic acid
E. caffeine

- SC -

1. **SC. Which drug is used for neuroleptanalgesia:**
   - A. diazepam
   - B. amitriptyline
   - C. droperidol
   - D. piracetam
   - E. barbital

2. **SC. Choose the effective drug for epileptic status :**
   - A. chlorpromazine
   - B. oxazepam
   - C. diazepam
   - D. magnesium sulfate
   - E. lamotrigine

3. **SC. Explain the mechanism of the antivomitive effect of antipsychotics :**
   - A. M – cholinomimetic
   - B. GABA- mimetic
   - C. Dopaminoblocker
   - D. Dopaminomimetic
   - E. Adrenomimetic

4. **SC. Explain the mechanism of anxiolytic effect of benzodiazepines :**
   - A. M-cholinolytic
   - B. GABA-lytic
   - C. Dopaminolytic
   - D. GABA-allosteric mimetic
   - E. Alfa-adrenolytic

5. **SC. Which psychotropic group has M-cholinoblocker effect?**
   - A. N ootrope;
   - B. Sedatives;
   - C. Antipsychotic;
   - D. Benzodiazepines;
   - E. Psychostimulants

6. **SC. Which psychotropic drug group blocks the dopaminergic system in the CNS?**
   - A. barbiturates;
   - B. antidepressants;
   - C. nootrope;
   - D. antipsychotics;
   - E. benzodiazepine

7. **SC. Which of the following drugs is part of the CNS excitatory group?**
   - A. piracetam;
   - B. baclofen;
   - C. amphetamine;
   - D. Valproic acid;
   - E. Promethazine.

- MC -

1. **MC. What is the mechanism of action of antidepressants :**
   A. inhibits acetylcholine reuptake
   B. inhibits the reuptake of serotonin and norepinephrine
   C. inhibits MAO
   D. inhibits acetylcholinesterase
   E. accelerates the release of catecholamines

2. **MC . Select the long-acting hypnotic drugs :**
   A. diazepam
   B. lorazepam
   C. oxazepam
   D. midazolam
   E. fenazepam

3. **MC. Select the nootropic drugs :**
   A. piritinol
   B. caffeine
   C. piracetam
   D. gamma-aminobutyric acid
   E. zolpidem

4. **MC. Which benzodiazepines are mainly used as myiorelaxants ?**
   A. diazepam
   B. nitrazepam
   C. tetrazepam
   D. alprazolam
   E. bromazepam

5. **MC. Select antidepresive drugs with sedative effect :**
   A. moclobemide
   B. amitriptyline
   C. mianserine
   D. nialamide
   E. imypramine

6. **MC. Choose drugs used as Antiparkinson agents :**
   A. Levodopa
   B. Nialamide
   C. Fenobarbital
   D. Bromcriptine
   E. Sinemet

7. **MC. What are the clinical symptoms of the sedative effect of antipsychotics :**
   A. produces apathy towards the environment
   B. Removes hallucinations , mania
   C. removes psychomotor excitement

D. vegetative disorders
E. restablishes interest to the environment

8. MC. Which drugs have sedative effect :
A. Nialamide
B. Chlorpromazine
C. Novo-passit
D. Amitriptiline
E. Fenobarbital

9. MC. Choose the benzodiazepines that are mainly used as central myiorelaxants :
1. chlordiazepoxide
2. diazepam
3. flurazepam
4. tetrazepam
5. alprazolam

10. MC. Choose the antidepressant drugs that are MAO-A inhibitors with reversible action :
A. Nialamide
B. Moclobemide
C. Amitriptiline
D. Pirlindol
E. Fenelzine

11. MC. Choose the antipsychotic drugs with anti -vomiting effect :
A. chlorpromazine
B. Diazepam
C. Haloperidol
D. Amitriptilina
E. Droperidol

12. MC. In which clinical conditions the enzymatic induction effect of barbiturates is useful ?
A. treatment of seizures
B. Gilbert syndrome
C. neonatal jaundice
D. epilepsy
E. Krigle-Naiara Syndrome

13. MC. What drug is used for the correction of extrapyramidal disorders caused by neuroleptics?
A. Levodope;
B. Trihexifenidil
C. Diazepam;
D. Chlorpromazine;
E. Amantadine

14. MC. Which antipsychotic is used for neuroleptanalgesia?
A. amitriptyline ;
B. haloperidol;
C. diazepam ;
D. droperidol;
E. chlorprothixene.

15. MC. Explain the mechanisms for anxiolytic effects of benzodiazepines:
A. stimulation of GABA-ergic processes by allosteric mechanism ;
B. depressing GABA-ergic processes by allosteric mechanism ;
C. stimulation of benzodiazepine receptors ;

D. block benzodiazepine receptors ;
E. stimulation of serotoninergic processes in the central nervous system

16. MC. Which group of drugs is part of psycholeptics?
A. antidepressants;
B. Psychostimulants;
C. Spinal stimulants;
D. Nootrope;
E. anxiolytics

17. MC. Which of the following drugs may be useful in psychomotor excitations ?
A. clopromazine;
B. diazepam ;
C. diphenhydramine ;
D. imipramine ;
E. pimozide

18. MC. Which of the following drugs may be useful for neuro-vegetative dystonia ?
A. chlorpromazine;
B. Novo-passit;
C. Valosedan;
D. amitriptyline
E. Extraveral.

19. MC. Which of the following drugs may be used in depression with agitation:
A. nialamide;
B. amitriptyline;
C. mianserin;
D. nortriptyline;
E. Fluvoxamine.

20. MC. What mechanism does not explain extrapyramidal disorders of antipsychotics :
A. M-cholinomimetic
B. GABA-mimetic
C. Dopaminoblocker
D. Dopaminomimetic
E. Adrenomimetic

21. MC. Explain the mechanism of hypothermic effect of antipsychotics :
A. Dopaminoblocker
B. H1-antihistamine
C. M-colinoblocker
D. Alfa-adrenoblocker
E. Serotoninolytic

22. MC . What are the main mechanisms of vegetative effects under the influence of antipsychotics?
A. central and peripheral alpha-adrenoblocking action
B. blocking dopamine receptors
C. anti-muscarinic action
D. serotoninolytic action
E. stimulation of dopamine receptors

Antibiotics.

SC

1. SC. What is the route of elimination for amoxacillin?
A. pulmonary;
B. bile;
C. liver;

D. intestinal;
E. kidney.

2. SC. What is the duration of the active concentration of penicillin in the blood?
A. 6 hours;
B. 12 hours;
C. 24 hours;
D. 10 hours;
E. 2 hours.

3. SC. What is the route of elimination for penicillin?
A. kidney;
B. liver;
C. bile;
D. pulmonary;
E. intestinal.

4. SC. Which group of antibiotics can cause pseudomembranous colitis?
A. aminoglycosides;
B. lincosamides;
C. rifampicin;
D. cephalosporins;
E. penicillins.

5. SC. One of the major indications of aminoglycosides is:
A. typhus;
B. streptococcal angina;
C. meningococcal meningitis;
D. Typhoid fever;
E. colibacillary pyelonephritis.

6. SC. Lincomycin may cause the most characteristic side effect:
A. agranulocytosis;
B. vestibulo-cochlear disorders;
C. nausea and vomiting;
D. apnea through the neuro- muscular block ;
E. polyneuritis.

7. SC. Which antibiotic can produce apnea through the neuro-muscular block?
A. gentamicin;
B. ciprofloxacin;
C. erythromycin;
D. lincomycin;
E. penicillin.

8. SC. Which antibiotic is eliminated through bile in active concentrations?
A. ampicillin;
B. kanamycin;
C. griseofulvin;
D. penicillin;
E. ciprofloxacin.

9. **SC. Which drug decreases the effects of doxycycline:**
    A. epinephrine
    B. benzodiazepines
    C. diuretics
    D. carbamazepine
    E. furosemide

10. **SC. Which antibiotic has a high penetration capacity in the cerebrospinal fluid:**
    A. cephalosporins
    B. chloramphenicol
    C. metronidazole
    D. vancomycin
    E. ampicillin

MC

1. **MC. What side effects are characteristic for tetracyclines?**
    A. Urticaria/hives;
    B. severe hepatic impairment;
    C. anemia;
    D. leukopenia;
    E. vitamin B_{12} absorption impairment.

2. **MC. Which penicilines are active in penicillin sensitive staphylococcus infections?**
    A. carbenicillin;
    B. methicillin;
    C. ampicillin;
    D. amoxicillin;
    E. cloxacillin;

3. **MC. Which groups of antibiotics have bacteriostatic action?**
    A. amphenicols;
    B. macrolides;
    C. aminoglycosides;
    D. tetracycline;
    E. penicillins;

4. **MC. Which antibiotics have bactericidal action?**
    A. amoxicillin;
    B. brulamicin;
    C. amikacin;
    D. chloramphenicol;
    E. cephalosporins;

5. **MC. To which groups of antibiotics is installed slow resistance?**
    A. cephalosporins;
    B. penicillins;
    C. tetracyclines;
    D. aminoglycosides;
    E. polymyxin;

6. **MC. Which antibiotics produce antibacterial effect by inhibiting the biosynthesis of components in the bacterial cell wall structure?**
    A. penicillins;
    B. aminoglycosides;
    C. vancomycin;
    D. cycloserine;
    E. cephalosporins.

7. **MC. What are the antibiotics of choice in the treatment of cholera?**
    A. penicillins;
    B. aminoglycosides;
    C. tetracyclines;
    D. chloramphenicol;
    E. rifampicin.

8. **MC. What are the groups of antibiotics of choice in the treatment of osteomyelitis?**
    A. Lincosamides;
    B. penicillins;
    C. cephalosporins;
    D. Ansamycines
    E. Macrolides;

9. **MC. Which antibiotics can be used during pregnancy?**
    A. benzylpenicillin;
    B. lincomycin;
    C. chloramphenicol;
    D. tetracyclines ;
    E. erythromycin

10. **MC. What are the antibiotics of choice in the treatment of Pseudomonas infections?**
    A. carbenicillin;
    B. ticarcillin;
    C. erythromycin
    D. benzylpenicilin
    E. mezlociline.

11. **MC. What are the mechanisms of the appearance of antibacterial resistance?**
    A. the production of enzymes that modify the antimicrobial substance;
    B. changing the permeability of the microorganism for the drug;
    C. development of an altered target structure;
    D. producing a metabolite that bypasses the reaction that drug inhibited;
    E. the production of a specific enzyme and sensitive to the drug.

12. **MC. What are the principles of antibiotic administration?**
    A. infection localization;
    B. known or presumed pathogen;
    C. the result of the antibioticogram;
    D. the physiological and pathological particularities of the patient;
    E. Using small doses.

13. **MC. Which routes of elimination of erythromycin predominate?**

A. kidney;
B. liver;
C. gall;
D. intestinal;
E. Pulmonary.

14. MC. What are the most common complications in using macrolides?

A. hepatic insufficiency;
B. nausea;
C. allergic rashes;
D. renal insufficiency;
E. fever.

15. MC. What are the most common complications when using aminoglycosides?

A. allergic reactions;
B. renal insufficiency;
C. hepatic insufficiency;
D. neurotoxicity;
E. leukopenia.

16. MC. Which drugs increase the neurotoxicity of aminoglycosides?

A. cephalosporins;
B. polymyxin;
C. furosemide;
D. etacrinic acid;
E. cardiac glycosides.

17. MC. Which groups of drugs are not combined with aminoglycosides?

A. polymyxines
B. peniciline
C. loop diuretics
D. cephalosporins
E. tetracyclines.

18. MC. Which drugs are incompatible with lincomycin solution?

A. penicillins;
B. phenytoin;
C. hydrocortisone;
D. glucose solutions;
E. sodium chloride solution.

19. MC. What are the necessary measures to prevent the installation of antibiotic resistance?

A. administration of small doses;
B. high dose administration;
C. administration at well calculated time intervals;
D. duration of treatment well oriented;
E. antibacterial associations;

20. MC. What are the principles of prophylactic antibiotic therapy?

A. it is only practiced in people who have certainly had infected contacts;
B. targets only pathogens where resistance is slowly installed;
C. targets only pathogens where resistance is rapidly installed;
D. is performed for a short time;
E. it is performed on a long-term basis;

21. MC. What are the requirements for antibiotics used in local therapy?

A. cannot be used orally or parenterally;
B. have low allergenic capacity;
C. are well supported by tissues;
D. acts bactericidal;
E. acts bacteriostatically;

22. MC. What are the mistakes in antibiotic therapy?

A. errors in collecting materials for analysis;
B. diagnostic errors;
C. the presence of uncorrected circulatory insufficiency;
D. neglecting aseptic and antiseptic;
E. purulent collections are surgically evacuated;

23. MC. Which pharmacokinetic parameters are characteristic for carbenicillin?

A. it absorbs well from the gastrointestinal tract;
B. it is not absorbed from the gastrointestinal tract;
C. renal elimination;
D. protein coupling - 50%;
E. $T_{1/2}$ in normal adults is 0.8 –1.5 hours;

24. MC. Which pharmacokinetic parameters are characteristic for cefoperazone (cefobid, cefobim)?

A. diffuses well in all tissues;
B. it diffuses insufficiently in all tissues;
C. $T_{1/2}$ is 2 hours;
D. renal excretion (20 - 30%);
E. bile excretion (30 - 40%);

25. MC. Which pharmacokinetic parameters are characteristic for erythromycin?

A. protein coupling - 60%;
B. protein coupling - 75%;
C. $T_{1/2}$ in normal adults is 1.4 - 2 hours;
D. $T_{1/2}$ is 4 - 6 hours when creatinine clearance is 60 ml / min;
E. good diffusion in all tissues;

26. MC. Which pharmacokinetic parameters are characteristic for gentamicin?

A. good digestive absorption;
B. negligible digestive absorption;
C. circulates uncoupled with plasma proteins;
D. $T_{1/2}$ in normal adults is 1-4 hours;
E. it is eliminated unchanged through urine;

27. MC. Which pharmacokinetic parameters are characteristic for tetracycline?

A. good digestive absorption;
B. incomplete digestive absorption;
C. $T_{1/2}$ in normal adults is 6-12 hours;
D. $T_{1/2}$ in normal adults is 1 - 2 hours;
E. $T_{1/2}$ is 30 - 80 hours when creatinine clearance is 10 ml / min;

28. MC. The side effects of chloramphenicol are:

A. neuro-muscular block;
B. gray syndrome;
C. agranulocytosis;
D. ototoxicity;
E. dysbacteriosis.

29. MC. Select the characteristics of chloramphenicol:

A. has a broad spectrum of action;
B. inhibits cell wall synthesis;
C. acts bacteriostatic;
D. acts bactericidal;
E. inhibits protein synthesis.

30. MC. Which antibiotics are used in infections with pyocyanic bacillus:

A. carbenicillin;
B. gentamicin;
C. cephalexin;
D. polymyxin;
E. chloramphenicol.

31. MC. Which groups of antibiotic are used as antituberculosis :

A. aminoglycosides
B. tetracyclines
C. ansamicinele
D. polymyxins
E. penicillins

32. MC. What are the characteristics of benzylpenicillin?

A. bactericidal action;
B. bacteriostatic action;
C. are destroyed by penicillinase;
D. is inactivated in the acidic environment of the stomach;
E. they are acid-resistant.

33. MC. Choose the basic properties of first generation cephalosporins:

A. has a broad spectrum of action;
B. after the mechanism of action they are like penicillins;
C. beta-lactamase resistant;
D. bactericidal action;
E. bacteriostatic action.

34. MC. Choose the basic properties of polymyxins :

A. sensitive - gram-negative bacilli;
B. sensitive - gram gram positive .
C. It is slowly eliminated, mainly through the kidneys
D. Possesses neurotoxicity
E. Contraindication - newborns

35. MC. Select drugs that are indicated in the antibacterian treatment of biliary infections:
A. ampicillin;
B. clindamycin
C. chloramphenicol;
D. cephalosporins ;
E. tetracycline

36. MC. Amoxicillin has the following properties:
A. broader spectrum of activity than benzylpenicillin;
B. resistant to the action of penicillinase;
C. is acid-resistant;
D. concentrates in the ball;
E. rarely causes allergic reactions.

37. MC. Choose the spectrum of action for benzylpenicillin:
A. gram-negative cocci;
B. gram-negative bacilli;
C. spirochetes;
D. chlamydiae;
E. gram-positive cocci.

Antifungal and antiviral agents
SC

1. **SC. Which antibiotic is effective exclusively in the treatment of systemic mycosis:**
A. Nystatin
B. grizeofulvina
C. amphotericin B
D. natamycin
E. levorin

2. **SC. Which allylamine derivative is used in the treatment of systemic and local mycoses:**
A. Naphtifine
B. flucytosine
C. fluonilid
D. terbinafine
E. capsofungin

3. **SC. Which imidazole derivative is used exclusively in the treatment of systemic mycosis:**
A. clotrimazole
B. fluconazole
C. econazole
D. sulconazole

E. isoconazole

4. SC. What is the mechanism of action of grizeofulvin:

A. inhibits ergosterol synthesis
B. inhibits peptidoglycan synthesis
C. inhibits nucleic acid synthesis by blocking the microtubules
D. disrupts the permeability of the cytoplasmic membrane
E. inhibits the transport of nutrients

5. SC. Which is the mechanism of action of nystatin, amphotericin B, natamycin:

A. inhibits ergosterol synthesis
B. is irreversibly coupled with ergosterol
C. inhibits peptidoglycan synthesis
D. inhibits nucleic acid synthesis
E. inhibits protein synthesis

6. SC. What is the mechanism of antimycotic action of imidazole and triazole derivatives:

A. inhibits ergosterol synthesis
B. inhibits nucleic acid synthesis
C. inhibits protein synthesis
D. inhibits protein synthesis
E. inhibits peptidoglycan synthesis

7. SC. What is the mechanism of antimycotic action of allylamines:

A. inhibits ergosterol synthesis
B. inhibits nucleic acid synthesis
C. inhibits protein synthesis
D. inhibits protein synthesis
E. inhibits peptidoglycan synthesis

8. SC. What is the echinocandin derivative used as antifungal:

A. fluonilid
B. flucytosine
C. amorolfine
D. naftifine
E. capsofungin

9. SC. What is the mechanism of action of echinocandins:

A. inhibits peptidoglycan synthesis
B. inhibits ergosterol synthesis
C. inhibits 1,3-beta-D-glucan synthesis
D. inhibits nucleic acid synthesis
E. inhibits mycolic acid synthesis

10. SC. What is the common characteristic for the absorption of triazole derivatives:

A. reduced absorption
B. good absorption , influenced by food
C. high absorption , not influenced by food
D. good absorption, but is inactivated in the intestinal wall

E. they are not absorbed from the digestive tract

11. SC. What drug is active against adenovirus:

A. amantadine
B. zanamivir
C. acyclovir
D. lamivudine
E. ribavirin

12. SC. What drug is active against poxviruses:

A. amantadine
B. ribavirin
C. zidovudine
D. lamivudine
E. nevirapine

13. SC. What is the effect of amantadine on the M2 protein:

A. inhibits the influx of hydrogen ions from the host cell cytoplasm into the virus
B. inhibits the influx of amino acids into the virus
C. inhibits the transport of bivalent ions in the virus
D. inhibits the efflux of bivalent ions from the virus
E. inhibits RNA polymerase synthesis

14. SC. In wich case amantadine will pe prescribed for long term?

A. prophylaxis of the group
B. influenza treatment
C. prophylaxis of influenza in patients with major risks
D. treatment of viral pneumonia
E. treatment of viral croup

15. SC. Which antiherpetic drug in an analogue of thymidine:

A. acyclovir
B. foscarnet
C. vidarabine
D. trifluridine
E. maribavir

16. SC. Which antiherpetic drug is an analogue of adenosine:

A. cidofovir
B. brivudine
C. vidarabine
D. trifluridine
E. maribavir

17. SC. Which antiherpetic drug is an inhibitor of viral protein-kinase:

A. cidofovir
B. brivudine
C. vidarabine
D. trifluridine
E. maribavir

18. SC. Which antiherpetic drug is inhibiting viral fusion:

A. docosanol
B. fomivirsen
C. maribavir
D. foscarnet
E. cidofovir

19. SC. What is the mechanism of antiherpetic action of docosanol:

A. blocks AND-polymerase
B. blocks the fusion of viral and cellular membranes and entry of the virus into the cell
C. blocks mRNA synthesis
D. blocks the decapsidation of the virus
E. blocks viral protein kinase

20. SC. What is the mechanism of antiherpetic action of nucleoside analogues:

A. inhibits viral DNA-polymerase
B. blocks the decapsidation of the virus
C. inhibits viral proteinokinase
D. blocks the fusion of viral and cellular membranes
E. inhibits reverse transcriptase

21. SC. What is the main indication of trifluridine:

A. orofacial herpes
B. genital herpes
C. cytomegalic virus infection
D. Epstein-Barr virus infection
E. herpetic keratitis

22. SC. What is the main indication of docosanol:

A. recurrent orolabial herpes
B. genital herpes
C. cytomegalic virus infection
D. Epstein-Barr virus infection
E. herpetic keratitis

23. SC. What is the main indication of maribavir:

A. ocular herpetic infection
B. systemic herpetic infection
C. cytomegalic virus infection
D. infection with Epstein-Barr virus
E. infection with varicella-zosterian virus

24. SC. What is the main indication of ganciclovir:

A. Epstein-Barr virus infection
B. infection with varicella-zosterian virus
C. systemic herpetic infection
D. cytomegalic virus infection
E. genital herpes infections

25. SC. What is the importance for anti-herpes drugs that have a longer half-life in cells than in plasma:

A. have a higher bioavailability
B. have a stronger coupling with plasma proteins
C. have a more lasting effect
D. have a shorter effect
E. it is metabolized more intensely

26. SC. Which antiretroviral drug inhibits virus fusion in cell:

A. zidovudine
B. lamivudine
C. enfuvirtide
D. nevirapine
E. delavirdine

27. SC. What is the mechanism of action of the antiretroviral drug – enfuvirtide:

A. inhibits virus-target-cell fusion
B. inhibits reverse transcriptase

C. inhibits viral protease
D. inhibits DNA polymerase
E. inhibits virus decapsidation

28. SC. Which action is mainly characteristic for gamma interferon:

A. immunomodulatory action
B. anti-inflammatory action
C. anti-proliferative action
D. antiviral action
E. antibacterial action

29. SC. Which synthetic drug can be used in the treatment of viral hepatitis B and C:

A. entecavir
B. Clevudine
C. penciclovir
D. lamivudine
E. ribavirin

30. SC. What is the mechanism of action of lamivudine in viral hepatitis B:

A. Prevention of DNA chain elongation by competitively inhibition HBV -DNA polymerase
B. inhibits membrane fusion
C. inhibits viral integrase
D. inhibits viral protease
E. inhibits virus decapsidation

31. SC. What is the mechanism of action of lamivudine in retrovirus infection:

A. competitively inhibits HBV - DNA polymerase by blocking the formation of the DNA chain
B. inhibits reverse transcriptase to prevent DNA chain elongation
C. inhibits membrane fusion
D. stimulates membrane fusion
E. inhibits viral protease

32. SC. What side effects from the endocrine system can cause interferons:

A. hyperthyroidism
B. diabetes insipidus
C. Diabetes
D. autoimmune thyroiditis
E. cortical-adrenal insufficiency

33. SC. Which is the analogue of ribavirin used as prodrug:

A. lamivudine
B. indinavir
C. Viramidine
D. zidovudine
E. ritonavir

34. SC. What is the mechanism of action of palivizumab:

A. inhibition of reverse transcriptase
B. inhibition of F-glycoprotein by preventing the uptake and internalization of the virus
C. inhibits cell tyrosine kinase
D. inhibits viral protease
E. inhibits viral polymerase

35. SC. What is the main indication of palivizumab:

A. preventing the development of carcinoma in patients with viral hepatitis B
B. cytomegalic virus infections

C. prevention of respiratory syncytial virus infection in children at high risk
D. Prevention of HIV infection in children
E. Oro-facial herpetic infections

MC

1. **MC. Which are the characteristics of pharmacokinetics parameters for fluconazole:**
   A. good absorption
   B. high bioavailability
   C. large apparent volume of distribution
   D. is intensely metabolized in the liver
   E. it is excreted unchanged through the urine

2. **MC. Which antimycotic antibiotics are used in the treatment of local mycosis:**
   A. Nystatin
   B. terbinafine
   C. grizeofulvin
   D. natamycin
   E. clotrimazole

3. **MC. Which antifungal drugs are used exclusively systemically:**
   A. grizeofulvin
   B. ketoconazole
   C. fluconazole
   D. itraconazole
   E. terbinafine
4. **MC. Which are the characteristics of pharmacokinetical parameters of Acyclovir:**
   A. it is eliminated unchanged through kidneys
   B. it is high metabolized in the liver
   C. wide distribution in body
   D. high level of plasma protein binding
   E. it is not metabolized
5. **MC. Wich are the pharmacokinetical parameters of itraconazole:**
   A. high bioavailability
   B. high level of plasma protein binding
   C. It is metabolized – active metabolites
   D. it is eliminated mainly through intestines
   E. it is eliminated unchanged
6. **MC. Which antifungal agents can be used systemically and locally:**
   A. ketoconazole
   B. amphotericin B
   C. fluconazole
   D. grizeofulvina
   E. miconazole
7. **MC. Which antimycotic groups act by inhibiting the synthesis of ergosterol:**
   A. imidazole derivatives
   B. allylamine derivatives
   C. halogenated thiocarbons
   D. antibiotics
   E. echinocandins
8. **MC. Which antifungal agents inhibit the synthesis of nucleic acids:**
   A. iodine

B. fluocitozin
C. capsofungin
D. grizeofulvin
E. terbinafine

9. MC. Which antifungal agents disrupt the permeability of the cytoplasmic membrane:

A. amphotericin B
B. natamycin
C. grizeofulvin
D. terbinafine
E. Nystatin

10. MC. What are the mechanisms of action of nystatin, amphotericin B and natamycin:

A. couple with ergosterol
B. disturbance of membrane permeability
C. intensification of oxidative processes with the formation of toxic free radicals
D. disturbance of peptidoglycan synthesis
E. disturbance of 1,3-beta-D-glucan synthesis

11. MC. What are the indications of nystatin:

A. systemic candidiasis
B. oropharyngeal candidiasis
C. vulvovaginal candidiasis
D. aspergillosis
E. cutaneous candidiasis

12. MC. What are the indications for amphotericin B:

A. aspergillosis
B. tinea corporis
C. Blastomycosis
D. cociodiodomicosis
E. onychomycosis

13. MC. In the treatment with which antibacterial, nystatin is recommended for the prophylaxis of candidiasis of the digestive tract:

A. benzylpenicillin
B. chloramphenicol
C. tetracyclines
D. polymyxin
E. metronidazole

14. MC. What are the contraindications of amphotericin B:

A. heart conditions
B. hematopoetic disturbances
C. liver , kidney disease
D. pulmonary diseases
E. diabetes

15. MC. During treatment with amphotericin B is required to control:

A. electrolytes
B. electrocardiogram
C. kidney function
D. peripheral blood test
E. lung function

16. MC. Which drugs potentiate the effects of amphotericin B and help us to reduce the dose:

A. chloramphenicol
B. minocycline
C. gentamicin

D. nitrofurantoin
E. rifampicin

17. MC. What are the contraindications of griseofulvine:

A. liver , kidney disease
B. organic disorders of the CNS
C. lupus erythematosus
D. tumors
E. organic disorders of the heart

18. MC. What are the side effects of amphotericin B:

A. hepatotoxicity
B. nephrotoxicity
C. ototoxicity
D. alergic reactions
E. neuromuscular block

19. MC. What are the pharmacokinetic parameters of grizeofulvin:

A. Good, but slow absorption at internal administration
B. reduced absorption at internal administration
C. creates lasting concentrations in the skin after prolonged administration
D. it is not detected in nails and skin
E. doesn't cumulate

20. MC. What side effects can be seen in the treatment with nystatin and natamycin:

A. dyspeptic disorders
B. neurological disorders
C. rash
D. hematopoietic disorders
E. Stevens-Johnson syndrome

21. MC. What are the pharmacokinetic parameters of amphotericin B:

A. high bioavailability in internal administration
B. high volume of distribution , renal elimination
C. intense coupling with proteins
D. good penetration into the cerebrospinal fluid
E. low bioavailability for internal administration

22. MC. What are the pharmacokinetic parameters of fluconazole for internal administration:

A. low bioavailability
B. high bioavailability
C. high volume of distribution
D. small volume of distribution
E. it is mainly eliminated unchanged through the urine

23. MC. What are the pharmacokinetic parameters of ketoconazole:

A. intense coupling with plasma proteins
B. elimination mainly by bile
C. good absorption at internal administration
D. it is metabolized by the formation of active metabolites
E. it is metabolized in the liver with the formation of inactive metabolites

24. MC. What are the pharmacokinetic parameters of miconazole:

A. high bioavailability
B. reduced bioavailability
C. it is metabolized by the formation of active metabolites
D. it is metabolized by the formation of inactive metabolites
E. it is mainly eliminated through the urine

25. MC. Which drugs are active against orthomixoviruses:

A. acyclovir
B. zanamivir
C. amantadine
D. zidovudine
E. oseltamivir

26. MC. Which drugs are active against papillomaviruses:

A. valaciclovir
B. afovirsen
C. stavudine
D. imiquimod
E. nevirapine

27. MC. Which drugs are havin a broad spectrum of action:

A. ribavirin
B. acyclovir
C. interferons
D. lamivudine
E. nevirapine

28. MC. Which drugs are active against flu virus:

A. viral transcription inhibitors
B. viral protein kinase inhibitors
C. neuraminidase inhibitors
D. M2 protein inhibitors
E. nucleoside analogues

29. MC. Which anti-influenza drugs are inhibitors of neuraminidase:

A. ribavirin
B. rimantadine
C. oseltamivir
D. idoxuridine
E. zanamivir

30. MC. What are the effects of neuraminidase inhibition by antiviral drugs?

A. Inhibits viral penetration
B. Inhibits the spread of the virus
C. inhibits virus decapsidation
D. contributes to viral aggregation
E. contributes to the release of viruses from infected cells

31. MC. What are the indications for amantadine:

A. prophylaxis and treatment of influenza type A and B
B. treatment and prophylaxis of influenza type A
C. seasonal prophylaxis of influenza A as an alternative to vaccination
D. prophylaxis and treatment of type B influenza
E. prophylaxis of influenza type A in patients at risk for epidemics

32. MC. What are the indications of zanamivir:

A. prophylaxis and treatment of influenza type A and B
B. treatment and prophylaxis of influenza type A
C. prophylaxis of influenza type A and B in patients at risk for epidemics, adjuvant
D. seasonal prophylaxis of influenza A as an alternative to vaccination
E. prophylaxis and treatment of type B influenza

33. MC. What are the contraindications of amantadine:

A. epilepsy

B. respiratory failure
C. pregnancy
D. liver , kidney disease
E. endocrine disorders

34. MC. What are the situations that require precautions when using amantadine:
A. association with oral antidiabetics
B. association with psychotropes
C. association with anorexigens
D. association with non-steroidal anti-inflammatory drugs
E. association with sympathomimetics

35. MC. What are the contraindications of zanamivir:
A. kidney disease
B. bronchial asthma
C. liver disease
D. chronic obstructive pulmonary disease
E. CNS disorders

36. MC. What are the side effects to the use of amantadine as anti - flu drug:
A. insomnia
B. confusion
C. anxiety
D. extrapyramidal disorders
E. concentration difficulties

37. MC. Which anti-herpetic drugs analogous to guanozine are prodrugs:
A. ganciclovir
B. famciclovir
C. valaciclovir
D. penciclovir
E. valganciclovir

38. MC. Which anti-herpetic drugs analogous to guanozine are active drugs:
A. penciclovir
B. ganciclovir
C. valganciclovir
D. famciclovir
E. acyclovir

39. MC. What are the indications of acyclovir:
A. herpes infections
B. infections with varicella-zaosterian virus
C. adenovirus infections
D. infections with orthomixoviruses
E. cytomegalic virus infections

40. MC. What are the indications of idoxuridine:
A. cytomegalovirus infections
B. keratitis with herpes simplex virus
C. genital herpes
D. infections with Epstein-Barr virus
E. Herpes zoster area

41. What are the antiretroviral drugs that inhibit viral protease: ABE
A. ritonavir

B. indinavir
C. nevirapine
D. abacavir
E. nelfinavir

42. MC. What are the nucleoside analogue antiretroviral drugs that inhibit reverse transcriptase?
A. nevirapine
B. lamivudine
C. didanosine
D. ritonavir
E. zalcitabine

43. MC. What are non-nucleoside analogue antiretroviral drugs that inhibit reverse transcriptase:
A. nevirapine
B. lamivudine
C. delavirdine
D. ritonavir
E. zalcitabina

44. MC. Which are the components of the mechanism of action of interferons:
A. interacts with specific membrane receptors
B. inhibits DNA-polymerase
C. activate the JAK-STAT signal translation path
D. inhibits reverse transcriptase
E. inhibits viral protease

45. MC. What are the indications of interferons other than viral hepatitis:
A. chronic granulocytic leukemia
B. papillomavirus infections
C. herpetic keratitis
D. fungal diseases
E. multiple sclerosis

46. MC. What are the contraindications of interferons:
A. Decompensated cardiovascular disease
B. Kaposi's syndrome in HIV patients
C. uncontrolled seizures
D. psychosis
E. multiple sclerosis

47. MC. Interferon drugs are used with caution in:
A. uncontrolled diabetes
B. pulmonary diseases
C. autoimmune diseases
D. gout
E. gastric and duodenal ulcer

48. MC. What are the symptoms of the pseudogripal syndrome:
A. fever, chills
B. arthralgias, myalgia
C. excitation, hallucinations
D. hypothermia, pallor

E. nausea, vomiting

49. MC. What may be the neurological side effects caused by interferons:

A. amnesia
B. depression
C. anxiety
D. hallucinations
E. Behavioral and memory disorders

50. MC. What may be the hepatic side effects caused by interferon ?

A. increased transaminases
B. increase in alkaline phosphatase
C. increased bilirubin
D. decreased lactate dehydrogenase
E. increased creatinine kinase

51. MC. What may be the gastrointestinal side effects caused by interferons:

A. anorexia, xerostomia
B. hypersalivation
C. weight loss
D. diarrhea, sometimes constipation
E. hypomotility

52. MC. What may be hematopoietic side effects caused by interferons:

A. leukocytosis
B. anemia
C. thrombocytopenia
D. lymphocytosis
E. agranulocytosis

53. MC. What may be the pulmonary side effects caused by interferons?

A. chronic obstructive pulmonary disease
B. cough
C. pulmonary fibrosis
D. cardiac stop
E. pulmonary edema

36. MC. What is the purpose of the use of influenza drugs in epidemics to patients at high risk:

A. infection prevention
B. reducing the duration of influenza
C. healing of the patient
D. reducing the intensity and duration of symptoms
E. there is no point in prescribing

Antituberculosis drugs
SC

1. SC. Which group of antibiotics should be used as antituberculosis :

A. macrolides
B. tetracyclines
C. ansamycins
D. polymyxins
E. penicillins

2. **SC. Which antibiotic used as an anti-tuberculosis drug is considered to be the most effective :**
    A. amikacin
    B. clarithromycin
    C. streptomycin
    D. polymyxin
    E. rifampicin
3. **SC. Which antibiotic is a obligatory component of the combined anti-tuberculosis drugs:**
    A. isoniazid
    B. ethambutol
    C. streptomycin
    D. rifampicin
    E. pyrazinamide

4. **What is the mechanism of the anti-tuberculosis action of hydrazine derivatives of isonicotinic acid :**
    A. inhibition of protein synthesis
    B. inhibition of RNA polymerase DNA-dependent
    C. inhibition of the synthesis of fatty acids, precursors of mycolic acid
    D. inhibition of DNA-gyrase and DNA- topoisomerase
    E. inhibition of cell wall synthesis

5. **SC. What is the mechanism of antituberculosis action of ansamycins :**
    A. inhibition of protein synthesis
    B. inhibiting RNA-polymerase DNA -dependent
    C. inhibition of the synthesis of fatty acids, precursors of mycolic acid
    D. inhibition of DNA gyrase and DNA - topoisomerase
    E. inhibition of cell wall synthesis
6. **SC. What is the mechanism of antituberculosis action of aminoglycosides :**
    A. inhibition of protein synthesis
    B. inhibition RNA - polymerase DNA - dependent
    C. inhibition of the synthesis of fatty acids, precursors of mycolic acid
    D. inhibition of DNA -gyrase and DNA- topoisomerase
    E. inhibition of cell wall and cell synthesis
7. **SC. Which group of antituberculosis drugs acts by inhibiting DNA -gyrase :**
    A. ansamycins
    B. isonicotinic acid hydrazines
    C. butanol derivatives
    D. fluorquinolones
    E. nicotinamide derivatives

8. **SC. For which reason rifampicin is used in combination with other antituberculosis drugs :**
    A. it absorbs weakly from the digestive tract
    B. it is poorly distributed in tissues
    C. resistance is rapidly developing
    D. it's not making effective concentration in tissues
    E. is subjected to intense first hepatic passage

9. **SC. Why rifampicin is not recommended to be associated with drugs that are metabolised in the liver :**
    A. rifampicin produces enzyme induction
    B. drugs produce enzyme induction
    C. rifampicin increases the hepatic flow
    D. drugs increase the hepatic flow
    E. rifampicin produces enzyme inhibition
10. **SC. What is the cause of isoniazid neurotoxicity :**
    A. antagonism with folic acid
    B. cyanocobalamin antagonism
    C. antagonism with ascorbic acid
    D. pyridoxine antagonism
    E. antagonism with riboflavin
11. **SC. What side effect may develop the administration of isoniazid to patients with glucose-6-phosphate dehydrogenase defficiency:**
    A. hemolytic anemia
    B. iron deficiency anemia
    C. megaloblastic anemia
    D. aplastic anemia
    E. pernicious anemia
12. **SC. Which vitamin drug is included in combined drugs of isoniazid :**
    A. riboflavin
    B. cyanocobalamin
    C. pyridoxine
    D. folic acid
    E. thiamine
13. **SC. What is the characteristic for etambutol's action as anti-tuberculosis drug:**
    A. inhibits protein synthesis
    B. inhibits the permeability of the cytoplasmatic membrane
    C. inhibits DNA -gyrase
    D. inhibits the synthesis of mRNA and metabolism of bacilli
    E. inhibits ergosterol synthesis

MC

1. **MC. Which are the most effective anti-tuberculosis drugs:**
    A. rifampicin
    B. streptomycin
    C. isoniazid
    D. ethambutol
    E. pyrazinamide
2. **MC. Which are the groups of antibiotic that are used as anti-tuberculosis drugs :**
    A. penicillins
    B. ansamicinale
    C. polymyxins
    D. aminoglycosides
    E. cephalosporins
3. **MC. Which drugs are obligatory components of the combined anti-tuberculosis agents :**

A. ethambutol
B. isoniazid
C. pyrazinamide
D. rifampicin
E. pyridoxine

4. **MC. Which are the major antituberculosis drugs for the first election:**
   A. streptomycin
   B. isoniazid
   C. amikacin
   D. ethionamide
   E. ethambutol
5. **MC. Which aminoglycosides are mainly used as antituberculosis drugs :**
   A. gentamicin
   B. amikacin
   C. streptomycin
   D. tobramycin
   E. kanamycin
6. **MC. Which isonicotinic acid hydrazine derivatives are second-line antituberculosis drugs:**
   A. ftivazid
   B. isoniazid
   C. metazide
   D. opiniazide
   E. viomicin
7. **MC: Which fluorquinolones are prospective as antituberculosis drugs :**
   A. norfloxacin
   B. levofloxacin
   C. moxifloxacin
   D. nalidixic acid
   E. gatifloxacin
8. **MC. Which are the effective anti-tuberculosis agents :**
   A. rifabutin
   B. ethambutol
   C. thioacetazone
   D. isoniazid
   E. amikacin

9. **MC. Which are the effective anti-tuberculosis agents :**
   A. isoniazid
   B. pyrazinamide
   C. capreomycin
   D. thioacetazone
   E. metazide
10. **MC. Which antituberculosis agents are less effective:**
    A. viomicine
    B. aminosalicylic acid
    C. cycloserine
    D. thioacetazone
    E. ofloxacin
11. **MC. Which antibiotics are minor antituberculous drugs:**
    A. cycloserine
    B. amikacin

C. streptomycin
D. lomefloxacina
E. viomicine

12. MC. Which drugs inhibit the 30 S subunit of ribosomes :

A. kanamycin
B. cycloserine
C. amikacin
D. rifampicin
E. isoniazid

13. MC. Which mechanisms finally determine the inhibition of protein synthesis by ansamycins :

A. coupling with the 30S subunit of the ribosomes
B. formation of a complex with DNA-dependent RNA polymerase
C. blocking the formation of polysomes
D. blocking the initiation of mRNA synthesis
E. blocking the initiation of triplet attachment

14. MC. Which are the mechanisms of ansamycin resistance :

A. disruption of penetration into bacterial cells
B. synthesis of acetyltransferases
C. alteration of RNA- dependent DNA polymerase synthesis
D. beta-lactamase synthesis
E. intensification of antibiotic efflux from cells

15. MC. Which are the characteristics of the bactericidal effect of ansamycins :

A. active against mycobacteria in the resting phase
B. active against mycobacteria with fast division
C. active against mycobacteria with a short period of metabolic activity
D. active against intracellular mycobacteria
E. active against extracellular mycobacteria and phagocytes

16. MC. Which other indications has Rifampicin:

A. septicemia with gram-negative germs
B. pneumococcal bronchopneumonia
C. pneumonia caused by legionella
D. staphylococcal endocarditis
E. lambliosis

17. MC. Which are the contraindications of ansamycins :

A. porphyria
B. renal insufficiency
C. respiratory failure
D. heart failure
E. hepatic insufficiency

18. MC. What are the indications for rifampicin other than tuberculosis:

A. abdominal typhus
B. leprosy
C. trichomoniasis
D. prophylaxis of meningococcal meningitis
E. exanthematic typhus

19. MC. In which situations rifampicin is used with caution :

A. in combination with drugs that are metabolized in the liver
B. in combination with hepatotoxic drugs
C. hepatic insufficiency

D. jaundice
E. alcoholism

20. MC. Rifampicin may cause the following side effects:

A. coloring some secrets in red-orange
B. anaphylactic shock
C. hemopoiesis disorder
D. hepatotoxicity
E. ototoxicity

21. MC. Hepatotoxicity of rifampicin is characterized by:

A. hepatitis with jaundice
B. increases alkaline phosphatase
C. increases transaminases
D. increases urea
E. fulminant hepatic failure

22. MC. In the digestive tract, the following side effects of rifampicin can be observed :

A. constipation
B. diarrhea
C. abdominal pain
D. pseudomembranous colitis
E. gastric discomfort

23. MC. In hemopoiesis, the following side effects of rifampicin can be observed :

A. neutropenia
B. hemolytic anemia
C. leukocytosis
D. thrombocytosis
E. thrombocytopenic purpura

24. MC. The risk of hepatotoxic action of rifampicin is increased in the following cases :

A. hypoalbuminemia
B. association with hepatoprotector agents
C. pre-existing liver disease
D. old people
E. renal insufficiency

25. MC. The following side effects may be observed during prolonged intermittent treatment with rifampicin :

A. anaphylactic shock
B. thrombocytopenia
C. hemolytic anemia
D. pseudomembranous colitis
E. influenza syndrome

26. MC. Rifampicin for enzyme induction may be responsible for the following:

A. Asthma attack to a pacient with metilxanthene treatment
B. Pectoral angina
C. Thrombosis to a pacient with warfarin treatment
D. ostheoporosis
E. hypertension

27. MC. Which neurological side effects can cause rifampicin:

A. depression
B. confusion
C. sleepiness
D. psychomotor excitation

E. dizziness

28. MC. What is characteristic for rifampicine:

A. slow and reduced absorption
B. complete absorption
C. food does not affect absorption
D. food decreases absorption
E. colors the biological liquids in red - orange

29. MC. In which tissues rifampicin achieves higher concentrations than in blood :

A. bones
B. liver
C. ball
D. soft tissues
E. lungs

30. MC. In which tissues rifampicin achieves concentrations equal to blood :

A. urine
B. pleural fluid
C. ascetic fluid
D. ball
E. soft tissues

31. MC. For the metabolism of rifampicin the following are characteristic:

A. it is intensively metabolized with formation of active metabolites
B. it is metabolized with formation of inactive metabolites
C. is subjected to deacetylation
D. is subjected to oxidation
E. is subjected to hydrolysis

32. MC. Which may be the mechanisms of anti-tuberculosis action of isoniazid :

A. inhibition of DNA- dependent RNA polymerase synthesis
B. inhibition of the conversion of unsaturated fatty acids into saturated acids
C. inhibition of folic acid synthesis
D. inhibition of the synthesis of DNA, carbohydrates, lipids
E. inhibition of DNA -gyrase

33. MC. Which are the characteristics of the anti-tuberculosis effect of isoniazid :

A. bactericidal effect on mycobacteria in the multiplication phase
B. bacteriostatic effect
C. it is captured by an active mechanism in mycobacteria
D. is activated by the formation of organic radicals and active forms of oxygen
E. low hepatotoxicity

34. MC. What is characteristic for isoniazid resistance:

A. mutations with beta-lactamase synthesis
B. mutations with disturbances in synthesis of catalase-peroxidase, enoil-reductase, NAD
C. mutations with synthesis acetyltransferases
D. disruption of permeability with decreased mycobacterial uptake
E. increased efflux from the cell

35. MC. Which are the prophylactic indications of isoniazid :

A. carriers of the Koch bacillus
B. people with positive skin test for tuberculin
C. people that has a history of tuberculosis
D. people who are taking immunostimulatory agents
E. contacts with people with tuberculosis

36. MC. Which are the particularities of the dosing rules of isoniazid :

A. to adults - dose of 30 mg / kg
B. to children – dose of 10 mg / kg

C. to adults - dose of 5 mg / kg
D. to children – dose of 5 mg / kg
E. doses up to 30 mg / kg in tuberculous meningitis

37. MC. Which are the contraindications of isoniazid :

A. History of poliomyelitis
B. disorders of the oculomotor nerve
C. epilepsy
D. hyperthyroidism
E. sepsis

38. MC. In which situations isoniazid is indicated with caution :

A. in combination with ototoxic drugs
B. in combination with hepatotoxic drugs
C. in combination with thyroid drugs
D. in hepatitis
E. in hypotension

39. MC. Which side effects are characteristic for isoniazid :

A. endocrine disorders
B. ototoxicity
C. neurotoxicity
D. hepatotoxicity
E. cardiotoxicity

40. MC. Which endocrine disorders can be found using isoniazid :

A. hypoglycemia
B. gynecomastia
C. Cushing
D. hypothyroidism
E. hyperglycemia

41. MC. Which neurotoxic disorders can be found using isoniazid :

A. polyneuropathy
B. encephalopathy
C. ototoxicity
D. psychomotor excitation
E. optical neuritis

42. MC. Which digestive disorders can be found using isoniazid :

A. diarrhea
B. constipation
C. hypersalivation
D. dry mouth
E. anorexia

43. MC. Which are the characteristics of hepatotoxicity for isoniazid:

A. increased alkaline phosphatase
B. increased transaminases
C. is caused by its metabolite - N-acetylizoniazide
D. is caused by the unmodified drug
E. it is more common in patients with liver disease

44. MC. Which are the mechanisms of neurotoxicity produced by isoniazid :

A. antagonism with folic acid
B. pyridoxine antagonism
C. antagonism with catecholortomethyltransferase
D. antagonism with monoamine oxidase
E. antagonism with paraaminobenzoic acid

45. MC. Which allergic reactions can be found using isoniazid :

A. lymphadenitis
B. anaphylactic shock
C. fever
D. skin rash
E. angioneurotic edema

46. MC. Whicht disorders of hemopoiesis can be found using isoniazid :

A. leukocytosis
B. agranulocytosis
C. anemia
D. eosinophilia
E. thrombocytopenia

47. MC. Which are the pharmacokinetic parameters characteristic for isoniazid :

A. high bioavailability
B. reduced bioavailability
C. high volume of distribution
D. intense coupling with plasma proteins
E. poor coupling with plasma proteins

48. MC. Which are the particularities of the distribution of isoniazid :

A. small volume of distribution
B. fast and wide distribution
C. is strongly coupled with plasma proteins
D. does not bind to plasma proteins
E. penetrates the blood-brain barrier very well

49. MC. Which are the particularities of isoniazid absorption :

A. good absorption
B. poor absorption
C. high bioavailability
D. low bioavailability
E. it is inactivated in the intestine

50. MC. Which are the pathways of metabolism of isoniazid :

A. oxidation
B. hydrolysis
C. methylation
D. acetylation
E. glucuroconjugation

51. MC. Which are the pharmacokinetic characteristics for slow acetylators of isoniazid :

A. reducing the half-life
B. increasing the half-life
C. increasing the proportion of isoniazid eliminated in unchanged form
D. the concentration of the metabolized fraction increases
E. Increases plasma concentration

52. MC. Which are the pharmacokinetic characteristics for the rapid acetylators of isoniazid :

A. decrease in plasma concentration
B. reducing the half-life
C. decrease of the metabolized fraction
D. increasing the proportion of isoniazid eliminated in unchanged form
E. increase in the metabolized fraction

53. MC. What would be the mechanisms of action of ethambutol :

A. blocking dihydrofolate reductase
B. blocking arabinosyltransferase
C. inhibition of protein synthesis
D. inhibition of mRNA synthesis

E. inhibition of folic acid synthesis

54. MC. Which are the contraindications of etambutol :

A. diabetic retinopathy
B. cataract
C. trigeminal neuritis
D. neuralgia of the facial nerve
E. optical neuritis

55. MC. In which situations ethambutol is indicated with caution :

A. kidney disease
B. children up to 13 years
C. liver disorders
D. disorders of hemopoiesis
E. hypersensitivity to the drug

56. MC. Which are the symptoms of optic neuritis caused by ethambutol :

A. retinopathy
B. discromatopsy for green and red
C. decreased visual acuity
D. reversible loss of vision
E. narrowing of peripheral visual fields

57. MC. Which are the side effects characteristic for ethambutol :

A. hyperuricemia
B. neurological disorders
C. ototoxicity
D. cardiotoxicity
E. optical neuritis

58. MC. In which situations the incidence of optical neuritis will increase during administration of ethambutol :

A. when administered with non-steroidal anti-inflammatory drugs
B. when administered with psychotrope drugs
C. when co-administered with disulfiram
D. in alcoholics and smokers
E. in patients with liver disease

59. MC. Which are the unwanted neurological reactions to ethambutol use :

A. depression
B. hallucinations
C. limb paresthesia
D. psychomotor excitation
E. confusion

60. MC. What may be allergic reaction when using ethambutol :

A. angioneurotic edema
B. anaphylactic reactions
C. hives/urticaria
D. skin rash
E. Serum disease

61. MC. What may be digestive disorders when using ethambutol :

A. anorexia
B. constipation
C. abdominal pain
D. pseudomembranous colitis
E. duodenal ulcer

62. MC. Which nicotinamide derivatives are minor anti-tuberculosis drugs :

A. ethambutol

B. protionamide
C. pyrazinamide
D. ethionamide
E. cycloserine

63. MC. What are the contraindications for pyrazinamide :

A. porphyria
B. iron deficiency anemia
C. gout
D. liver disorders
E. kidney disease

64. MC. Wich side effects can appear using pyrazinamide :

A. nephrotoxicity
B. hepatotoxicity
C. digestive disorders
D. cardiac disorders
E. hyperuricemia

65. MC. What may be the side effects of using ethionamide :

A. psychological and neurological disorders
B. hepatotoxicity
C. hyperuricemia
D. nephrotoxicity
E. digestive disorders

66. MC. Whicht are the most common side effects using ethionamide :

A. increased transaminases
B. anorexia
C. metallic taste in the mouth
D. jaundice
E. nausea, vomiting

67. MC. What are the psychological and neurological adverse reactions to the use of ethionamide :

A. depression
B. psychomotor excitation
C. convulsions
D. polineuritis
E. drug addiction

68. MC. Which side effects can be seen using ethionamide as opposed to pyrazinamide :

A. gynecomastia
B. impotence
C. hypothyroidism
D. hyperthyroidism
E. alopecia

69. MC. Which side effects can be seen using ethionamide as opposed to pyrazinamide :

A. hypertension
B. orthostatic hypotension
C. stomatitis
D. myocardial ischemia
E. hemorrhagic rash

70. MC. Which are the pharmacokinetic characteristics of ethionamide :

A. incomplete absorption
B. good absorption
C. intense metabolism
D. wide distribution in tissues

E. elimination in form of metabolites by urine

71. MC. Which are the symptoms of hepatotoxic action of pyrazinamide :

A. hepatitis with jaundice
B. increased alkaline phosphatase
C. increased transaminases
D. hypoalbuminemia
E. liver necrosis

72. MC. Which are the characteristics of streptomycin as an anti-tuberculosis drug :

A. acts on intracellular mycobacteria
B. acts on extracellular mycobacteria
C. contributes to the eradication of the infection
D. contributes to suppressing the infection
E. has very wide indications and use

73. MC. Which are the indications of streptomycin as an antituberculosis drug :

A. severe forms of tuberculosis
B. antituberculosis drug of the first line
C. alternative to ethambutol
D. monotherapy of the tuberculous meningitis
E. long-term treatment of tuberculosis

74. MC. Which are the indications of cycloserine as an antituberculosis drug :

A. Wide spectrum of action
B. repeated treatments
C. obligatory component of the combined drugs
D. in case of resistance to major antituberculosis drugs
E. mild forms of tuberculosis

75. MC. Which are the contraindications of cycloserine:

A. hepatic insufficiency
B. psychic background
C. renal insufficiency
D. duodenal ulcer
E. alcoholism

76. MC. Which are the typical side effects of cycloserine :

A. excitement, irritability
B. psychosis
C. hepatotoxicity
D. myelosuppression
E. seizures

77. MC. Which are the pharmacokinetic characteristics of cycloserine :

A. rapid and complete absorption
B. intense metabolism in the liver
C. elimination in unchanged form through the urine
D. practically does not metabolize
E. does not penetrate into the cerebrospinal fluid

78. MC. Which are the side effects characteristic for capreomycin :

A. hepatotoxicity
B. ototoxicity
C. duodenal ulcer
D. nephrotoxicity
E. anaphylactic shock

79. MC. Which are the indications of fluorquinolones as anti-tuberculosis drugs:

A. extrapulmonary tuberculosis
B. tuberculosis with non-specific lung diseases

C. tuberculosis with rapid progression
D. pulmonary tuberculosis mild forms
E. tuberculosis with resistance to other antituberculosis drugs

80. MC. Which are the contraindications for capreomycin:

A. vestibular disorders
B. liver disorders
C. kidney disease
D. hemopoietic disorders
E. pulmonary diseases

81. MC. Which drugs are not recommended to combine with capreomycin :

A. Hepatotoxic drugs
B. Ototoxic drugs
C. Neurotoxic drugs
D. Nephrotoxic drugs
E. Ulcerogenic drugs

82. MC. Which groups of synthetic chemotherapeutic agents is prospective as anti-tuberculosis :

A. nitrofurans
B. fluorquinolones
C. oxazolidindiones
D. nitroimidazole derivatives
E. sulfonamides

Synthetic chemotherapies
SC

1. SC. Choose the systemic sulfamide with medium duration of action:

A. sulfacetamide
B. sulfaetidol
C. sulfacarbamide
D. sulfamethoxazole
E. sulfathiazole

2. SC. Choose combined systemic sulfamide with medium duration of action:

A. sulfacetamide
B. co-trimoxazole
C. sulfacarbamide
D. sulfalen
E. sulfathiazole

3. SC. Choose the long-acting systemic sulfamide:

A. sulfacetamide
B. sulfaetidol
C. sulfadimethoxine
D. sulfamethoxazole
E. sulfathiazole

4. SC. Choose the long-acting combined systemic sulfamide:

A. sulfacetamide
B. sulfaetidol
C. sulfacarbamide
D. sulfamethoxazole
E. sulfaton

5. SC. Choose the short-acting systemic sulfamide:

A. sulfamonometoxin
B. sulfaetidol
C. sulfadoxin
D. sulfamethoxazole
E. sulfalen

6. SC. Determine the long-acting systemic sulfamide:

A. sulfalen
B. sulfaetidol
C. sulfacarbamide
D. sulfamethoxazole
E. sulfatiazole

7. SC. Choose the sulfamide with intestinal action from azo compounds:

A. phthalilsulfathiazole
B. sulfaton
C. co-thromoxazole
D. sulfaguanine
E. salazosulfapyridine

8. SC. Choose the topical action sulfamide:

A. sulfacetamide
B. sulfaetidol
C. sulfacarbamide
D. sulfamethoxazole
E. sulfathiazole

9. SC. Choose the mechanism of action of the single-component sulfamides?

A. inhibits cell wall synthesis
B. disrupts the permeability of the cytoplasmic membrane
C. inhibits dihydrofolic acid synthesis
D. inhibits mycolic acid synthesis
E. inhibits DNA-gyrase

10. SC. What is the mechanism of action of the combined sulfamides?

A. inhibits cell wall synthesis
B. disrupts the permeability of the cytoplasmic membrane
C. inhibits dihydrofolic acid synthesis and its conversion to tetrahydrofolic acid
D. inhibits mycolic acid synthesis
E. inhibits DNA-gyrase

11. SC. What is the basic indication of azo compounds?

A. pneumocystic pneumonia
B. urinary tract infections
C. non-specific ulcerative colitis
D. biliary infections
E. conjunctivitis

12. SC. Which sulfamide group is used in pneumocystic pneumonia ?

A. Azo compounds
B. Ultra-long sulfamides
C. Intestinal action sulfamides
D. Topical sulfamides
E. Combined sulfamides

13. SC. Which sulfamide group is mainly used in the treatment of toxoplasmosis?

A. Azo compounds
B. Combined sulfamides
C. Ultra-long sulfamides
D. Intestinal action sulfamides

E. Topical sulfamides

14. SC. Why the sulfamide with systemic action are prescribed in high doses (1-6 g / day)?

A. have limited absorption
B. are subjected intensively to the first hepatic passage
C. must achieve the necessary concentrations for antagonism with paraaminobenzoic acid
D. penetrates hard into tissues
E. it is slightly coupled with plasma proteins

15. SC. Which metabolism pathway can be responsible for crystalluria?

A. glucuronidation
B. oxidation
C. Methylation
D. Acetylation
E. Reduction

16. SC. Which metabolism pathway may be responsible for the development of hyperbilirubinaemia?

A. glucuronidation
B. oxidation
C. methylation
D. Acetylation
E. Reduction

17. SC. Which sulfamide group can cause more often crystalluria?

A. long acting sulfamides
B. short-acting sulfamides
C. intestinal action sulfamides
D. topical sulfamides
E. azo compounds

18. SC. Which sulfamide group can cause more often hyperbilirubinaemia or nuclear jaundice?

A. long acting sulfamides
B. short-acting sulfamides
C. intestinal action sulfamides
D. topical sulfamides
E. azo compounds

19. SC. Wich drug can be used to prevent crystalluria:

A. ammonium chloride
B. ascorbic acid
C. sodium citrate
D. Sodium hydrocarbonate
E. spironolactone

20. SC. Choose the nitrofuran derivative with intestinal action:

A. nitrofurantoin
B. nitrofural
C. furazidine
D. nifuroxazide
E. nifuratel

21. SC. Choose the nitrofuran derivative with topical action:

A. nitrofurantoin
B. nitrofural
C. furazolidone
D. nifuroxazide
E. nifuratel

22. SC. Choose the nitrofuran derivative with resorbing action :

A. nitrofurantoin

B. chlorchinaldol
C. furazolidone
D. nifuroxazide
E. co-thromoxazole

23. SC. The bactericidal effect of nitrofurans is determined by the following mechanism :
A. disruption of cell wall and cytoplasmic membrane synthesis
B. inhibits protein synthesis
C. inhibits nucleic acid synthesis
D. manifest antagonism with paraaminobenzoic acid
E. inhibits mycolic acid synthesis

24. SC. The bacteriostatic effect of nitrofurans is determined by the following mechanism :
A. disruption of cell wall synthesis
B. inhibits the synthesis of nucleic acids and proteins
C. inhibits ergosterol synthesis in the cytoplasmic membrane
D. manifest antagonism with paraaminobenzoic acid
E. inhibits mycolic acid synthesis

25. SC. Nitrofuran derivatives with resorbing action are indicated mainly in:
A. ORL infections
B. respiratory infections
C. ophthalmological infections
D. Urinary tract infections
E. giardiasis

26. SC. Choose the derivative of the non-fluorinated quinolones:
A. ciprofloxacin
B. nalidixic acid
C. gatifloxacina
D. pefloxacin
E. lomefloxacin

27. SC. Choose the 1st generation of monofluorinated quinolones derivative:
A. fleroxacin
B. nalidixic acid
C. gatifloxacina
D. pefloxacin
E. lomefloxacin

28. SC. What is the mechanism of action of fluorquinolones:
A. inhibits mureildipeptide synthesis
B. inhibits the synthesis of dihydro folic acid
C. inhibits DNA gyrase
D. inhibits mycolic acid synthesis
E. inhibits the tetrahydrofolic acid synthesis

29. SC. Indicate which spectrum of action are mainly having non-fluorinated quinolones:
A. gram-positive flora
B. gram-negative flora
C. spirochete
D. mycobacteria
E. protozoa

30. SC. What is the main indication for the use of non-fluorinated quinolones :
A. respiratory infections
B. biliary infections
C. infections of the bones
D. digestive infections
E. urinary tract infections

31. SC. What is characteristic for the pharmacodynamics of fluorquinolones:

A. bacteriostatic effect
B. It acts on the gram-positive flora mainly
C. Increases phagocytic activity with postantibiotic effect
D. It disrupts the permeability of the cytoplasmic membrane
E. It inhibits cell wall synthesis

32. SC. Why the fluorquinolones are contraindicated in children up to puberty (18 years)?

A. leukopenia
B. photosensitization
C. angioneurotic edema
D. cartilage lesions and erosions
E. convulsions

33. SC. Why during the treatment with fluorquinolone is contraindicated the sun exposure?

A. causes leukopenia
B. causes photosensitization
C. causes angioneurotic edema
D. causes cartilage injury and erosion
E. causes seizures

34. SC. On wich class of microbial agents act the nitroimidazole derivatives:

A. aerobic bacteria
B. fungi
C. viruses
D. anaerobic bacteria
E. mycobacteria

35. SC. What is the pathogen agent that causes pseudomembranous colitis and on which nitroimidazole derivatives work?

A. Giardia intestinalis
B. Bacteroides fragiles
C. Clostridium difficile
D. Helicobacter pylori
E. Entamoeba hystolitica

36. SC. Which class of microbial agents is influenced by nitroimidazole derivatives:

A. aerobic bacteria
B. fungi
C. viruses
D. mycobacteria
E. protozoa

37. SC. The mechanism of action of nitroimidazole derivatives is reduced to the next action:

A. prevents the formation of folic acid
B. prevents the production of hydrogen ions
C. prevents ergosterol synthesis
D. prevents cell wall synthesis
E. prevents the formation of microtubules

38. SC. What is characteristic for the mechanism of action of metronidazole:

A. increases folic acid synthesis
B. prevents cell wall synthesis
C. stimulates ergosterol synthesis
D. increases the formation of the free radical NO
E. prevents the formation of microtubules

39. SC. In which pathology of the digestive tract is indicated metronidazole:

A. anaerobic infections

B. ulcerous enterocolitis
C. fungal infections
D. bacterial dysentery
E. aerobic infections

40. SC. What is the main indication of metronidazole in dentistry:

A. fungal infections
B. anaerobic infections
C. infections with mycobacteria
D. viral infections
E. aerobic infections

41. SC. Which group of side effects can appear when combining metronidazole with alcohol :

A. neurological reactions
B. allergic reactions
C. digestive disorders
D. disulfiram reactions
E. mutagenic and cancerogenic reactions

42. SC. Which pharmacokinetic parameter determines the good penetrability in tissues:

A. bioavailability
B. protein coupling
C. half-life
D. minimal inhibitory concentration
E. volume of distribution

43. SC. What is the half-life of metronidazole and the frequency of administration:

A. 1-2 hours (4-6 times / day)
B. 5-6 hours (3-4 times / day)
C. 6-14 hours (3 -4 times / day)
D. 2-3 hours (3-4 times / day)
E. 24 hours (1 date / day)

44. SC. What is the derivative of quinoxaline?

A. nitroxoline
B. chlorchinaldol
C. dioxidine
D. ciprofloxacine
E. metronidazole

45. SC. What is the 8-oxynquinoline derivative with resorption action?

A. nitroxoline
B. chlorchinaldol
C. clioquinol
D. dioxidine
E. metronidazole

46. SC. What is the derivative of 8-oxyquinoline with intestinal action?

A. nitroxoline
B. chlorchinaldol
C. tinidazole
D. dioxidine
E. metronidazole

47. SC. The main indication for nitroxoline is:

A. pulmonary infections
B. skin infections
C. biliary infections
D. intestinal infections

E. urinary tract infections

48. SC. Which nerve can be affected by nitroxoline?

A. vagus nerve
B. trigeminal nerve
C. glossopharyngeal nerve
D. oculomotor nerve
E. facial nerve

49. SC. Nitroxoline is eliminated from the body through:

A. Urine in the form of metabolite
B. urine in unchanged form
C. stool in the form of metabolites
D. unchanged bile
E. urine in unchanged form

50. SC. What is the characteristic adverse reaction to quinoline derivatives with intestinal and topical action?

A. ototoxicity
B. gray syndrome
C. photosensitization
D. pseudomembranous colitis
E. iodism phenomena

51. SC. What is the characteristic contraindication to quinoline derivatives with intestinal and topical action?

A. blood disorders
B. neurological disorders
C. disorders of the thyroid gland
D. intestinal disorders
E. bone disorders

52. SC. What is the derivative of thiosemicarbazone?

A. nitroxoline
B. phytosept
C. septolete
D. ambazone
E. cameton

53. SC. What is the basic indication of thiosemicarbazone derivatives?

A. blood disorders
B. neurological disorders
C. disorders of the thyroid gland
D. intestinal disorders
E. disorders of the oral cavity and pharynx

54. SC. What is the pathogen on which the thiosemicarbazone derivatives mainly act?

A. protein
B. colibacil
C. streptococcus
D. staphylococcus
E. corinebacterium

55. SC. What is the derivative of oxazolidindions?

A. metronidazole
B. linesolid
C. pronilid
D. nitroxoline
E. clioquinol

56. SC. What is the mechanism of action of oxazolidinedione derivatives?

A. It disrupts cell wall synthesis
B. It disrupts bacterial DNA synthesis
C. complexes with metal ions
D. is attached to the 30S and 50 S subunits of the ribosomes
E. is coupled with ergosterol

57. SC. The particularity of the spectrum of action of oxazolidindion derivatives is:

A. aerobic gram-negative flora
B. fungi
C. mycobacteria
D. aerobic gram-positive flora
E. protozoa

58. SC. The contraindication of linesolid is:

A. blood disorders
B. neurological disorders
C. disorders of the thyroid gland
D. intestinal disorders
E. disorders of the oral cavity and pharynx

59. SC. The main indication of linesolid is :

A. aerobic gram-negative flora
B. fungal infections
C. aerobic gram-positive flora
D. tuberculosis
E. protozoa infections

Synthetic chemotherapies
MC

1. MC. Choose the short-acting systemic sulfamides:

A. sulfacetamide
B. sulfaetidol
C. sulfalen
D. sulfamethoxazole
E. sulfatiazole

2. MC. Choose the combined systemic sulfamides:

A. sulfacetamide
B. sulfaton
C. co-thromoxazole
D. Sulfamethoxazole
E. co-trimazine

3. MC. Choose the sulfamides with intestinal action:

A. sulfaguanina
B. sulfaetidol
C. phthalylsulfatiazole
D. phthalilsulfadiazine
E. sulfatiazole

4. MC. What is the mechanism of action of co-trimoxazole?

A. inhibits dihydropteroatsynthesis by preventing folic acid synthesis
B. disrupts the permeability of the cytoplasmic membrane
C. inhibits dihydrofolate reductase by disrupting tetrahydrofolic acid synthesis
D. inhibits mycolic acid synthesis
E. inhibits DNA-gyrase

5. **MC. Which protozoa are influenced by suulfamide?**
    A. malaria plasmodium
    B. balantidiasis
    C. toxoplasmas
    D. trichomonads
    E. Leishmania
6. **MC. Which viruses are affected by sulfamide?**
    A. influenza
    B. ornithosis
    C. trachoma
    D. hepatitis
    E. psittacosis
7. **MC. What are the indications of sulfamides with intestinal action?**
    A. biliary infections
    B. enteritis
    C. urinary tract infections
    D. Colitis
    E. respiratory infections
8. **MC. What are the indications of azo compounds?**
    A. Non-specific ulcerative colitis
    B. biliary infections
    C. Chron disease
    D. Conjunctivitis
    E. urinary tract infections

9. **MC. Which allergic reactions caused by sulfamide are at greater risk?**
    A. rash
    B. angioneurotic edema
    C. Stevens-Johnson syndrome
    D. Itching
    E. Lyel syndrome
10. **MC. What can be the causes of hyperbilirubinaemia or nuclear jaundice?**
    A. excessive formation of bile acids
    B. displacement of plasma proteins
    C. increased permeability of the blood-brain barrier
    D. competition in the conjugation process
    E. reduction of bilirubin elimination
11. **MC. What side effects are relatively common when using sulfamides?**
    A. allergic
    B. hematological
    C. digestive tract
    D. renal
    E. neurological
12. **MC. What hematological disorders can be found when using sulfamides?**
    A. feriprive anemia
    B. haemolytic anemia
    C. thrombocytopenia
    D. leukocytosis
    E. aplastic anemia
13. **MC. Which side effects of sulfamides are rare, but are extremely severe:**
    A. Lyel syndrome
    B. Quinke edema

C. urticaria
D. anorexia
E. Spermatogenesis disorders

14. MC. What are the methods for prophylaxis of crystalluria caused by sulfamides?

A. fruit juices
B. big volumes of liquids
C. small volumes of liquids
D. sodium hydrocarbonate
E. ascorbic acid

15. MC. Which pharmacokinetic parameters are characteristic for sulfamides with systemic action?

A. rapid and good absorption in the small intestine
B. bioavailability of 20-40%
C. wide distribution in the body
D. metabolism by glucuronidation and acetylation
E. metabolism by oxidation and hydrolysis

16. MC. What is characteristic for the absorption of systemic sulfamides?

A. absorption proportional to the degree of water solubility
B. absorption proportional to the degree of lipophility
C. bioavailability 70-90%
D. bioavailability 20-40%
E. they may be subjected to acetylation in the small intestine

17. MC. What are the pathways for the metabolism of systemic sulfamides?

A. acetylation
B. reduction
C. glucuronidation
D. oxidation
E. methylation

18. MC. How sodium hydrocarbon prevents crystalluria caused by sulfamides?

A. decrease of solubility
B. increase of ionization
C. alkalinization of the urine
D. decrease of ionization
E. increase of solubility

19. MC. Choose the derivative of nitrofuran with intestinal action:

A. nitrofurantoin
B. furazolidone
C. furazidine
D. nifuroxazide
E. nifuratel

20. MC. Choose the nitrofuran derivative with topical action?

A. nitrofurantoin
B. nitrofural
C. nifuroxazide
D. furazidine
E. nifuratel

21. MC. Choose the nitrofuran derivative with resorbing action:

A. nitrofurantoin
B. nitrofural
C. furazidine
D. nifuroxazide

E. nifuratel

22. MC. The bactericidal effect of nitrofurans is determined by the following mechanisms:

A. It forms toxic substances that affect the cell wall
B. inhibits nucleic acid synthesis
C. inhibits biochemical processes by disrupting the permeability of the cytoplasmic membrane
D. manifest antagonism with paraaminobenzoic acid
E. inhibits mycolic acid synthesis

23. MC. The bacteriostatic effect of nitrofurans is determined by the following mechanism:

A. disruption of cell wall synthesis
B. inhibits protein synthesis
C. inhibits ergosterol synthesis in the cytoplasmic membrane
D. they form complexes with nucleic acids and inhibit their synthesis
E. inhibits mycolic acid synthesis

24. MC. Which nitrofuran derivatives are mainly indicated in urinary tract infections?

A. nifuroxazide
B. nifuratel
C. nitr ofurantoin
D. furazolidone
E. furazidine

25. MC. Determine the derivatives of non-fluorinated quinolones:

A. ciprofloxacin
B. nalidixic acid
C. gatifloxacina
D. pipemidic acid
E. lomefloxacin

26. MC. Choose the derivatives of monofluorinated quinolones II generation:

A. ciprofloxacin
B. moxifloxacin
C. gatifloxacina
D. pefloxacin
E. levofloxacin

27. MC. The spectrum of action of non-fluorinated quinolones includes the following agents:

A. chlamidia
B. Gram-negative cocci
C. mycobacteria
D. gram-negative bacilli
E. Gram-positive cocci

28. MC. The mechanism of action of fluorquinolones is reduced to:

A. disrupts the permeability of the cytoplasmic membrane
B. blocks DNA-topoisomerases II and IV
C. inhibits dihydrofolic acid synthesis
D. inhibits RNA and protein synthesis
E. inhibits tetrahydrofolic acid synthesis

29. MC. Indications of fluorquinolones are:

A. Atypical infections (mycoplasma, chlamydia, etc.)
B. Urinary tract infections
C. Fungal infections
D. Protozoa infections
E. Gastrointestinal infections

30. MC. Nalidixic acid is not associated with:

A. penicillins
B. chloramphenicol
C. nitrofurantoin
D. aminoglycosides
E. polymyxines

31. MC. Fluorquinolones are contraindicated in:

A. Glucose-6-phosphate dehydrogenase deficiency
B. children until puberty
C. pseudomembranous colitis
D. digestive disorders
E. epilepsy

32. MC. The combined drugs of nitroimidazole derivatives are :

A. co-trimoxazole
B. clion-D
C. ginalgin
D. micozolon
E. helicocin

33. MC. The spectrum of action of nitroimidazole derivatives includes:

A. anaerobic bacteria
B. fungi
C. protozoa
D. aerobic bacteria
E. mycobacteria

34. MC. The nitroimidazole derivatives act on the following protozoa:

A. Gardenerella vaginalis
B. Entamoeba hystolitica
C. Toxoplasma gondii
D. Plasmodium malariae
E. Balantidium coli

35. MC. Nitroimidazole derivatives act on the following gram-negative anaerobic bacteria:

A. Fusobacterium
B. Helicobacter pylori
C. Clostridium difficile
D. Peptococcus
E. Bacteroides fragile

36. MC. Nitroimidazole derivatives act on microbes through the following mechanisms:

A. disrupts ergosterol synthesis and cytoplasmic membrane permeability
B. it forms NO and damages DNA and other intracellular macromolecules
C. inhibits DNA-gyrase
D. reduces the formation of hydrogen ions by blocking metabolic processes
E. inhibits folic acid synthesis

37. MC. Nitroimidazole derivatives are used in the following diseases of the digestive tract:

A. trichomoniasis
B. pseudomembranous colitis
C. anaerobic infections
D. gardenerellosis
E. lambliosis

38. MC. Nitroimidazole derivatives are used in the following protozoa infections:

A. trichomoniasis
B. malaria
C. Lambliosis

D. gardenerellosis
E. toxoplasmosis

39. MC. The nitroimidazole derivatives are used in:

A. mixed aerobic and anaerobic infections
B. aerobic infections
C. protozoan infections
D. anaerobic infections
E. fungal infections

40. MC. The nitroimidazole derivatives are characterized by the following pharmacokinetic parameters :

A. good absorption and high bioavailability
B. poor coupling with proteins
C. intense coupling with proteins
D. small volume of distribution
E. high volume of distribution

41. MC. Metronidazole is metabolized by the following pathways:

A. hydrolysis
B. conjugation with glucuronic acid
C. methylation
D. oxidation
E. conjugation with sulfuric acid

42. MC. Nitroimidazole derivatives are contraindicated in :

A. Organic brain disorders
B. kidney disease
C. association with disulfiram
D. Severe liver disease
E. cardiovascular disease

43. MC. The most common metronidazole reactions are:

A. sensory neuropathies
B. metallic taste
C. headache
D. encephalopathy
E. anorexia

44. MC. Symptoms of the antabus reaction to the use of metronidazole with alcohol are :

A. headache
B. encephalopathy
C. flushes
D. abdominal pain
E. paresthesia

45. MC. What are the derivatives of quinoxaline?

A. metronidazole
B. dioxidine
C. chlorchinaldol
D. chinoxidine
E. nitroxoline

46. MC. Which pathogens are influenced by quinoxaline derivatives?

A. staphylococci
B. streptococci
C. protozoa
D. bacteroids
E. colibacili

47. MC. What are the side effects of quinoxaline derivatives?

A. ototoxicity
B. muscle fibrillation
C. dyspeptic disorders
D. hepatotoxicity
E. chills

48. MC. What are the indications of quinoxaline derivatives?

A. pulmonary empyema
B. meningitis
C. pielicistitis
D. purulent abdominal processes
E. bacterial dysentery

49. MC. What are the 8-oxyquinoline derivatives with intestinal action ?

A. clioquinol
B. dioxidine
C. chlorchinaldol
D. chinoxidine
E. nitroxoline

50. MC. What are the topical 8-oxynquinoline derivatives?

A. clioquinol
B. dioxidine
C. chlorchinaldol
D. chinoxidine
E. nitroxoline

51. MC. Which are the components of the antibacterian effect of 8-oxynquinoline derivatives?

A. It disrupts cell wall synthesis
B. It disrupts bacterial DNA synthesis
C. complexes with metal ions
D. inhibits protein synthesis
E. is coupled with ergosterol

52. MC. What are the indications of nitroxoline?

A. acute and chronic intestinal infections
B. acute and chronic urinary tract infections
C. prophylaxis of intestinal infections after surgery, diagnostic procedures
D. prophylaxis of urinary tract infections after surgery, diagnostic procedures
E. prophylaxis of biliary infections after surgery, diagnostic procedures

53. MC. What are the contraindications to nitroxoline?

A. polyneuritis
B. neurological disorders
C. severe liver disease
D. Glucose-6-phosphate dehydrogenase deficiency
E. heart disease

54. MC. What are the side effects of nitroxoline?

A. ototoxicity
B. impairment of the oculomotor nerve
C. coloring of urine in yellow-orange
D. pseudomembranous colitis
E. decrease of appetite

55. MC. What are the derivatives of oxazolidindions ?

A. eperesolid
B. clioquinol
C. linesolid
D. chlorchinaldol
E. chlorhexidine

56. MC. What are the components of the mechanism of action of oxazolidinedione derivatives?

A. disrupts the activity of enzymes of microorganisms
B. disrupts protein synthesis in the translational process
C. complexes with metal ions
D. is attached to the 30S and 50S subunits of the ribosomes
E. is coupled with ergosterol

57. MC. What are the indications of oxazolidindions?

A. Nozocomial infections with piocyanal bacillus
B. Nozocomial infections with streptococci
C. Nozocomial infections with staphylococci
D. Nozocomial infections with colibacilli
E. Enterococcal nosocomial infections

58. MC. What are the contraindications of oxazolidindions?

A. hemopoietic disorders
B. neurological disorders
C. pregnancy and lactation
D. renal disorders
E. intestinal disorders

59. MC. What are the side effects of oxazolidindions?

A. oral candidiasis
B. thrombocytopenia
C. ototoxicity
D. hepatic insufficiency
E. dyspeptic disorders

60. MC. What are the pharmacokinetic parameters of oxazolidindions?

A. low bioavailability
B. high bioavailability
C. wide distribution in tissue
D. intense protein coupling
E. poor coupling with proteins