

Department of Medical Pharmacology

Faculty of Stomatology (Dentistry). IV semester

Pharmacology

Exam tests for faculty of Stomatology

1. \\\ Pharmacokinetics is:
 - \\ The study of biological and therapeutic effects of drugs
 - \\ The study of absorption, distribution, metabolism and excretion of drugs
 - \\ The study of mechanisms of drug action
 - \\ The study of methods of new drug development
2. \\\ What does “pharmacokinetics” include?
 - \\ Pharmacological effects of drugs
 - \\ Unwanted effects of drugs
 - \\ Chemical structure of a medicinal agent
 - \\ Distribution of drugs in the organism
3. \\\ The main mechanism of most drugs absorption in GI tract is:
 - \\ Active transport (carrier-mediated diffusion)
 - \\ Filtration (aqueous diffusion)
 - \\ Endocytosis and exocytosis
 - \\ Passive diffusion (lipid diffusion)
4. \\\ What is implied by «active transport»?
 - \\ Transport of drugs through a membrane by means of diffusion
 - \\ Transport without energy consumption
 - \\ Engulf of drug by a cell membrane with a new vesicle formation
 - \\ Transport against concentration gradient
5. \\\ The reasons determining bioavailability are:
 - \\ Rheological parameters of blood
 - \\ Amount of a substance obtained orally and quantity of intakes
 - \\ Extent of absorption and hepatic first-pass effect
 - \\ Glomerular filtration rate
6. \\\ Pick out the parenteral route of medicinal agent administration:
 - \\ Rectal
 - \\ Oral
 - \\ Sublingual
 - \\ Inhalation
7. \\\ What is characteristic of the intramuscular route of drug administration?
 - \\ Only water solutions can be injected
 - \\ Oily solutions can be injected
 - \\ Opportunity of hypertonic solution injections
 - \\ The action develops slower, than at oral administration
8. \\\ What is the reason of complicated penetration of some drugs through brain-blood barrier?
 - \\ High lipid solubility of a drug
 - \\ Meningitis
 - \\ Absence of pores in the brain capillary endothelium
 - \\ High endocytosis degree in a brain capillary
9. \\\ The term “biotransformation” includes the following:

- \\ Accumulation of substances in a fat tissue
- \\ Binding of substances with plasma proteins
- \\ Accumulation of substances in a tissue
- \\ Process of physicochemical and biochemical alteration of a drug in the body
- 10. \\ Tick the drug type for which microsomal oxidation is the most prominent:
 - \\ Lipid soluble
 - \\ Water soluble
 - \\ Low molecular weight
 - \\ High molecular weight
- 11. \\ Stimulation of liver microsomal enzymes can:
 - \\ Require the dose increase of some drugs
 - \\ Require the dose decrease of some drugs
 - \\ Prolong the duration of the action of a drug
 - \\ Intensify the unwanted reaction of a drug
- 12. \\ Biotransformation of a medicinal substance results in:
 - \\ Faster urinary excretion
 - \\ Slower urinary excretion
 - \\ Easier distribution in organism
 - \\ Higher binding to membranes
- 13. \\ Which of the following processes proceeds in the second phase of biotransformation?
 - \\ Acetylation
 - \\ Reduction
 - \\ Oxidation
 - \\ Hydrolysis
- 14. \\ Half life ($t_{1/2}$) doesn't depend on:
 - \\ Biotransformation
 - \\ Time of drug absorption
 - \\ Concentration of a drug in plasma
 - \\ Rate of drug elimination
- 15. \\ Elimination rate constant (K_{elim}) is defined by the following parameter:
 - \\ Rate of absorption
 - \\ Maximal concentration of a substance in plasma
 - \\ Highest single dose
 - \\ Half life ($t_{1/2}$)
- 16. \\ Systemic clearance (CL_s) is related with:
 - \\ Only the concentration of substances in plasma
 - \\ Only the elimination rate constant
 - \\ Volume of distribution, half life and elimination rate constant
 - \\ Bioavailability and half life
- 17. \\ Pharmacodynamics involves the study of following EXCEPT:
 - \\ Biological and therapeutic effects of drugs
 - \\ Absorption and distribution of drugs
 - \\ Mechanisms of drug action
- \\ Drug interactions
- 18. \\ Pharmacodynamics involves the following?
 - \\ Information about main mechanisms of drug absorption
 - \\ Information about unwanted effects
 - \\ Information about biological barriers
 - \\ Information about excretion of a drug from the organism
- 19. \\ What does "affinity" mean?
 - \\ A measure of how tightly a drug binds to plasma proteins
 - \\ A measure of how tightly a drug binds to a receptor
 - \\ A measure of inhibiting potency of a drug
 - \\ A measure of bioavailability of a drug
- 20. \\ An agonist is a substance that:
 - \\ Interacts with the receptor without producing any effect

- \ Interacts with the receptor and initiates changes in cell function, producing various effects
 - \ Increases concentration of another substance to produce effect
 - \ Interacts with plasma proteins and doesn't produce any effect
21. \ If an agonist can produce submaximal effects and has moderate efficacy it's called:
- \ Partial agonist
 - \ Antagonist
 - \ Agonist-antagonist
 - \ Full agonist
22. \ A competitive antagonist is a substance that:
- \ Interacts with receptors and produces submaximal effect
 - \ Binds to the same receptor site and progressively inhibits the agonist response
 - \ Binds to the nonspecific sites of tissue
 - \ Binds to one receptor subtype as an agonist and to another as an antagonist
23. \ Irreversible interaction of an antagonist with a receptor is due to:
- \ Ionic bonds
 - \ Hydrogen bonds
 - \ Covalent bonds
 - \ All of the above
24. \ Tick the second messenger of G-protein-coupled (metabotropic receptor):
- \ Adenylyl cyclase
 - \ Sodium ions
 - \ Phospholipase C
 - \ cAMP
25. \ The increase of second messengers' (cAMP, cGMP, Ca^{2+} etc.) concentration leads to:
- \ Inhibition of intracellular protein kinases and protein phosphorylation
 - \ Protein kinases activation and protein phosphorylation
 - \ Blocking of interaction between a receptor and an effector
 - \ Antagonism with endogenous ligands
26. \ All of the following statements about efficacy and potency are true EXCEPT:
- \ Efficacy is usually a more important clinical consideration than potency
 - \ Efficacy is the maximum effect of a drug
 - \ Potency is a comparative measure, refers to the different doses of two drugs that are needed to produce the same effect
 - \ The ED_{50} is a measure of drug's efficacy
27. \ Pick out the correct definition of a toxic dose:
- \ The amount of substance to produce the minimal biological effect
 - \ The amount of substance to produce effects hazardous for an organism
 - \ The amount of substance to produce the necessary effect in most of patients
 - \ The amount of substance to fast creation of high concentration of medicine in an organism
28. \ What term is used to describe a more gradual decrease in responsiveness to a drug, taking days or weeks to develop?
- \ Refractoriness
 - \ Cumulative effect
 - \ Tolerance
 - \ Tachyphylaxis
29. \ Tachyphylaxis is:
- \ A drug interaction between two similar types of drugs
 - \ Very rapidly developing tolerance
 - \ A decrease in responsiveness to a drug, taking days or weeks to develop
 - \ None of the above
30. \ Tolerance and drug resistance can be a consequence of:
- \ Drug dependence
 - \ Increased metabolic degradation
 - \ Depressed renal drug excretion
 - \ Activation of a drug after hepatic first-pass

31. \\\ Tolerance develops because of:
- \\ Diminished absorption
 - \\ Rapid excretion of a drug
 - \\ Both of the above
 - \\ None of the above
32. \\\ The situation when failure to continue administering the drug results in serious psychological and somatic disturbances is called?
- \\ Tachyphylaxis
 - \\ Sensibilization
 - \\ Abstinence syndrome
 - \\ Idiosyncrasy
33. \\\ What is the type of drug-to-drug interaction which is the result of interaction at receptor, cell, enzyme or organ level?
- \\ Pharmacodynamic interaction
 - \\ Physical and chemical interaction
 - \\ Pharmaceutical interaction
 - \\ Pharmacokinetic interaction
34. \\\ If two drugs with the same effect, taken together, produce an effect that is equal in magnitude to the sum of the effects of the drugs given individually, it is called as:
- \\ Antagonism
 - \\ Potentiation
 - \\ Additive effect
 - \\ None of the above
35. \\\ A teratogenic action is:
- \\ Toxic action on the liver
 - \\ Negative action on the fetus causing fetal malformation
 - \\ Toxic action on blood system
 - \\ Toxic action on kidneys
36. \\\ Idiosyncratic reaction of a drug is:
- \\ A type of hypersensitivity reaction
 - \\ A type of drug antagonism
 - \\ Unpredictable, inherent, qualitatively abnormal reaction to a drug
 - \\ Quantitatively exaggerated response
37. \\\ Acetylcholine is not a specific neurotransmitter at:
- \\ Sympathetic ganglia
 - \\ Sympathetic postganglionic nerve endings
 - \\ Parasympathetic ganglia
 - \\ Parasympathetic postganglionic nerve endings
38. \\\ Acetylcholine is not used in clinical practice because:
- \\ It is very toxic
 - \\ The doses required are very high
 - \\ It is very rapidly hydrolyzed
 - \\ It is very costly
39. \\\ Parasympathomimetic drugs cause:
- \\ Bronchodilation
 - \\ Mydriasis
 - \\ Bradycardia
 - \\ Constipation
40. \\\ The symptoms of excessive stimulation of muscarinic receptors include all of the following EXCEPT:
- \\ Abdominal cramps, diarrhea
 - \\ Increased salivation, excessive bronchial secretion
 - \\ Miosis, bradycardia
 - \\ Weakness of all skeletal muscles
41. \\\ The effect of the drug on parasympathetic function declines rapidly in all organs EXCEPT:
- \\ Eye
 - \\ Heart

\\ Smooth muscle organs

\\ Gland

42. \\ \\ Sympathetic stimulation is mediated by:

\\ Release of norepinephrine from nerve terminals

\\ Activation of adrenoreceptors on postsynaptic sites

\\ Release of epinephrine from the adrenal medulla

\\ All of the above

43. \\ \\ Indirect action includes all of the following properties EXCEPT:

\\ Displacement of stored catecholamines from the adrenergic nerve ending

\\ Inhibition of reuptake of catecholamines already released

\\ Interaction with adrenoreceptors

\\ Inhibition of the release of endogenous catecholamines from peripheral adrenergic neurons

44. \\ \\ Catecholamine includes following EXCEPT:

\\ Ephedrine

\\ Dopamine

\\ Isoprenaline

\\ Norepinephrine

45. \\ \\ Direct effects on the heart are determined largely by:

\\ Alfa₁ receptor

\\ Alfa₂ receptor

\\ Beta₁ receptor

\\ Beta₂ receptor

46. \\ \\ Distribution of alfa adrenoreceptor subtypes is associated with all of the following tissues except those of:

\\ Heart

\\ Blood vessels

\\ Prostate

\\ Pupillary dilator muscle

47. \\ \\ In which of the following tissues both alfa and beta₁ adrenergic stimulation produces the same effect?

\\ Blood vessels

\\ Intestine

\\ Uterus

\\ Bronchial muscles

48. \\ \\ The effects of sympathomimetics on blood pressure are associated with their effects on:

\\ The heart

\\ The peripheral resistance

\\ The venous return

\\ All of the above

49. \\ \\ Which of the following statement is not correct?

\\ Alfa agonists cause miosis

\\ Alfa agonists cause mydriasis

\\ Beta antagonists decrease the production of aqueous humor

\\ Alfa agonists increase the outflow of aqueous humor from the eye

50. \\ \\ A bronchial smooth muscle contains:

\\ Alfa₁ receptor

\\ Alfa₂ receptor

\\ Beta₁ receptor

\\ Beta₂ receptor

51. \\ \\ Beta₁ receptor stimulation includes all of the following effects EXCEPT:

\\ Increase in heart contractility

\\ Bronchodilation

\\ Tachycardia

\\ Increase in conduction velocity in the atrioventricular node

52. \\ \\ Beta₂ receptor stimulation includes all of the following effects EXCEPT:

\\ Stimulation of renin secretion

\\ Fall of potassium concentration in plasma

\\ Relaxation of bladder, uterus

\\ Tachycardia

53. \\ \\ Hyperglycemia induced by epinephrine is due to:

\\ Gluconeogenesis (β_2)

\\ Inhibition of insulin secretion (α)

\\ Stimulation of glycogenolysis (β_2)

\\ All of the above

54. \\ \\ Which of the following effects is associated with β_3 -receptor stimulation?

\\ Lipolysis

\\ Decrease in platelet aggregation

\\ Bronchodilation

\\ Tachycardia

55. \\ \\ Beta adrenoreceptor subtypes is contained in all of the following tissues EXCEPT:

\\ Bronchial muscles

\\ Heart

\\ Pupillary dilator muscle

\\ Fat cells

56. \\ \\ Which of the following effects is related to direct β_1 -adrenoreceptor stimulation?

\\ Bronchodilation

\\ Vasodilatation

\\ Tachycardia

\\ Bradycardia

57. \\ \\ Indicate the location of M_2 cholinoreceptor type:

\\ Heart

\\ Glands

\\ Smooth muscle

\\ Endothelium

58. \\ \\ M_3 receptor subtype is located:

\\ In the myocardium

\\ In sympathetic postganglionic neurons

\\ On effector cell membranes of glandular and smooth muscle cells

\\ On the motor end plates

59. \\ \\ Muscarinic receptors are located in:

\\ Autonomic ganglia

\\ Skeletal muscle neuromuscular junctions

\\ Autonomic effector cells

\\ Sensory carotid sinus baroreceptor zone

60. \\ \\ Indicate a cholinomimetic agent, which is related to direct-acting drugs:

\\ Edrophonium

\\ Physostigmine

\\ Carbachol

\\ Isoflurophate

61. \\ \\ Which of the following direct-acting cholinomimetics is mainly muscarinic in action?

\\ Bethanechol

\\ Carbachol

\\ Acetylcholine

\\ None of the above

62. \\ \\ Characteristics of pilocarpine include all of the following EXCEPT:

\\ It is a tertiary amine alkaloid

\\ It causes miosis and a decrease in intraocular pressure

\\ Causes a decrease in secretory and motor activity of gut

\\ It is useful in the treatment of glaucoma

63. \\ \\ Indicate a cholinesterase inhibitor, which has an additional direct nicotinic agonist effect:

\\ Edrophonium

\\ Carbochol

\\ Neostigmine

\\ Lobeline

64. \\\ Which of the following cholinomimetics is most widely used for paralytic ileus and atony of the urinary bladder?
- \\ Lobeline
 - \\ Neostigmine
 - \\ Pilocarpine
 - \\ Echothiophate
65. \\\ Which of the following cholinomimetics is used in the treatment of atropine intoxication?
- \\ Neostigmine
 - \\ Carbachol
 - \\ Physostigmine
 - \\ Lobeline
66. \\\ The dominant initial signs of acute cholinesterase inhibitors intoxication include all of the following except:
- \\ Salivation, sweating
 - \\ Mydriasis
 - \\ Bronchial constriction
 - \\ Vomiting and diarrhea
67. \\\ Which of the following cholinomimetics is most widely used for treatment of glaucoma?
- \\ Lobeline
 - \\ Neostigmine
 - \\ Pilocarpine
 - \\ Echothiophate
68. \\\ Which of the following drugs exert its principal effects by enzyme inhibition:
- \\ Pyridostigmine
 - \\ Atropine
 - \\ Salbutamol
 - \\ Cetirizine
69. \\\ M-cholinomimetic agent is:
- \\ Carbachol
 - \\ Bethanechol
 - \\ Acetylcholine
 - \\ Nicotine
70. \\\ Acetylcholine is a specific neurotransmitter at:
- \\ Only Sympathetic ganglia
 - \\ Sympathetic postganglionic nerve endings
 - \\ Only Parasympathetic ganglia
 - \\ Parasympathetic postganglionic nerve ending
71. \\\ Which of the following drugs is used for acute toxic effects of organophosphate cholinesterase inhibitors?
- \\ Atropine
 - \\ Pilocarpine
 - \\ Pralidoxime
 - \\ Edrophon
72. \\\ Which of the following drugs is a central muscarinic receptor blocker?
- \\ Atropine
 - \\ Benztropine
 - \\ Hexamethonium
 - \\ Succinylcholine
73. \\\ The mechanism of atropine action is:
- \\ Competitive ganglion blockade
 - \\ Competitive muscarinic blockade
 - \\ Competitive neuromuscular blockade
 - \\ Noncompetitive neuromuscular blockade;
74. \\\ Atropine causes:
- \\ Miosis, a reduction in intraocular pressure and cyclospasm
 - \\ Mydriasis, a rise in intraocular pressure and cycloplegia
 - \\ Miosis, a rise in intraocular pressure and cycloplegia

\\ Mydriasis, a rise in intraocular pressure and cyclospasm

75. \\ \\ Which of the following drugs is useful in the treatment of uterine spasms?

\\ \\ Carbachol

\\ \\ Vecuronium

\\ Atropine

\\ \\ Edrophonium

76. \\ \\ Which of the following drugs is useful in the treatment of Parkinson's disease?

\\ Benzotropine

\\ \\ Edrophonium

\\ \\ Succinylcholine

\\ \\ Hexamethonium

77. \\ \\ Indicate an antimuscarinic drug, which is effective in the treatment of mushroom poisoning:

\\ \\ Pralidoxime

\\ \\ Pilocarpine

\\ \\ Neostigmine

\\ Atropine

78. \\ \\ Contraindications to the use of antimuscarinic drugs are all of the following except:

\\ Glaucoma

\\ \\ Myasthenia

\\ \\ Mushroom poisoning

\\ \\ Paralytic ileus and atony of the urinary bladder

79. \\ \\ Which of the following effects would NOT be expected from ganglionic blocking agent

\\ \\ Vasodilation

\\ Salivation

\\ \\ Mydriasis

\\ Decreased cardiac output

80. \\ \\ For the production of short term hypotension during surgery, the preferred ganglionic blocking agent is

\\ Mecamylamine

\\ \\ Pentolinium

\\ Trimethaphan

\\ \\ Tetraethylammonium

81. \\ \\ The excessive stimulation of muscarinic receptors by pilocarpine and choline esters is blocked competitively by:

\\ \\ Edrophonium

\\ Atropin

\\ \\ Pralidoxime

\\ Echthiophate

82. \\ \\ Which one of the following drugs, when administered intravenously can decrease blood flow to the skin, increase blood flow to skeletal muscle and increase the force and rate of cardiac contraction

\\ Epinephrine

\\ \\ Isoproterenol

\\ \\ Phenylephrine

\\ \\ Terbutalin

83. \\ \\ Which of the following drugs acts equally well on alpha and beta adrenergic receptors

\\ Epinephrine

\\ \\ Phenylephrine

\\ \\ Isoproterenol

\\ \\ Phentolamine

84. \\ \\ Indirect action includes all of the following properties EXCEPT:

\\ Displacement of stored catecholamines from the adrenergic nerve ending

\\ \\ Inhibition of reuptake of catecholamines already released

\\ Interaction with adrenoceptors

\\ \\ Inhibition of the release of endogenous catecholamines from peripheral adrenergic neurons

85. \\ \\ Direct effects on the heart are determined largely by:

\\ \\ α_1 receptor

\\ \\ α_2 receptor

\\ Beta₁ receptor

\\ Beta₂ receptor

86. \\ \\ In which of the following tissues both alfa and beta₁ adrenergic stimulation produces the same effect?

\\ Blood vessels

\\ Intestine

\\ Uterus

\\ Bronchial muscles

87. \\ \\ Alfa-receptor stimulation includes all of the following effects EXCEPT:

\\ Relaxation of gastrointestinal smooth muscle

\\ Contraction of bladder base, uterus and prostate

\\ Stimulation of insulin secretion

\\ Stimulation of platelet aggregation

88. \\ \\ Which of the following effects is associated with beta₃-receptor stimulation?

\\ Lipolysis

\\ Decrease in platelet aggregation

\\ Bronchodilation

\\ Tachycardia

89. \\ \\ Indicate the direct-acting sympathomimetic, which is an alpha₁ alpha₂ beta₁ receptor agonist:

\\ Isoproterenol

\\ Ephedrine

\\ Dobutamine

\\ Norepinephrine

90. \\ \\ Indicate the beta₁-selective agonist:

\\ Isoproterenol

\\ Dobutamine

\\ Metaproterenol

\\ Epinephrine

91. \\ \\ Epinephrine produces all of the following effects EXCEPT:

\\ Decrease in oxygen consumption

\\ Bronchodilation

\\ Hyperglycemia

\\ Mydriasis

92. \\ \\ Which of the following direct-acting drugs is a relatively pure alpha agonist, an effective mydriatic and decongestant and can be used to raise blood pressure?

\\ Epinephrine

\\ Norepinephrine

\\ Phenylephrine

\\ Ephedrine

93. \\ \\ Isoproterenol is:

\\ Both an alfa- and beta-receptor agonist

\\ beta₁-selective agonist

\\ beta₂-selective agonist

\\ Nonselective beta receptor agonist

94. \\ \\ Which of the following has antihypertensive effects associated with blockade of alpha receptors

\\ Propranolol

\\ Clonidine

\\ Prazosin

\\ Phenylephrine

95. \\ \\ This drug is contraindicated in patients with bronchial asthma:

\\ Nadolol

\\ Clonidine

\\ Prazosin

\\ Phentolamine

96. \\ \\ Which of the following beta receptor antagonists is preferable in patients with asthma, diabetes or peripheral vascular diseases?

\\ Propranolol

\\ Metoprolol

\\ Nadolol

\\ Timolol

97. \\ The following substances are considered to be referred to as eicosanoids:

\\ Prostaglandins

\\ Leukotrienes

\\ Thromboxanes

\\ All of the above

98. \\ A 43 year old ship's captain complains of seasonal allergies. Which one of the following would be indicated

\\ Diphenhydramine

\\ Doxylamine

\\ Hydroxyzine

\\ Fexofenadine

99. \\ Which one of the following drugs could significantly impair the ability to drive an automobile

\\ Diphenhydramine

\\ Fexofenadine

\\ Ranitidine

\\ Sumatriptan

100. \\ A 43 year old ship's captain complains of seasonal allergies. Which one of the following would be indicated?

\\ Diphenhydramine

\\ Doxylamine

\\ Hydroxyzine

\\ Fexofenadine

101. \\ H1 histamine receptor subtype is distributed in:

\\ Smooth muscle, endothelium and brain

\\ Gastric mucosa, cardiac muscle, mast cells and brain

\\ Presynaptically in brain, mesenteric plexus and other neurons

\\ All of the above

102. \\ H2 histamine receptor subtype is distributed in:

\\ Smooth muscle, endothelium and brain

\\ Gastric mucosa, cardiac muscle, mast cells and brain

\\ Presynaptically in brain, mesenteric plexus and other neurons

\\ All of the above

103. \\ Most tissue histamine is sequestered and bound in:

\\ Granules in mast cells or basophils

\\ Cell bodies of histaminergic neurons

\\ Enterochromaffin-like cell of the folds of the stomach

\\ All of the above

104. \\ These histamine H₁ antagonists are recognized for as second-generation antihistamines, EXCEPT:

\\ Astemizole

\\ Loratadine (Claritin)

\\ Cetirizine (Zyrtec)

\\ Chloropyramine

105. \\ Indication for administration of histamine H₁ antagonists is:

\\ Prevention or treatment of the symptoms of allergic reactions (rhinitis, urticaria)

\\ Motion sickness and vestibular disturbances

\\ Nausea and vomiting in pregnancy ("morning sickness")

\\ All of the above

106. \\ Indications for administration of histamine H₁ antagonists are the following EXCEPT:

\\ Prevention or treatment of the symptoms of allergic reactions (rhinitis, urticaria)

\\ Management of seizure states

\\ Nausea and vomiting in pregnancy ("morning sickness")

\\ Treatment of sleep disorders

107. \\ In the treatment of migraine headache, ergotamine

- \ \ Has vasoconstrictive properties that account for its efficacy
 - \ \ \ Has adrenergic blocking properties that are responsible for its therapeutic benefits
 - \ \ \ Will successfully terminate a headache already in progress
 - \ \ Is easily tolerated when taken orally
108. \ \ \ Which of the following nitrates and nitrite drugs is a short-acting drug?
- \ \ Nitroglycerin, 2% ointment (Nitrol)
 - \ \ Nitroglycerin, oral sustained-release (Nitrong)
 - \ \ Amyl nitrite, inhalant (Aspirols, Vaporole)
 - \ \ Isosorbide mononitrate.
109. \ \ \ Duration of nitroglycerin action (sublingual) is:
- \ \ 10-30 minutes
 - \ \ \ 6-8 hours
 - \ \ \ 3-5 minutes
 - \ \ \ 1.5-2 hours
110. \ \ \ Main clinical use of calcium channel blockers is:
- \ \ Angina pectoris
 - \ \ Hypertension
 - \ \ Supraventricular tachyarrhythmias
 - \ \ All of the above
111. \ \ \ Which of the following antianginal agents is a potassium channel opener:
- \ \ Dipyridamole
 - \ \ Validol
 - \ \ Atenolol
 - \ \ Minoxidil
112. \ \ \ This drug reduces blood pressure by acting on vasomotor centers in the CNS:
- \ \ Labetalol
 - \ \ Clonidine
 - \ \ Enalapril
 - \ \ Nifedipine
113. \ \ \ A ganglioblocking drug for hypertension treatment is:
- \ \ Hydralazine
 - \ \ Tubocurarine
 - \ \ Trimethaphan
 - \ \ Metoprolol
114. \ \ \ Pick out the drug – an alpha and beta adrenoreceptors blocker:
- \ \ Labetalol
 - \ \ Verapamil
 - \ \ Nifedipine
 - \ \ Metoprolol
115. \ \ \ This drug is an inhibitor of renin synthesis:
- \ \ Propranolol
 - \ \ Enalapril
 - \ \ Diazoxide
 - \ \ Losartan
116. \ \ \ This drug is a potassium channel activator:
- \ \ Nifedipine
 - \ \ Saralasin
 - \ \ Diazoxide
 - \ \ Losartan
117. \ \ \ This drug is contraindicated in patients with bronchial asthma:
- \ \ Propranolol
 - \ \ Clonidine
 - \ \ Enalapril
 - \ \ Nifedipine
118. \ \ \ Tick the diuretic agent – aldosterone antagonist:
- \ \ Furosemide

\\ Spironolactone

\\ \\ Dichlothiazide

\\ \\ Captopril

119. \\ \\ Clonidine:

\\ Has minimal toxicity, but sudden cessation may cause severe rebound hypertension;

\\ \\ The toxicity includes agitation and tachycardia;

\\ \\ Usually decreases baroreflex sensitivity;

\\ \\ May cause hemolytic anemia.

120. \\ \\ Toxicities for guanethidine includes:

\\ \\ Urinary retention;

\\ \\ Constipation;

\\ \\ Nasal stuffiness;

\\ \\ Blurred vision.

121. \\ \\ Drugs with some vasodilating action include:

\\ \\ Esmolol;

\\ \\ Carvedilol;

\\ \\ Oxprenolol;

\\ \\ Pindolol;

e) Metoprolol.

122. \\ \\ B-blockers does not induce:

\\ \\ asthma;

\\ \\ Bradicardia;

\\ \\ atrioventricular (AV) blockade;

\\ \\ Heart failure;

\\ \\ Hyperglycaemia.

123. \\ \\ Mechanism of vasodilatory action of nitroprusside:

\\ \\ Opening of potassium channels and hyperpolarization;

\\ \\ Release of nitric oxide;

\\ \\ Block of L-type calcium channels;

\\ \\ Block of T-type calcium channels.

124. \\ \\ Parenteral drugs for hypertensive emergencies include:

\\ \\ Nitroprusside;

\\ \\ Minoxidil;

\\ \\ Diltiazem;

\\ \\ Verapamil

125. \\ \\ The duration of action of nitroprusside is:

\\ a few seconds and a constant intravenous infusion is required;

\\ \\ a few hours;

\\ \\ 6-8 hours;

\\ \\ 24 hours.

126. \\ \\ Angiotensin – converting enzyme (ACE) inhibitors:

\\ \\ Inhibit breakdown of bradykinin;

\\ \\ May be given 4-times daily;

\\ \\ Are useful only in severe hypertension;

\\ \\ Bradykinin receptor antagonist – icatibant increases the blood pressure – lowering effect of ACE inhibitors.

127. \\ \\ Vasodilators:

\\ \\ Reduce afterload (decreasing ejection fraction);

\\ \\ Reduce preload (reducing myocardial oxygen requirement);

\\ \\ Often can cause bradycardia;

\\ \\ Have not any effect on preload or afterload.

128. \\ \\ Choice a correct answers:

\\ \\ Benzodiazepines bind to components (BZ receptors) of the GABA_A receptor-chloride ion channel macro molecular complex, increasing the inhibitory actions of GABA

\\ \\ Barbiturates block GABA actions via binding to a separate site from the BZ receptor;

\\ \\ Barbiturates action is reversed by the BZ receptor antagonist-flumazenil;

\\ \\ Alcohols may facilitate glutamate receptors.

129.\\\\ Which drug is short-acting benzodiazepines?

- \\\\ Diazepam;
- \\\\ Triazolam;
- \\\\ Nitrazepam;
- \\\\ Phenobarbital.

130.\\\\ "Dissociative anesthesia", with emergence reactions, and cardiovascular stimulation causes by:

- \\\\ Propofol;
- \\\\ Thiopental;
- \\\\ Ketamine;
- \\\\ Midazolam.

131.\\\\ Propofol:

- \\\\ Causes "dissociative anesthesia"
- \\\\ Recovery can be facilitated by naloxone;
- \\\\ Has a rapid onset, fast recovery and antiemetic actions;
- \\\\ Recovery can be facilitated by flumazenil.

132.\\\\ Local anesthetics include the following agents, except of:

- \\\\ Lidocaine;
- \\\\ Bupivacaine;
- \\\\ Procaine;
- \\\\ Succinylcholine.

133.\\\\ Opioids overdose may result in coma with marked respiratory depression and hypotension, necessitating the use of:

- \\\\ Codeine;
- \\\\ Naloxone;
- \\\\ Pentazocine;
- \\\\ Propoxyphene

134.\\\\ Glucocorticoids are hormonal steroids:

- \\\\ Having an important effect on intermediary metabolism, cardiovascular function, growth, and immunity
- \\\\ Having principally salt-retaining activity
- \\\\ Having androgenic or estrogenic activity
- \\\\ All of the above

135.\\\\ Indication of glucocorticoids is:

- \\\\ Chronic (Addison's disease) and acute adrenocortical insufficiency
- \\\\ Organ transplants (prevention and treatment of rejection – immunosuppression)
- \\\\ Inflammatory conditions of bones and joints (arthritis, bursitis, tenosynovitis).
- \\\\ All of the above

136.\\\\ Which of the following statements concerning the anti-inflammatory effect of NSAIDs are TRUE?

- \\\\ Anti-inflammatory effect of NSAIDs results from inhibition of cyclooxygenase
- \\\\ Anti-inflammatory effect of NSAIDs results from inhibition of phospholipase A₂ and reducing prostaglandin and leukotriene synthesis
- \\\\ Anti-inflammatory effect of NSAIDs results from induction of cyclooxygenase II expression which results in reducing the amount of an enzyme available to produce prostoglandins
- \\\\ All of the above

137.\\\\ Selective COX-2 inhibitors are safer than nonselective COX-1 inhibitors but without loss of efficacy. This consideration is:

- \\\\ True
- \\\\ False

138.\\\\ Pickout the drug belonging to antibiotics-carbapenems:

- \\\\ Aztreonam
- \\\\ Amoxicillin
- \\\\ Imipenem
- \\\\ Clarithromycin

139.\\\\ Tick the drug belonging to glycopeptides:

- \\\\ Vancomycin
- \\\\ Lincomycin

- \\ Neomycin
- \\ Carbenicillin
- 140.\\ Mechanism of penicillins' antibacterial effect is:
 - \\ Inhibition of transpeptidation in the bacterial cell wall
 - \\ Inhibition of beta-lactamase in the bacterial cell;
 - \\ Activation of endogenous proteases, that destroy bacterial cell wall;
 - \\ Activation of endogenous phospholipases, which leads to alteration of cell membrane permeability
- 141.\\ All of the following antibiotics are macrolides, EXCEPT:
 - \\ Erythromycin
 - \\ Clarithromycin
 - \\ Lincomycin
 - \\ Azitromycin
- 142.\\ Tick the drug belonging to antibiotics-aminoglycosides:
 - \\ Erythromycin
 - \\ Gentamycin
 - \\ Vancomycin
 - \\ Polymyxin
- 143.\\ Choose the characteristics of vancomycin:
 - \\ It is a glycopeptide, inhibits cell wall synthesis active only against Gram-negative bacteria
 - \\ It is a glycopeptide, that alters permeability of cell membrane and is active against anaerobic bacteria
 - \\ It is a beta-lactam antibiotic, inhibits cell wall synthesis active only against Pseudomonas aeruginosa
 - \\ It is a glycopeptide, inhibits cell wall synthesis and is active only against Gram-positive bacteria.
- 144.\\ Which of the following drugs is used for dermatomycosis treatment:
 - \\ Nystatin
 - \\ Griseofulvin
 - \\ Amphotericin B
 - \\ Vancomycin
- 145.\\ All of the following antifungal drugs are antibiotics, EXCEPT:
 - \\ Amphotericin B
 - \\ Nystatin
 - \\ Myconazol
 - \\ Griseofulvin
- 146.\\ Azoles have an antifungal effect because of:
 - \\ Inhibition of cell wall synthesis
 - \\ Inhibition of fungal protein synthesis
 - \\ Reduction of ergosterol synthesis
 - \\ Inhibitors of Steroid Synthesis
- 147.\\ Sulfonamides are effective against:
 - \\ Bacteria and Chlamidia
 - \\ Actinomyces
 - \\ Protozoa
 - \\ All of the above
- 148.\\ Mechanism of sulfonamides' antibacterial effect is:
 - \\ Inhibition of dihydropteroate reductase
 - \\ Inhibition of dihydropteroate synthase
 - \\ Inhibition of cyclooxygenase
 - \\ Activation of DNA gyrase
- 149.\\ Mechanism of Trimethoprim' action is:
 - \\ Inhibition of cyclooxygenase
 - \\ Inhibition of dihydrofolate reductase
 - \\ Inhibition of dihydropteroate synthase
 - \\ Inhibition of DNA gyrase
- 150.\\ Streptomycin has the following unwanted effect:
 - \\ Cardiotoxicity
 - \\ Hepatotoxicity

- \\ Retrobulbar neuritis with red-green color blindness
- \\ Ototoxicity, nephrotoxicity
- 151.\\ Pick out the antibacterial drug – fluoroquinolone derivative:
 - \\ Chloramphenicol
 - \\ Nitrofurantoin
 - \\ Nalidixic acid
 - \\ Ciprofloxacin
- 152.\\ Pick out natural corticosteroids:
 - \\ Cortisol;
 - \\ Fludrocortisone;
 - \\ Dexamethasone;
 - \\ Prednisone
- 153.\\ Amoxicillin and ampicillin are effective predominantly against following microorganisms, except of:
 - \\ Susceptible streptococci;
 - \\ Escherichia coli;
 - \\ Haemophilus influenza;
 - \\ Helicobacter pylori;
- 154.\\ First-generation cephalosporins:
 - \\ Cefotetan;
 - \\ Cefaclor;
 - \\ Cefepime;
 - \\ Cephalexin.
- 155.\\ Pick out fourth-generation cephalosporins:
 - \\ Cefipime;
 - \\ Cefotaxime;
 - \\ Cefaclor;
 - \\ Cefoperazone
- 156.\\ Second generation cephalosporins (cefuroxime, cefamandol) are active against the following microorganisms, except of:
 - \\ Gram-negative bacilli including bacteroides;
 - \\ Haemophilus influenza;
 - \\ Moraxella catarrhalis;
 - \\ Pseudomonas
- 157.\\ Toxicities of cephalosporins include the following, except:
 - \\ Allergic reactions;
 - \\ Opportunistic infections;
 - \\ Some of them cause hypoprothrombinemia;
 - \\ Disulfiram like reactions with ethanol;
- 158.\\ Azithromycin accumulates in tissues and undergoes renal elimination with a half-life of more than:
 - \\ 12 hours;
 - \\ 24 hours;
 - \\ 40 hours;
 - \\ 3 days
- 159.\\ Tetracyclines include, except of:
 - \\ Tigecycline;
 - \\ clindamicin
 - \\ Doxycycline;
 - \\ Minocycline;
- 160.\\ Inhibitors of protein synthesis antibiotics acting at the ribosomal level are the following, except of:
 - \\ Macrolides;
 - \\ Clindamycin;
 - \\ Tetracyclines;
 - \\ Vancomycin
- 161.\\ Pick out antipseudomonal penicillins:
 - \\ Ampicillin;
 - \\ Amoxicillin;

\\ Ticarcillin;

\\ Penicillin

162.\\ Penicillinase-resistant narrow-spectrum drugs include:

\\ Penicillin V;

\\ Ampicillin;

\\ Nafcillin;

\\ Ticarcillin

163.\\ A 75 year old man who was a smoker is diagnosed with chronic obstructive pulmonary disease and suffers from occasional bronchospasm. Which of the following would be effective in treating him?

\\ Ipratropium aerosol

\\ Scopolamine patches

\\ Mecamylamine

\\ Oxygen

164.\\ Which one of the following drugs, when administered intravenously can decrease blood flow to the skin, increase blood flow to skeletal muscle and increase the force and rate of cardiac contraction

\\ Epinephrine

\\ Isoproterenol

\\ Phenylephrine

\\ Terbutaline

165.\\ An 8 year old girl has a fever and muscle aches from a presumptive viral infection. Which one of the following drugs would be most appropriate to treat her symptoms?

\\ Acetaminophen

\\ Aspirin

\\ Allopurinol

\\ Indomethacin

166.\\ A 70 year old man has a history of ulcer disease. He has recently experienced swelling and pain in the joints of his hands. His physician wants to begin therapy with NSAID. Which one of the following drugs might also be prescribed along with the NSAID to reduce the risk of activating this patient's ulcer disease?

\\ Allopurinol

\\ Colchicine

\\ Misoprostol

\\ Probenecid

167.\\ The types of antagonism are:

\\ Summarized

\\ Potentiated

\\ Additive

\\ Irreversible

168.\\ Which one of the following is a phase I drug metabolism reaction?

\\ Acetylation

\\ Glucuronidation

\\ Methylation

\\ Hydrolysis

169.\\ Indicate a cholinomimetic agent, which is related to direct-acting drugs:

\\ Edrophonium

\\ Physostigmine

\\ Pilocarpine

\\ Isoflurophate

170.\\ Which of the following cholinomimetics is indirect-acting?

\\ Lobeline

\\ Neostigmine

\\ Pilocarpine

\\ Carbachol

171.\\ Isoflurophate increases all of the following effects except:

\\ Lacrimation

\\ Tachycardia

\\ Muscle twitching

\\ Salivation

172.\\ The excessive stimulation of muscarinic receptors by pilocarpine and choline esters is blocked competitively by:

\\ Edrophonium

\\ Tropicamide

\\ Pralidoxime

\\ Echothiophate

173.\\ The tissues less sensitive to atropine are:

\\ The salivary, bronchial and sweat glands

\\ The gastric parietal cells

\\ Ciliary muscle

\\ The heart

174.\\ Which of the following drugs causes bronchodilation without significant cardiac stimulation?

\\ Isoprenaline

\\ Albuterol

\\ Xylometazoline

\\ Methoxamine

175.\\ Indicate the beta1-selective agonist:

\\ Xylometazoline

\\ Epinephrine

\\ Dobutamine

\\ Methoxamine

176.\\ Indicate the beta1-selective antagonist:

\\ Propranolol

\\ Atenolol

\\ Carvedilol

\\ Sotalol

177.\\ Choose the selective blocker of beta-1 adrenoreceptors:

\\ Labetalol

\\ Prazosin

\\ Bisoprolol

\\ Propranolol

178.\\ A mutagenic action is:

\\ Toxic action on the liver

\\ Negative action on the fetus causing fetal malformation

\\ Toxic action on blood system

\\ Toxic action on the genetic apparatus

179.\\ A drug said to be potent when

\\ It produces maximal response

\\ The amount needed to produce a certain response is less

\\ It produces minima/no side effect

\\ It has a rapid onset of action

180.\\ Acetylcholine is not used in clinical practice because:

\\ It is very toxic

\\ The doses required are very high

\\ It is very short acting agent

\\ It is very costly

181.\\ The mechanism of action of indirect-acting cholinomimetic agents is:

\\ Binding to and activation of muscarinic or nicotinic receptors

\\ Inhibition of cholinesterase

\\ Stimulation of the action of acetylcholinesterase

\\ Releasing acetylcholine from storage sites

182.\\ Cholinesterase inhibitors do not produce:

\\ Bradycardia, no change or modest fall in blood pressure

\\ Increased strength of muscle contraction, especially in muscles weakened by myasthenia gravis

\\ Miosis and reduction of intraocular pressure

\\ Bronchodilation

183.\\ \\ The dominant initial signs of acute cholinesterase inhibitors intoxication include all of the following except:

\\ Salivation, sweating

\\ Respiratory stimulation

\\ Bronchial constriction

\\ Vomiting and diarrhea

184.\\ \\ Atropine causes:

\\ Miosis, a reduction in intraocular pressure and cyclospasm

\\ Bronchodilation

\\ Miosis, a rise in intraocular pressure and cycloplegia

\\ Mydriasis, a rise in intraocular pressure and cyclospasm

185.\\ \\ Which of the following effects is associated with beta2 -receptor stimulation?

\\ Glycogenolysis

\\ Increase in platelet aggregation

\\ Bronchoconstriction

\\ Bradycardia

186.\\ \\ Indicate the indirect-acting sympathomimetic agent:

\\ Epinephrine

\\ Phenylephrine

\\ Tyramine

\\ Isoproterenol

187.\\ \\ Indicate the indirect-acting antiadrenergic drug:

\\ Phentolamine

\\ Guanethidine

\\ Carvedilol

\\ Prazosin

188.\\ \\ This drug activates alpha-2 adrenergic receptors:

\\ Labetalol

\\ Phentolamine

\\ Methyldopa

\\ Pilocarpine

189.\\ \\ Atropine causes:

\\ Tachycardia

\\ Intestinal hypermotility

\\ Stimulation of contraction in the gut

\\ Stimulation of secretory activity

190.\\ \\ Indicate the drug, which is a direct-acting alpha-receptor agonist:

\\ Terbutaline

\\ Methoxamine

\\ Isoproterenol

\\ Ephedrine

191.\\ \\ Ephedrine causes:

\\ Miosis

\\ CNS stimulation

\\ Hypotension

\\ Bradycardia

192.\\ \\ Indicate an alpha receptor antagonist, which is an efficacious drug in the treatment of mild to moderate systemic hypertension:

\\ Phentolamine

\\ Tolazoline

\\ Ergotamine

\\ Doxazosin

193.\\ \\ This drug is contraindicated in patients with bronchial asthma:

\\ Nadolol

\\ Clonidine

\\ Prazosin

\\ Phentolamine

194.\\ Choose the selective blocker of beta-1 adrenoreceptors:

\\ Labetalol

\\ Prazosin

\\ Atenolol

\\ Propranolol

195.\\ Pick out the diuretic agent for hypertension treatment:

\\ Losartan

\\ Dichlothiazide

\\ Captopril

\\ Prazosin

196.\\ This drug is converted to an active metabolite after absorption:

\\ Labetalol

\\ Clonidine

\\ Enalapril

\\ Nifedipine

197.\\ Choose the unwanted effects of clonidine:

\\ Parkinson's syndrome

\\ Sedative and hypnotic effects

\\ Agranulocytosis and aplastic anemia

\\ Dry cough and respiratory depression

198.\\ Hydralazine (a vasodilator) can produce:

\\ Seizures, extrapyramidal disturbances

\\ Tachycardia, lupus erythematosus

\\ Acute hepatitis

\\ Aplastic anemia

199.\\ Pick out the diuretic agent having a potent and rapid effect:

\\ Furosemide

\\ Spironolactone

\\ Dichlothiazide

\\ Indapamide

200.\\ The following statements are correct:

\\ Ganglion blockers are muscarinic cholinergic antagonists;

\\ Trimethaphan is used for the induction of controlled hypotension which is useful in some types of neurosurgery;

\\ Trimethaphan blocks the muscarinic cholinergic receptors in autonomic ganglia;

\\ Trimethaphan may cause marked hypertension, diarrhea and blurred vision.

201.\\ Reserpine:

\\ Blocks uptake of catecholamines and 5-hydroxytryptamine (5-HT) into storage vesicles, thereby depleting transmitter stores in the nerve endings;

\\ Is orally inactive;

\\ Has a duration of 4-6 hours;

\\ May be used in depressed patients.

202.\\ Toxicities for reserpine includes:

\\ Constipation;

\\ Hemolytic anemia;

\\ Sexual dysfunction;

\\ Orthostatic hypotension.

203.\\ Which drug does not enter the CNS?

\\ Clonidine;

\\ Guanethidine;

\\ Moxonidine;

\\ Methyldopa

204.\\ Mechanism of vasodilatory action of minoxidil:

\\ Release of nitric oxide;

\\ Block of L-type calcium channels;

\\ Opening of potassium channels and hyperpolarization;

\\ Release of acetylcholine.

205.\\ \\ \\ The following drugs may induce reversible systemic lupus erythematosus:

\\ Minoxidil;

\\ Diazoxide;

\\ Nifedipine;

\\ Hydralazine

206.\\ \\ \\ Parenteral drugs for hypertensive emergencies include:

\\ Nitroprusside;

\\ Minoxidil;

\\ Diltiazem;

\\ Verapamil

207.\\ \\ \\ Toxicities caused by nitroprusside include:

\\ Salt and water retention;

\\ Hyperglycemia;

\\ Accumulation of metabolites – cyanide and thiocyanate;

\\ Bradycardia

208.\\ \\ \\ ACE inhibitors toxicities may cause the following symptoms, except:

\\ Cough;

\\ Severe renal damage in the fetus (making them absolutely contraindicated in pregnancy);

\\ Hyperkalemia;

\\ Bronchodilation.

209.\\ \\ \\ Nitroglycerin, isosorbide dinitrate and other organic nitrates:

\\ Are venodilators that act through the release of nitric oxide in smooth muscle of blood vessels;

\\ Increase venous return;

\\ Have predominantly effects on peripheral vascular resistance;

\\ May reduce only afterload.

210.\\ \\ \\ Which Ca^{2+} channel blocking agents have a half-life- 30-50 hours?

\\ Verapamil;

\\ Diltiazem;

\\ Amlodipin;

\\ Nisoldipine;

\\ Nifedipine.

211.\\ \\ \\ Thiopental:

\\ Is benzodiazepine;

\\ Has a rapid onset (anesthesia induction) and short duration due to redistribution from brain to other tissue;

\\ It increases cerebral blood flow;

\\ Has cardiovascular stimulating effect.

212.\\ \\ \\ Myocardial depression is characteristic feature of:

\\ Nitrous oxide;

\\ Desflurane;

\\ Isoflurane;

\\ Halothane.

213.\\ \\ \\ Local anesthetics are rapidly absorbed into the blood, except of:

\\ cocaine;

\\ Bupivacaine;

\\ Procaine;

\\ Lidocaine.

214.\\ \\ \\ Local anesthetics are usually inactivated by plasma cholinesterase?

\\ Procaine;

\\ Lidocaine;

\\ Bupivacaine;

\\ Cocaine.

215.\\ \\ \\ Esters group local anesthetics are:

\\ Procaine;

\\ Bupivacaine;

\\ Lidocaine;

\\ Mepivacaine

216.\\ \\ Which opioid agents are weak agonists?

\\ Codeine;

\\ Oxycodone;

\\ Hydrocodone;

\\ Propoxyphene.

217.\\ \\ Strong opioid agonist is:

\\ Methadone;

\\ Propoxyphene;

\\ Codeine;

\\ Oxycodone.

218.\\ \\ Choose right answers:

\\ Meperidine causes contraction of biliary tract smooth muscle;

\\ Meperidine is metabolized to normeperidine, which causes seizures if accumulated;

\\ Duration of analgesic effect of buprenorphine is 1-2 hours;

\\ Duration of analgesic effect of fentanyl is 6-8 hours.

219.\\ \\ Choose right answers:

\\ Spinal analgesia occurs by activation of presynaptic opioid receptors, leading to decreased Ca^{2+} influx;

\\ Spinal analgesia occurs by activation of postsynaptic opioid receptors, leading to decreased K^{+} influx;

\\ Strong opioid agonists cause less sedation (euphoria);

\\ Increased PCO_2 by opioids cause cerebral vasoconstriction and respiratory depression.

220.\\ \\ Which mixed agonist-antagonist opioid agent activate Kappa receptors but block mu receptors?

\\ Propoxyphene;

\\ Pentazocine;

\\ Oxycodone;

\\ Morphine.

221.\\ \\ Acute coronary syndrome is named as:

\\ variant angina;

\\ Unstable angina;

\\ Effort angina;

\\ Myocardial infarction.

222.\\ \\ Effort angina may occur when:

\\ Oxygen demand increases;

\\ Coronary artery reversibly constricts;

\\ Episodes of angina occur at rest and when there is a change in the character, frequency, and duration of chest

pain;

\\ Transient spasm of localized portions of the vessels is usually associated with underlying atheromas.

223.\\ \\ Prinzmetal's angina is called:

\\ Effort angina;

\\ Classic angina;

\\ Unstable angina;

\\ Vasospastic angina.

224.\\ \\ Nitroglycerin, isosorbide dinitrate and other organic nitrates:

\\ Are venodilators that act through the release of nitric oxide in smooth muscle of blood vessels;

\\ Increase venous return;

\\ Have predominantly effects on peripheral arteriolar vascular resistance;

\\ May reduce only afterload.

225.\\ \\ Nitrates are available in several formulations, except:

\\ Sublingual;

\\ Oral;

\\ Transdermal;

\\ Rectal.

226.\\ \\ Nitrates toxicities does not include:

\\ Orthostatic hypotension;

\\ Tachycardia;

\\ Headache;

\\ AV blockade.

227.\\ Nitrites (not nitrates) have found a medical application as antidotes for poisoning by:

\\ Analgesics (non-opioid);

\\ Iron salts;

\\ Cyanide;

\\ Antimony.

228.\\ Nitroglycerin increases the concentration of nitric oxide (NO) in vascular muscle cells and causes an increase in:

\\ cAMP (cyclic adenosine monophosphate);

\\ cGMP (cyclic guanosine monophosphate);

\\ IP₃ (inositol-1,4,5-triphosphate);

\\ DAG (diacylglycerol).

229.\\ Tolerance may be caused by a decrease in tissue sulfhydryl groups during action of:

\\ Verapamil;

\\ Nifedipine;

\\ Nitroglycerine;

\\ Metoprolol.

230.\\ Beneficial effects of nitrates in the treatment of angina pectoris include:

\\ Decreased ventricular volume;

\\ Reflex tachycardia;

\\ Reflex increase in contractility;

\\ Decreased diastolic perfusion time.

231.\\ Calcium channel blockers may be used, except:

\\ For prophylaxis of effort angina;

\\ For prophylaxis of variant angina;

\\ In vasospastic angina for prevention of coronary spasm;

\\ Acute coronary syndrome, because they have a little or no benefit.

232.\\ Calcium channel blockers act in effort angina by:

\\ Causing peripheral vasodilation;

\\ Reduction of preload;

\\ Increasing of cardiac work;

\\ Prevent coronary vasospasm.

233.\\ The mechanisms of action of calcium channel blockers:

\\ Release of NO in vascular smooth muscle;

\\ Increasing cAMP in vascular smooth muscle cells;

\\ Increasing cGMP in vascular smooth muscle cells;

\\ Reduce cellular Ca²⁺, a major modulator of the activation of myosin light chain kinase.

234.\\ Toxicities of Ca²⁺ channel blockers:

\\ Diarrhea;

\\ Hypertension;

\\ Constipation;

\\ Lupus erythematosus.

235.\\ The beneficial effects of β-blocking agents in angina pectoris are related to:

\\ Decreased heart rate;

\\ Reduced heart contractility;

\\ increased in end – diastolic volume and ejection time;

\\ Decreased myocardial oxygen consumption.

236.\\ Beta-adrenoreceptor blockers are not effective in:

\\ Variant angina;

\\ Arterial hypertension;

\\ Effort angina;

\\ Acute coronary syndrome.

237.\\ Beta-adrenoreceptor blocking agents are not vasodilators, with the possible exception of:

\\ Propranolol;

\\ Nebivolol;

\\ Metoprolol;

\\ Bisoprolol.

238.\\ \\ \\ Contraindications to the use of B-adrenoreceptor blockers are:

\\ Heart failure (II functional class);

\\ Arterial hypertension;

\\ Asthma;

\\ Effort angina.

239.\\ \\ \\ Which of the following drugs may cause reversible gynecomastia?

\\ Omeprazole

\\ Pirenzepine

\\ Cimetidine

\\ Sucralfate

240.\\ \\ \\ Which drug is an analog of prostaglandin E₁?

\\ Misoprostol

\\ De-nol

\\ Sucralfate

\\ Omeprazole

241.\\ \\ \\ Choose the drug that causes constipation:

\\ Sodium bicarbonate

\\ Aluminum hydroxide

\\ Calcium carbonate

\\ Magnesium oxide

242.\\ \\ \\ Choose an emetic drug of central action:

\\ Ipecacuanha derivatives

\\ Promethazine

\\ Tropisetron

\\ Apomorphine hydrochloride

243.\\ \\ \\ Indicate an antiemetic agent which is related to neuroleptics:

\\ Metoclopramide

\\ Nabilone

\\ Tropisetron

\\ Prochlorperazine

244.\\ \\ \\ A 20-year-old man presents to a clinic complaining of constipation and abdominal fullness after a week-long intravenous heroin binge. A CT scan shows excess stool present in the colon and rectum.

Heroin inhibits bowel motility and causes constipation by which of the following mechanisms?

\\ Inhibition of k-receptors

\\ Inhibition of μ -receptors

\\ Stimulation of μ -receptors

\\ Stimulation of k-receptors

245.\\ \\ \\ A 48-year-old woman who recently was diagnosed with breast cancer presents with nausea and vomiting after undergoing chemotherapy. The patient is started on medication to relieve her nausea, however she develops constipation.

What drug is most likely responsible for the constipation?

\\ Metoclopramide

\\ Nizatidine

\\ Omeprazole

\\ Ondasetron

246.\\ \\ \\ A 57-year-old man presents to his primary care doctor complaining of decreased libido. On questioning, the patient reports that he has been taking higher doses than prescribed of his ulcer medication for worsening heart burn. The patient has breast enlargement.

Which of the following medication is this patient most likely taking?

\\ Cimetidine

\\ Magnesium hydroxide

\\ Misoprostol

\\ Omeprazole

247.\\ A 51-year-old man with a lengthy history of medication-dependent reflux esophagitis sees his physician for an annual physical examination. Laboratory tests reveal a blood gastrin level three times the upper limit of normal. His physician expresses concern that the patient is at risk of developing atrophic gastritis.

Which of the following medications is this patient most likely taking?

\\ Aluminum hydroxide

\\ Omeprazole

\\ Cimetidine

\\ Misoprostol

248.\\ A 40-year-old woman sees a physician because she has infrequent heartburn (one episode every 2 weeks) exacerbated by fatty foods and chocolate. Her symptoms worsen when she lies supine. Physical examination reveals mild epigastric tenderness on palpation. Her ECG and cardiac stress test results are normal.

Which of the following medications would most quickly eliminate worsening of esophageal metaplasia?

\\ A histamine receptor antagonist or proton pump inhibitor

\\ A nonsteroidal anti-inflammatory drug

\\ A proton pump inhibitor, clarithromycin, and amoxicillin

\\ Nitroglycerin

249.\\ A 65-year-old woman with endometrial cancer came to an outpatient cancer treatment center for her first cycle of platinum-based chemotherapy. To prevent chemotherapy-induced nausea and vomiting, this patient is likely to be given which of the following?

\\ Famotidine

\\ Linaclotide

\\ Mesalamine

\\ Ondansetron

250.\\ A patient with a 30-yr history of type 1 diabetes comes to you with a complaint of bloating and sour belching after meals. On several occasions, vomiting has occurred after a meal. Evaluation reveals delayed emptying of the stomach, and you diagnose diabetic gastroparesis. Which drug would be most useful in this patient?

\\ Famotidine

\\ Metoclopramide

\\ Misoprostol

\\ Omeprazole

251.\\ A 45-year-old woman suffers from abdominal pain and bloody diarrhea that has been diagnosed as Crohn's disease. Which of the following is a first-line drug for treatment of Crohn's disease that acts locally in the gastrointestinal tract to provide an anti-inflammatory effect?

\\ Aluminum hydroxide

\\ Metoclopramide

\\ Misoprostol

\\ Mesalamine

252.\\ Targets of CNS acting drugs are voltage-regulated ion channels which include:

\\ Na⁺ and Ca²⁺ channels;

\\ Cl⁻ channels;

\\ Mg²⁺ channels;

\\ G-protein coupled ion channels.

253.\\ Which neurotransmitters produced inhibitory action in CNS, except:

\\ Opioid peptides;

\\ Dopamine;

\\ Gaba;

\\ Glutamic acid.

254.\\ Benzodiazepines include:

\\ Secobarbital;

\\ Chloral hydrate;

\\ Phenobarbital;

\\ Triazolam

255.\\ Which drug with anxiolytic effect is a partial agonist at 5-hydroxytryptamine (5HT_{1A}) receptors?

\\ Diazepam;

- \\ Zolidem;
 - \\ Buspirone;
 - \\ Midazolam.
- 256.\\ \\ Which drug is long acting benzodiazepines:
- \\ Midazolam;
 - \\ Diazepam;
 - \\ Triazolam;
 - \\ Secobarbital.
- 257.\\ \\ Which drugs have not a CNS depressant properties and abuse liability?
- \\ Zolpidem;
 - \\ Buspirone;
 - \\ Diazepam;
 - \\ Phenobarbital
- 258.\\ \\ Which drugs have a slow onset of action?
- \\ Triazolam;
 - \\ Midazolam;
 - \\ Buspirone;
 - \\ Secobarbital.
- 259.\\ \\ Hypnotic drugs are used to treat:
- \\ Psychosis
 - \\ Sleep disorders
 - \\ Narcolepsy
 - \\ Parkinsonian disorders
- 260.\\ \\ Which of the following chemical agents are used in the treatment of insomnia?
- \\ Benzodiazepines
 - \\ Imidazopyridines
 - \\ Barbiturates
 - \\ All of the above
- 261.\\ \\ Pick out a hypnotic agent – a barbituric acid derivative:
- \\ Flurazepam
 - \\ Zaleplon
 - \\ Thiopental
 - \\ Triazolam
- 262.\\ \\ Indicate the barbituric acid derivative, which has 4-5 days elimination half-life:
- \\ Secobarbital
 - \\ Thiopental
 - \\ Phenobarbital
 - \\ Amobarbital
- 263.\\ \\ Which of the following hypnotic drugs is more likely to cause cumulative and residual effects?
- \\ Zolpidem
 - \\ Temazepam
 - \\ Phenobarbital
 - \\ Triazolam
- 264.\\ \\ Which of the following hypnotics is preferred for elderly patients?
- \\ Phenobarbital
 - \\ Flurazepam
 - \\ Temazepam
 - \\ Secobarbital
- 265.\\ \\ Indicate the mechanism of barbiturate action (at hypnotic doses):
- \\ Increasing the duration of the GABA-gated Cl⁻ channel openings
 - \\ Directly activating the chloride channels
 - \\ Increasing the frequency of Cl⁻ channel opening events
 - \\ All of the above
- 266.\\ \\ Indicate the competitive antagonist of BZ receptors:
- \\ Flumazenil

\\ Picrotoxin

\\ Zolpidem

\\ Temazepam

267.\\ Flumazenil blocks the actions of:

\\ Phenobarbital

\\ Morphine

\\ Zolpidem

\\ Ethanol

268.\\ Barbiturates are being replaced by hypnotic benzodiazepines because of in their:

\\ Low therapeutic index

\\ More adverse effects

\\ High potential of physical dependence and abuse

\\ All of the above

269.\\ Indicate the main claim for an ideal hypnotic agent:

\\ Rapid onset and sufficient duration of action

\\ Minor effects on sleep patterns

\\ Minimal “hangover” effects

\\ All of the above

270.\\ Which of the following hypnotic drugs causes least suppression of REM sleep?

\\ Penobarbital;

\\ Phenobarbital

\\ Zolpidem;

\\ Secobarbital

271.\\ Inhibitors of cell wall synthesis β -lactam penicillins include the following agents:

\\ Vancomycin;

\\ Daptomycin;

\\ Fosfomycin;

\\ methicillin

272.\\ Penicillinase-resistant narrow-spectrum drugs include:

\\ Penicillin V;

\\ Ampicillin;

\\ Nafcillin;

\\ Ticarcillin

273.\\ Penicillins mechanism of action:

\\ Bind to specific proteins (penicillin binding proteins – PBPS) on bacterial cytoplasmic membranes and inhibit transpeptidation, the final step in cell wall synthesis;

\\ inhibition of protein synthesis acting at the ribosomal level;

\\ Bind to the ribosomal 50S subunit and block translocation;

\\ Bind to the ribosomal 30 subunit to prevent binding of the charged +RNA to the acceptor site of the ribosomal-mRNA complex

274.\\ Gastric acid inactivates some penicillins:

\\ Oxacillin;

\\ Ampicillin;

\\ Penicillin;

\\ Amoxicillin

275.\\ Pick out antipseudomonal penicillins:

\\ Ampicillin;

\\ Amoxicillin;

\\ Ticarcillin;

\\ Penicillin

276.\\ Pick out the repository form of penicillins with a half-life of more than 14 days:

\\ Penicillin G;

\\ Penicillin V;

\\ Benzathin penicillin G;

\\ Carbenicillin

277.\\ Beta-lactam compounds include the following groups, except of:

\\ Penicillins;

\\ Cephalosporins;

\\ Monobactam;

\\ Macrolides

278.\\ \\ A moxioillin and ampicillin are effective against following mikroorganisms, except of:

\\ Susceptible streptococci;

\\ Escherichia coli;

\\ Haemophilus influenza;

\\ Helicobacter pylori;

\\ Chlamydial species

279.\\ \\ Toxicities of penicillins include:

\\ Hypersensitivity reactions;

\\ Hypoprothrombinemia;

\\ Disulfiram like reactions with ethanol;

\\ Potential ototoxicity

280.\\ \\ Choose right answers:

\\ In patients with renal failure penicillin in high doses can cause seizures;

\\ Nafcillin is associated with hepatitis;

\\ Oxacillin can cause neutropenia;

\\ Ampicillin and amoxicillin may cause ototoxicity

281.\\ \\ First-generation cephalosporins:

\\ Cefotetan;

\\ Cefaclor;

\\ Cefipime;

\\ Cephalexin.

282.\\ \\ Pick out fourth-generation cephalosporins:

\\ Cefipime;

\\ Cefotaxime;

\\ Cefaclor;

\\ Cefoperazone

283.\\ \\ Choose right answers regarding cephalosporins:

\\ They are bactericidal B-bactans like penicillins with mechanisms of action identical to the penicillins;

\\ Unlike penicillins most of cephalosporins are not eliminated via active tubular secretion;

\\ Most of them have half-lives of 12-24 hours;

\\ There are three generations of cephalosporins.

284.\\ \\ Carbapenems include:

\\ Chloramphenicol;

\\ Clindamycin;

\\ Meropenem;

\\ Vancomycin

285.\\ \\ Which statements are not right related carbapenems:

\\ They are bacteriostatics;

\\ They are bactericidal;

\\ They have narrow spectrum of action;

\\ They are penicillinase-susceptible antibiotics

286.\\ \\ Carbapenems adverse effects include the following, except:

\\ Constipation

\\ Vomiting;

\\ Diarrhea;

\\ Seizures;

287.\\ \\ Monobactams include:

\\ Aztreonam;

\\ Vancomycin;

\\ Ertapenem;

\\ Bacitracin

288.\\ \\ Which glycopeptide antibiotic is very similar to vancomycin?

\\\ Daptomycin;

\\\ Fosfomycin;

\\ Teicoplanin;

\\\ Cycloserine

289.\\\ Cell wall-or membrane-active antibiotics are the following, except of:

\\\ Daptomycin;

\\\ Fosfomycin;

\\ Tetracyclin;

\\\ Bacitracin.

290.\\\ Vasoconstrictors are less effective in prolonging anesthetic properties of:

\\\ Procaine

\\ Bupivacaine

\\\ Lidocaine

\\\ Mepivacaine

291.\\\ Indicate the local anesthetic, which is used for spinal anesthesia:

\\ Tetracaine

\\\ Cocaine

\\\ Dibucaine

\\\ Bupivacaine

292.\\\ Which of the following local anesthetics is preferable in patient with pseudocholinesterase deficiency?

\\\ Procaine

\\ Ropivacaine

\\\ Tetracaine

\\\ Benzocaine

293.\\\ The most important effect of inadvertent intravenous administration of a large dose of lidocaine is

\\\ Bronchoconstriction

\\\ Methemoglobinemia

\\\ Renal failure

\\ Seizures