Theme nr. 1
GENERAL PHARMACOKINETICS

1.1. The following statements characterise the simple diffusion:
A. Is done at the lipoproteic membrane complex
B. Is done in the way of concentration gradient until the balance of concentration
C. Is done with membranar transport systems
D. Depends on the ionization degree and so, by the interrelation between pKa and pH
E. Is done at the membranar pores level

1.2. Filtration:
A. It takes place at the membranar pores level
B. Is done for the hydrosoluble substances
C. Is done in the way of concentration gradient
D. Is done at the lipoproteic membranar complex
E. Is done with membranar transport systems

1.3. Active transport:
A. Is done with membranar transport systems
B. Involves energy consumption
C. Depends by cellular metabolic processes energy providers
D. Presents high sterical specificity
E. Is done in the way of concentration gradient

1.4. Facilitated diffusion:
A. Is done with carriers
B. Is done in the way of concentration gradient
C. Is done with energy consumption
D. Is done without energy consumption
E. Is done against the concentration gradient

1.5. Intraserous administration ways are:
A. Intravenous
B. Intramuscular
C. Intraperitoneal
D. Intrapericardial
E. Intrapleural

1.6. Pathological states of the oral route which negative influences absorption on oral route are:
A. Achlorhydria
B. Pyloric sphincter spasm
C. Accelerated intestinal transit (diarrhea)
D. Fever
E. Heart failure

1.7. Advantages of the oral route of administration are:
A. Could be the activation place of some drugs
B. Represents the natural, physiological route of intake, with a comfortable self administration
C. Latency is high
D. Bioavailability is low
E. Can be useful especially for repeated administrations and maintenance treatment as well as for retard drugs

1.8. The usage of pulmonary route is indicated for the following local actions:
A. Bronchodilators (administered in bronchial asthma)
B. Expectorant (expectorant drugs from the mucolytic drugs)
C. Gaseous and volatile general anesthetics
D. Vaccines
E. Antiseptic, antiinflammatory, etc. (antiseptic drugs and antibiotics administered in bronchitis, inflammations, local infections)

1.9. Factors dependent on organism which influence the drug absorption are:
A. Increased blood flow
B. Environment viscosity
C. Environment pH-ul
D. Molecular weight
E. The volume of the injected solution

1.10. The factors which influence the binding to plasma proteins dependent on organism are:
A. Chemical structure
B. Special physiological states (new-born, pregnancy, elderly)
C. Pathological states (hypoproteinemia, hyperproteinemia)
D. Horizontal or vertical position
E. Basic or acid character

1.11. The factors which influence the drug diffusion dependent on organism are:
A. Hydrostatic pressure
B. Tissue mass
C. Capillary permeability
D. Molecular weight
E. Lipo- and hydrosolubility

1.12. The following drugs are metabolised to active metabolites with the same type of action:
A. Phenacetine
B. Phenylbutazone
C. Amitriptiline
D. Adrenaline
E. Diazepam

1.13. Which from the following drugs are enzymatic inducers?
A. Phenobarbital
B. Rifampicine
C. Disulfiram
D. Griseofulvine
E. Cloramphenicol

1.14. Which from the following drugs are enzymatic inhibitors?
A. Eritromicine
B. Phenytoine
C. Metronidazole
D. Fenobarbital
E. Isoniazide

1.15. The elimination of the drug on respiratory route is realized through:
A. Nasal secretions
B. Bronchial glands secretion
C. Alveolar epithelium
D. Saliva
E. Lacrimal secretion

1.16. Indicate the drugs which are eliminated through milk secretion and doesn’t have effects on infant:
A. Caffein
B. Streptomycin
C. Gentamicin
D. Codeine
E. Phenolphthaleine

1.17. Physiological factors dependent on organism which influence the distribution are:
A. Vascularization
B. Inflammatory tissues
C. Scar tissues
D. Tissue proteins
E. Lipid content

1.18. The following situations increase alpha-1- acid glycoprotein, EXCEPT:
A. Burnings
B. Myocardial failure
C. Neoplasm
D. Trauma
E. Nephrotic syndrome

1.19. The following situations produce hyperalbuminemia:
A. Burnings
B. Myalgia
C. Schizophrenia
D. Benign tumors
E. Acute infections

1.20. The following drugs from different pharmacodynamics groups, produce the enzymatic inhibition phenomena:
A. Tranquilizers and neuroleptics (meprobamate, some benzodiazepines as diazepam and chlordiazepoxide; chlorpromazine)
B. Tricyclic antidepressants (nortriptiline) and monoaminoxidase inhibitors (IMAO)
C. Antibiotics (chloramphenicol, eritromicine)
D. Antiepileptic drugs (phenobarbital, phenytoin, carbamazepine)
E. Antihistaminic drugs H2 (cimetidine)
1.21. Compulsory conditions, general, which should be followed by the injectable pharmaceutical forms:
A. Isotonic or low hypertonic
B. Sterile
C. pH approximative equal with 7,4
D. Facultative sterile
E. Apyrogenic

1.22. Drug administration on rectal route presents the following advantages:
A. Incomplete absorption
B. Avoiding the first intestinal and hepatic passage
C. Eventually appearance of the rejection reflex, which decrease the retention period in rectum, so the time of contact
D. Unequal absorption
E. Appropriate for children, vomiting patients, patients in coma

1.23. Administration routes used exclusively for general (systemic) action are:
A. Intravenous route
B. Subcutaneous route
C. Ocular route
D. Sublingual route
E. Intramuscular route

1.24. The forms in which the drugs can be transported into the blood are:
A. Drugs can be transported in plasma, a part as a free form (dissolved in plasma)
B. Drugs can be transported in plasma only under free form (dissolved in plasma)
C. Drugs can be transported in plasma, a part as a form bind to plasma proteins (deposit form)
D. Drugs (few) can be transported into the blood and in figurative elements
E. Drugs can be transported in plasma only under the form bind to plasma proteins

1.25. The physiological routes of drugs elimination are:
A. Parenteral route, for the substances administered on injectable route
B. Digestive route, of choice for the non-absorbable substances, administered on oral route
C. Renal route, of choice for the absorbed hydro soluble substances
D. Cutaneous route, for the volatile and lipophilic substances
E. Respiratory route, of choice for gaseous and volatile substances

Theme nr. 2
GENERAL PHARMACODYNAMICS

2.1. The stages of the pharmacodynamic phase of the interaction (contact) drug-organism which have as a result the appearance of the pharmacodynamic action are the following:
A. Formation of the drug-receptor complex
B. Drug binding to the reactive substrate, respectively to receptors
C. Appearance of some local modifications, triggered by the presence of the complex drug-receptor at the site of action (primary action)
D. Appearance of the pharmacodynamic effect (pharmacodynamic stage itself)
E. Drug binding to plasma proteins
2.2. The maximum efficacy of the pharmacodynamic action depends on the following:
A. Organism
B. Pharmacokinetic properties of the active substance
C. Potency
D. Intrinsic activity (the number of the receptors which the drug can activate)
E. Pharmacodynamic properties of the active substance

2.3. The potency of the pharmacodynamic action is dependent by:
A. Maximum effectiveness (maximum effect)
B. Active substance affinity for the substrate (number of receptors occupied, according to the occupational theory)
C. Pharmacodynamic properties of the active substance
D. Organism
E. The pharmacokinetic properties of the active substance

2.4. Drugs pharmacodynamics action:
A. It is manifested as reduction or removal of a physiological function disorder
B. It is the result of body-drug contact (reactive substrate)
C. It is manifested as a change of a physiological function (in stimulatory or inhibitory direction)
D. It is not the result of drug-body contact
E. It is manifested as physical, chemical, biochemical and physiological phenomenon

2.5. Which of the following statements regarding latency of the pharmacodynamic action (time to onset of effect) are true:
A. Drugs bound to plasma proteins in large percentage have higher latency (because the transport time is higher)
B. In the intravenous administration (i.v.) the latency is lower (because the absorption time = 0)
C. Retard formulations have latency greater than quick-release forms
D. Substances acting through active metabolite have lower latency
E. Drugs with indirect mechanism of action have higher latency (because the time of occurrence of biological effects is higher).

2.6. After the mechanism of action, the pharmacodynamic action can be:
A. Local action (topical)
B. Direct pharmacodynamic action
C. Action on metabolism of physiologically active substances
D. Pharmacodynamic action on receptors
E. Indirect pharmacodynamic action

2.7. Factors that influence the pharmacodynamic action, dependant on drugs are:
A. Pharmacokinetic factors (pharmacokinetic profile)
B. Physical-chemical factors (eg. chemical structure)
C. Pharmacographic factors (eg. dose)
D. Route of administration
E. Pharmacodynamic factors (eg. place, action mechanism)
2.8. The direction of pharmacodynamic action can be:
A. Indifferent
B. Depressant
C. Excitatory
D. Inhibitory
E. Stimulatory

2.9. Antagonistic drug interactions have the following characteristics:
A. The result of the association can be the cancellation of the pharmacodynamic action (total antagonism)
B. The result of the association can be the reduction of the pharmacodynamic action (partial antagonism)
C. Antagonism occurs when drugs act in the same direction
D. Antagonism occurs when drugs act in opposite directions
E. The result of the association can be even the reversal of the pharmacodynamic action (total antagonism)

2.10. After direction of the action, the pharmacodynamic action can be:
A. Inhibitory action
B. Mimetic action
C. Lytic action
D. Stimulatory action
E. Main action

2.11. Competitive antagonists have the following characteristics:
A. Have intrinsic activity
B. Have high affinity and are able to bind to the receptors, at the binding site of the specific agonist level
C. Decrease the potency of specific agonists, by competing for receptors
D. Not able to trigger an effect at the receptors level, which are only blocked
E. Have no intrinsic activity

2.12. After the pharmacotherapeutic criterion, the pharmacodynamic action may include the following types, EXCEPT:
A. Of substitution
B. Pathophysiological
C. Indifferent
D. Symptomatic
E. Ethiotropic (causal)

2.13. Factors dependent on the social life and stress that may influence the pharmacodynamic action, are:
A. Increasing of antidiuretic hormone secretion with consequences over the hydroelectrolytic and pharmacokinetic balance
B. Ambient temperature
C. Pulmonary hyperventilation with gaseous alkalosis and pharmacokinetic consequences
D. Light and noise
E. Altitude and pressure
2.14. The following statements concerning factors from which depends the maximum efficacy of the pharmacodynamic action are true, EXCEPT:
A. Potency
B. The pharmacodynamic properties of the active substance
C. The intrinsic activity (the number of receptors which the drug may activate)
D. The pharmacokinetic properties of the active substance
E. Organism

2.15. The factors that determine the duration of action are the following:
A. Pharmacokinetic factors
B. Pharmacodynamic factors (affinity for substrate and type of connection)
C. Biopharmaceutical factors
D. The name of the active substance
E. Route of administration

2.16. The selectivity of the pharmacodynamic action refers to the fact that:
A. It's property of a drug substance to have as limited number of pharmacodynamic actions
B. It’s the property of a drug substance to have a large number of pharmacodynamic actions
C. Most drug substances have an "n" number of effects, within a more or less wide territory
D. Is the property of a drug substance to influence as much as limited territory in organism
E. Is the property of a drug to demonstrate beneficial therapeutic effect, without unwanted side effects.

2.17. The following statements are true regarding the direction of the pharmacodynamic action, EXCEPT:
A. Stimulatory direction results by stimulating a function
B. Stimulatory direction results by depression of an antagonistic function
C. Inhibitory direction appear by a function inhibition
D. Inhibitory direction does not appears by excessive stimulation of that function (until it is run out)
E. The direction of the pharmacodynamic action is dependent of both active substance and the biological reactive substrate.

2.18. Synergistic drug interactions have the following characteristics:
A. Synergism occurs when are associated drugs, that acts in opposite directions
B. Addition synergism occurs when associated drugs, acts on the same receptors type
C. The synergism can be of addition and of potentiation
D. Synergism occurs when associated drugs acts in the same direction
E. Potentiating synergism occurs when the associated drugs acts on different receptors

2.19. Predominant and selective action of a drug may be the consequence:
A. The lack of specific subtypes of receptors in some tissues
B. Achieving of a higher concentration in the tissue or organ, due to a special affinity for it components
C. Existence of specific receptor subtypes, in some tissues (eg. beta-2 adrenergic receptor in the bronchioles or beta -1 in the myocardium)
D. Achieving a lower concentration in the tissue or organ
E. Achieving a higher concentration in the tissue or organ, due to an increased permeability of the tissue membranes
2.20. The duration of action depends on the following factors, EXCEPT:
A. Pharmacodynamic factors (affinity for substrate and type of connection)
B. Route of administration
C. Pharmacokinetic factors
D. Biopharmaceutical factors
E. The cost of the active substance

2.21. The following statements are true regarding the latency of the pharmacodynamic action, EXCEPT:
A. Drugs binded to plasma proteins in large percentage have higher latency (because the transport time is higher)
B. Retard pharmaceutical formulations have lower latency than the rapid release forms
C. Substances acting through an active metabolite were higher latency (because occurs also the metabolism time)
D. Drugs with indirect mechanism of action have higher latency (because the time of occurrence of biological effects is greater)
E. In the intravenous administration (i.v.) latency is lower (because the absorption time = 0)

2.22. After the selectivity, pharmacodynamic action can be:
A. Selective pharmacodynamic action (specific), on a physiological system, organ, receptor or a pathogen agent
B. General pharmacodynamic action (systemic), manifested after absorption
C. Pharmacodynamic nonselective (nonspecific) action
D. Pharmacodynamic substitution action
E. Local action (topical), at the administration site

2.23. After pharmacotherapeutic criterion the pharmacodynamic action can be of the following types:
A. Indifferent pharmacodynamic action
B. Symptomatic pharmacodynamic action
C. Ethiotrope (causal) pharmacodynamic action
D. Pathophysiological pharmacodynamic action
E. Substitution pharmacodynamic action

2.24. After reversibility (duration) pharmacodynamic action may be:
A. Main pharmacodynamic action
B. Irreversible (unlimited duration) pharmacodynamic action
C. Reversible (limited duration) pharmacodynamic action
D. Selective (specific) pharmacodynamic action
E. Secondary pharmacodynamic action

2.25. Factors dependent on the natural environment that may influence the pharmacodynamic action are:
A. The chemical structure of the active substance
B. Ambiental temperature
C. Light and noise
D. Altitude and pressure
E. Route of administration
Theme nr. 3
GENERAL PHARMACOTOXICOLOGY

3.1. Acquired intolerance presents the following characteristics:
A. Also known as hypersensitivity or sensitization
B. Appears during life and is temporary or permanent
C. It has not an immunological production mechanism
D. It has an immunological production mechanism
E. It is a drug allergy

3.2. Factors favoring the emergence of drug allergy, dependent on drugs are:
A. Route of administration (occurs frequently in topical application to the skin and mucousa)
B. Frequency of contact with the body
C. Individual reactivity (higher in women)
D. Antigenic potential of the drug
E. Hereditary atopy (genetic predisposition to allergic reactions and diseases)

3.3. Acquired intolerance (drug allergy) has the following features, with EXCEPTION:
A. Lack of graded dose-effect relationship
B. Extremely low doses can cause very serious allergic reactions
C. It has a graded dose-effect relationship
D. Antibodies can be emphasized by skin tests or different serological reactions
E. Sensitized body has a high titer of antibodies (often IgE)

3.4. Factors that determine the drug dependence installation are:
A. Socio-cultural environment
B. Natural environment
C. The quantities consumed, frequency of use; routes of administration
D. Incriminated substance (pharmacodynamic profile, pharmacokinetic and pharmacotoxicological)
E. Individual peculiarities and history

3.5. Provide examples of drugs that produce mutagenic side effects:
A. Fungicides
B. Epoxies
C. Physical agents (radiation)
D. Alkylating cytostatic drugs
E. Toxins of cell division spindle (colchicine, podophyllotoxin)

3.6. Adverse drug effects of side effects type are as follows, EXCEPT:
A. Dry mouth (hyposalivation) given by atropine
B. Nephropathy (eg. by nephrotoxic aminoglycoside antibiotics)
C. Hypovitaminoses, during treatment with broad spectrum antibiotics (eg. tetracycline) oral
D. Constipation produced by atropine
E. Depressive syndromes induced by sympatholytic drugs (reserpine, alpha-methyldopa, beta-1 adrenolytic drugs)
3.7. Substances capable of producing drug dependence are:
A. CNS depressants (alcohol, hypnotics as barbiturates, tranquilizers such as diazepam)
B. Parasympathomimetic drugs (neostigmine)
C. Parasympatholytic drugs (atropine)
D. CNS stimulants (amphetamine type, cocaine type)
E. Opioids (morphinomimetics) (morphine, heroin type)

3.8. Drug side effects have the following characteristics:
A. They are indirect consequence of the pharmacodynamic secondary action of the drugs
B. They are morphological disorders different of pharmacodynamic effects, which occur in some individuals treated under similar conditions
C. They are an abnormal response, quantitatively and / or qualitatively to a drug, deviated from the pharmacodynamic effects of the drug, which occurs only in a part of the population
D. They are the direct consequence of secondary pharmacodynamic actions of drugs
E. They are functional disorders, different by pharmacodynamic effects, which occurs in some individuals treated under similar conditions

3.9. Adverse drug reactions (AR) have the following characteristics:
A. Are reactions related on the cost of drugs
B. Are unwanted reactions
C. Are reactions occurring at therapeutically effective doses
D. Are reactions not related with pharmacotherapy
E. Are harmful reactions

3.10. Acquired chronic tolerance (habit) has the following characteristics:
A. It is an irreversible phenomenon (never disappears)
B. Duration after discontinuation of the treatment, is variable
C. It is a reversible phenomenon (disappears, at interruption, after a variable period of time)
D. It is slowly installed and never complete
E. Installs with different intensities for different effects of a drug

3.11. Mechanisms of chronic (habit) tolerance installation as adverse drug effect are:
A. Pharmacokinetic mechanism: elimination increasing
B. The decrease of metabolic rate through enzymatic inhibition
C. Pharmacodynamic mechanism: cells or receptor "desensitization" ("down" regulation), manifested by receptors "internalization" in the membrane
D. Pharmacokinetic mechanism: absorption decreasing
E. Pharmacokinetic mechanism: increasing the speed of metabolism, by enzyme induction installing

3.12. Higher frequency of adverse reactions (AR) occurs in the elderly, due to multiple factors:
A. Using, usually, of higher doses to older than in young adult
B. Pharmacodynamic features specific to aged organism
C. Compliance (respecting of prescribed dosage) often poor
D. Pharmacokinetic particularities specific to elderly organism
E. Polypharmacy (high number of drugs used) as a consequence of polipathology
3.13. Drugs contraindicated (proscribed) in pregnant women due to the teratogenic potential:
A. Antineoplastic antimetabolites (methotrexate, fluorouracil)
B. Coumarin anticogulants (acenocoumarol, warfarin)
C. Antacids
D. Antiepileptics (phenytoin, valproic acid), antidepressants (tricyclics, lithium), benzodiazepine tranquilizers
E. Corticosteroids (high doses)

3.14. Factors that increase the risk of adverse ototoxic drugs reactions appearance are:
A. Renal failure
B. Low doses and short-term treatment
C. Long term treatment
D. High doses
E. The combination of ototoxic drugs

3.15. The following drugs are frequently involved in adverse allergic reactions (AR) type I (anaphylactic), EXCEPT:
A. Ascorbic acid (vitamin C)
B. Penicillins (penicillin G inj., ampicillin, etc.)
C. Acetylsalicylic acid (aspirin)
D. Contrast iodinated radiographic substances
E. Local anesthetics i.v. administered

3.16. Factors that increase the risk of adverse ototoxic drugs reactions appearance are the following, EXCEPT:
A. Long treatment
B. High doses
C. Low doses and short-term treatment
D. The combination of ototoxic drugs
E. Renal failure

3.17. Examples of toxic drug side effects are the following, EXCEPT:
A. Nephropathies after nephrotoxic aminoglycoside antibiotics
B. Dry mouth and constipation given by atropine
C. Hepatic cytolysis caused by isoniazid, rifampicin, paracetamol
D. Methemoglobinemia (after aniline derivatives: paracetamol)
E. Ototoxicity after aminoglycoside antibiotics (kanamycin, gentamicin)

3.18. Favoring factors of the drug allergies emergence, dependent on the body are:
A. Individual reactivity (higher in women)
B. Frequency of contact with the organism
C. Hereditary atopy (genetic predisposition to allergic reactions and diseases)
D. Antigenic potential of the drug
E. Route of administration (occurs frequently in topical application to the skin and mucousa)
3.19. Examples of toxic drug side effects are the following:
A. Ototoxicity after aminoglycoside antibiotics (especially after kanamycin and amikacin)
B. Psychosis of schizophrenic type in hypercorticism caused by glucocorticoids overdosage
C. Extrapyramidal neurological syndrome produced by classical neuroleptics
D. Hepatic cytolysis caused by isoniazid, rifampicin, paracetamol
E. Dry mouth and constipation produced by atropine

3.20. Substances incriminated in producing of carcinogenic side effects are the following:
A. Glucose
B. Polycyclic hydrocarbures (coal tar, smoke)
C. Nitrosamines (appeared, for example, by transforming aminophenazone in the presence of hydrochloric acid in the stomach)
D. Aflatoxin producing molds
E. Alkylating substances (for example, alkylating cytostatic drugs)

3.21. Toxical adverse drug effects have the following characteristics:
A. They are morphological disorders, different by pharmacodynamic effects
B. They are functional disorders, different by pharmacodynamic effects
C. They are direct or indirect consequence of the secondary pharmacodynamic effects of the drugs
D. They can be mild or severe (sometimes fatal); may occur in all tissues and organs
E. Occur in some individuals treated under similar conditions

3.22. Toxical adverse drug effects have the following characteristics, EXCEPT:
A. They can be mild or severe (sometimes fatal); may occur in all tissues and organs
B. Occur in some individuals treated under similar conditions
C. Are direct or indirect consequence of the pharmacodynamic actions of the drugs
D. Are morphological disorders, different by the pharmacodynamic effects
E. They are functional disorders, different by the pharmacodynamic effects

3.23. The favoring factors of drugs adverse reactions (AR) appearance are:
A. High number of associated drugs (polypragmasia), with the possibility of interactions appearance (predictable or not)
B. Pathological conditions (renal and/or liver insufficiencies)
C. Effective doses (over ED50) and prolonged treatment
D. The cost of medicines
E. Particular physiological states (pregnancy, old age)

3.24. Idiosyncrasy (group congenital intolerance) has the following features:
A. Doesn’t appears shortly after the beginning of treatment or even at the first dose
B. Deviation from normal pharmacodynamic response may be quantitative (overdose or ineffectiveness effects)
C. It manifests as deviation from the normal pharmacodynamic response of the population to the drug
D. Deviation from normal pharmacodynamic response can be qualitative (abnormal reaction different by pharmacodynamic action)
E. Occur soon after starting the treatment or even at the first dose
3.25. Examples of adverse drug effects of side effects type are the following:
A. Dry mouth (hyposalivation) given by atropine
B. Psychosis and hallucinations caused by NSAIDs (indomethacin, ibuprofen, sulindac)
C. Extrapyramidal neurological syndrome produced by conventional neuroleptic drugs
D. Constipation caused by atropine (lowering the tone and normal intestinal peristalsis)
E. Sleepiness after awakening is produced by hypnocoercitives with long duration action (eg, phenobarbital)

**Theme nr. 4**

**ANTIBIOTICS WITH BETALACTAMIC STRUCTURE**

4.1. Which of the following penicillins are active against *Pseudomonas*:
A. Benzylpenicillin
B. Carbenicillin
C. Ticarcillin
D. Azlocillin
E. Ampicillin

4.2. Which of the following penicillins are active against enterobacteriaceae:
A. Ampicillin + clavulanic acid
B. Pivmecilin
C. Ampicillin + sulbactam
D. Mecillinam
E. Temocillin

4.3. Clavulanic acid:
A. Is an inhibitor of betalactamases produced by staphylococci and gram negative bacilli
B. Is a compound that belongs to the macrolides group
C. In combination with amoxicillin widens its antimicrobial spectrum
D. Combination of clavulanic acid with amoxicillin is active against *Pseudomonas*
E. In combination with amoxicillin narrows its antimicrobial spectrum

4.4. Carbenicillin presents the following characteristics:
A. Is well absorbed orally
B. Is administered only by injection i.m. or i.v.
C. Is not associated with aminoglycosides in the same syringe or the infusion bag
D. Bacterial resistance is chromosomally mediated by setting 50S subunits
E. Produce increasing of liver enzymes, hepatitis

4.5. The following statements are true for 1st generation of cephalosporins, EXCEPT:
A. Are useful in gram positive bacterial infections resistant to penicilline
B. The active substances after oral administration are indicated in mild and medium infections
C. Parenteral administrated substances are useful for the prophylaxis of surgical infections
D. In systemic infections with sensitive gram negative bacilli, is associated with aminoglycosides
E. Is used in meningitis because cross the blood brain barrier in therapeutically active concentrations
4.6. Resistance to cephalosporins is installed by:
A. Decreasing in permeability of external cell membrane
B. Modification of PBP
C. Inactivation by beta - lactamases
D. Alteration of 50S ribosomal subunit
E. Alteration of 30S ribosomal subunit

4.7. The antimicrobial spectrum of the injectable cephalosporin from IVth generation include:
A. Klebsiella
B. Salmonella
C. Staphylococcus aureus (exception Staphylococcus meticilin resistant)
D. Neisseria gonorrhoeae
E. Listeria monocytogenes

4.8. Which of the following cephalosporins are of IIIrd generation?
A. Cefotaxime
B. Ceftriaxone
C. Cefoperazone
D. Cefepime
E. Cefazidime

4.9. The following cephalosporins have short and medium half-life, EXCEPT:
A. Ceftriaxone
B. Cephazolin
C. Cefamandole
D. Cephalothine
E. Latamoxef

4.10. Penicillins active on enterobacteriaceae (mecilinam) have the following characteristics:
A. Bacterial spectrum is narrow
B. Acts by binding to a specific receptor PBP2 impeding the elongation of bacteria which become spherical
C. Acts by binding to the 50S ribosomal unit
D. Acts by binding to the 30S ribosomal unit
E. The effect may be bactericidal or bacteriostatic dependent by concentration

4.11. Which of the following broad-spectrum penicillins are active as such:
A. Bacampicillin
B. Pivampicillin
C. Ampicillin
D. Amoxicillin
E. Talampicillin

4.12. Antistaphylococcal penicillins have the following characteristics, EXCEPT:
A. Diffusion in the tissues is better
B. Cross the placenta and breast milk
C. Performs active concentrations in the cerebrospinal fluid
D. Elimination is predominantly renally
E. In renal failure occurs aggregation tendency due to decreasing of elimination and binding to plasma protein

4.13. Which of the following statements characterize the penicillins mechanism of action:
A. Binding to PBP membrane proteins, that serve as specific receptors for betalactamines
B. Covalently binding of penicillin to transpeptidases which ensure the solidity of the bacterial wall
C. Activation of autolytic enzymes: autolysin, murein hydrolases
D. Interfering of folic acid synthesis process
E. Inhibition of DNA topoisomerases

4.14. Which of the following penicillins is administered on injectable route:
A. Benzylpenicillin
B. Phenoxyethylpenicillin
C. Benzatinbenzylpenicillin
D. Feneticilline
E. Procainbenzilpenicillin

4.15. Which of the following drugs are anti staphylococcal penicillins:
A. Cloxacillin
B. Oxacillin
C. Erythromycin
D. Tetracycline
E. Dicloxacillin

4.16. Benzylpenicillin is:
A. Indicated in pneumococcal infections
B. Indicated in hemolytic streptococcal infections
C. Useful in topical application on skin and mucousa
D. Indicated in *Streptococcus viridans* slow endocarditis
E. Indicated in syphilis

4.17. Benzatinbenzylpenicillin is contraindicated in the following situations, EXCEPT:
A. Infections with less sensitive germs
B. Streptococcal pharyngitis and scarlet fever
C. Serious infections requiring elevated plasma levels of benzylpenicillin
D. History of allergy
E. Children under three years or more if they have reduced muscle mass

4.18. Benzatinbenzylpenicillin is indicated in the following situations:
A. Streptococcal pharyngitis and scarlet fever
B. Streptococcal infection prophylaxis in patients with polyarticular rheumatic arthritis
C. Lues
D. History of allergy
E. Serious infections requiring elevated plasma levels of benzylpenicillin

4.19. Herxheimer reaction that occurs in the first days of treatment of syphilis with penicillin is manifested by:
A. Myalgia
B. Arthralgia
C. Reactivation syphilitic lesions
D. Hepatitis
E. Nephritis

4.20. Specify the penicillin metabolites that function as haptens:
A. Phenoxymethylpenicillin
B. Benzatinbenzilpenicilin
C. Penicilloilamide
D. Pennicillanic acid
E. Cloxacillin

4.21. From staphylococcal penicillin group are:
A. Dicloxacillin
B. Amoxicillin
C. Cloxacillin
D. Oxacillin
E. Ampicillin

4.22. Aztreonam has the following characteristics:
A. It is resistant to most betalactamases produced by aerobic gram negative bacilli
B. It acts bacteriostatic by inhibiting protein synthesis
C. It is indicated in gram negative infections (septicemia, urinary tract infections, respiratory)
D. Antimicrobial spectrum comprising: aerobic gram negative bacilli (including Pseudomonas)
E. The mechanism of action is bactericidal, by preventing bacterial wall synthesis

4.23. Benzylpenicillin is given correctly in the following conditions:
A. It can be associated with other drugs in the same syringe
B. The solution is prepared extempore in sterile saline solution; not combined with other drugs in the same syringe
C. In infusion is preferred acid solutions (glucose 5%) or alkaline
D. It is used most often, intramuscularly (i.m.) or deep intravenous (i.v.) in infusion
E. Stability in solution is not more than 24 hours in a refrigerator (+ 4 ° C)

4.24. The following drugs are inhibitors of beta-lactamas produced by gram negative staphylococci and bacilli, such as in combination with the broad-spectrum penicillins antimicrobial widens their antimicrobial spectrum:
A. Amoxicillin
B. Clavulanic acid
C. Ampicillin
D. Sulbactam
E. Ticarcillin

4.25. Specify the groups of antibiotics that act on the bacterial cell wall (peptidoglycan synthesis inhibition which enters in the constitution of the bacterial wall):
A. Betalactamines
B. Tetracyclines
C. Vancomycine
D. Aminoglycosides
E. Macrolides

**Theme nr. 5**

**ANTIBIOTICS FROM OTHER STRUCTURAL CLASSES: MACROLIDES, AMINOGLYCOSIDES, TETRACYCLINES, PHENICOLS AND POLYPEPTIDES**

5.1. Bacterial resistance to macrolides can be explained by:
A. Decrease of the bacterial wall permeability for antibiotic
B. Inhibition of bacterial gyrase
C. Alteration of the 50S ribosomal subunit
D. Inactivation by enzymatic hydrolysis, catalyzed by an esterase-mediated plasmid
E. Secretion of beta-lactamases

5.2. Bacterial resistance to erythromycin is obtained by:
A. Decreasing of the bacterial wall permeability for antibiotic
B. Alteration of the 50S ribosomal subunit
C. Inactivation by enzymatic hydrolysis, catalyzed by an plasmidic mediated esterase
D. Increasing of bacterial wall permeability for the antibiotic
E. Activation by enzymatic hydrolysis, catalyzed by an plasmidic mediated esterase

5.3. The antimicrobial spectrum of erythromycin includes the following gram positive cocci:
A. Pneumococcus
B. Neisseria gononhoreae
C. Treponema pallidum
D. Pyogenic streptococcus
E. Mycoplasma pneumoniae

5.4. Which of the following macrolides belong to the first generation:
A. Clarithromycin
B. Azithromycin
C. Josamycin
D. Erythromycin
E. Spiramycin

5.5. Bacterial resistance to the aminoglycosides is installed by:
A. The presence of plasmid mediated enzymes
B. Modification of the bacterial cell envelope with decreased ability to transport the antibiotic in the cell
C. Occurrence of chromosomal mutations which modifies the aminoglycoside binding site to the 30S ribosomal subunit
D. Inhibition of the bacterial gyrase
E. Occurrence of some chromosomal mutations that alter the binding site of aminoglycoside to 50S ribosomal subunits

5.6. Cochlear lesions installed after treatment with aminoglycosides are manifested by:
A. Tinnitus
B. Nausea
C. Sensation of ear blockage
D. Balance disorder
E. Headache

5.7. Intensity of neuromuscular blockade produced by aminoglycosides is increased by:
A. Curare-like compounds
B. General anesthetics
C. Penicillines
D. Central muscle relaxants
E. Magnesium sulphate

5.8. In the infection with enterococcus aminoglycosides may be associated with the following substances:
A. Benzylpenicillin
B. Chloramphenicol
C. Ampicillin
D. Metronidazole
E. Vancomycin

5.9. The antimicrobial spectrum of kanamycin includes:
A. E. coli
B. Shigella
C. Pseudomonas
D. Pneumococcus
E. Streptococcus pyogenic and viridans

5.10. Nephrotoxicity and ototoxicity of aminoglycosides is increased by:
A. Furosemide
B. Cisplatin
C. General anesthetics
D. Central muscle relaxant
E. Curare-like compounds

5.11. Specify which of the following drugs are administered only by injectable route:
A. Metacillin
B. Minocycline
C. Rolitetracycline
D. Doxycycline
E. Tetracycline

5.12. Specify the first choice tetracycline indications:
A. Brucellosis
B. Tularemia
C. Gonorrhea
D. Cholera
E. Rickettsiosis

5.13. Specify the drug which realise therapeutic concentrations in CSF:
A. Tetracycline
B. Doxycycline
C. Rolitetracycline
D. Minocycline
E. Demeclocicline
5.14. The following side effects are specific for minocycline:
A. Vestibular toxicity
B. Scleral pigmentation, nail, skin (at prolonged administration)
C. Bulging fontanelle in infants
D. Brown coloration of teeth
E. Enamel hyperplasia

5.15. Neuropsychiatric disorders which occur after administration of chloramphenicol are:
A. Optic neuritis
B. Mental confusion
C. Delirium
D. Glossitis
E. Stomatitis

5.16. Therapeutic indications of polymyxin B are:
A. Meningitis with Pseudomonas aeruginosa
B. Colibacillosis dyspepsia in infants and children
C. Myasthenia gravis
D. Renal failure
E. Tracheobronchial infections with gram negative bacilli

5.17. Chloramphenicol is a reserve antibiotic in the following situations, EXCEPT:
A. Typhoid fever
B. Brain abscesses (with anaerobic bacteria)
C. Abdominal origin sepsis (associated with amikacin)
D. Infections with germs susceptible to other antibiotics and chemotherapeutic drugs
E. Penicillinase-positive staphylococcus infections

5.18. The mechanism of action of chloramphenicol:
A. Is bacteriostatic type
B. Is bactericidal type
C. Is installed by fixing the 50S subunit of the bacterial ribosomes
D. Involves inhibition of microbial protein synthesis
E. Is installed by fixing on the 30S subunit of the bacterial ribosome

5.19. Bacitracin is active on:
A. Clostridia
B. Diphtheria bacillus
C. Meningococcus
D. Klebsiella
E. Salmonella

5.20. Polymyxins are active on the following gram negative bacilli:
A. Klebsiella
B. Salmonella
C. E. coli
D. Clostridia
E. Diphtheria bacillus
5.21. From the macrolide antibiotics, are natural substances the following:
A. Erythromycin
B. Clarithromycin
C. Spiramycin
D. Azithromycin
E. Josamycin

5.22. The following macrolide antibiotics are semisynthetic substances, EXCEPT:
A. Erythromycin
B. Dirithromycin
C. Clarithromycin
D. Roxithromycin
E. Azithromycin

5.23. Specify the tetracycline which is not contraindicated in renal failure:
A. Tetracycline
B. Minocycline
C. Doxycycline
D. Demeclocycline
E. Rolitetracycline

5.24. From the tetracyclines are synthetic substances the following:
A. Metacillin
B. Rolitetracycline
C. Minocycline
D. Tetracycline
E. Doxycycline

5.25. The following statements regarding tetracyclines especially from the first generation are true, with EXCEPTION:
A. Oral bioavailability of tetracyclines is lowered by food (mostly dairy), by antacids with Ca, Mg, Al, Fe, which form chelates with them
B. Tetracyclines are contraindicated in pregnant women, children under 8 years
C. Bacterial resistance is quickly installed
D. Antimicrobial spectrum is broad
E. Diffusion in tissues is good for generation II of tetracyclines (doxycycline, minocycline), due to increased liposolubility

**Theme nr. 6**

**ANALGETIC ANTIPYRETIC DRUGS**

6.1. Thermal homeostasis is the equilibrium resultant between the following processes:
A. Thermogenesis
B. Thermolysis
C. The initial response to tissue aggression
D. Final response to tissue aggression
E. Imbalance of the second cyclic nucleotidic messengers cAMP / cGMP, favoring cGMP
6.2. Thermogenesis is controlled by:
A. Sympathetic center from the anterior hypothalamus
B. Parasympathetic center from the posterior hypothalamus
C. Afferent nerve pathways
D. Efferent nerve pathways
E. Thermal cutaneous receptors

6.3. Fever represents:
A. Rise in body temperature due to thermoregulation centers functioning at a higher level than the normal physiological one while keeping balance between thermogenesis and thermolysis
B. Nonspecific response of the body's defense against harmful agent
C. The specific reaction of the body's defense against harmful agent
D. Danger for the normal biological processes (cardiovascular system, CNS) when it is too high
E. Increase in body temperature due to thermoregulation centers functioning at a level higher than normal physiological, without keeping the balance between thermogenesis and thermolysis

6.4. Specify the compound which NOT presents an anti-inflammatory action:
A. Acetylsalicylic acid
B. Tenoxicam
C. Paracetamol
D. Aminophenazone
E. Diflunisal

6.5. Specify the medicinal substances which besides the analgesic action shows antispasmodic action musculotrop type:
A. Paracetamol
B. Acetylsalicylic acid
C. Metamizol
D. Propyphenazone
E. Aminophenazone

6.6. Antipyretic analgesics present the following actions EXCEPT:
A. Analgesic
B. Anti-inflammatory
C. General anesthesia
D. Antispasmodic
E. Antipyretic

6.7. The indications of antipyretic analgesic drugs, based on analgesic-antipyretic-antiinflammatory action are:
A. Respiratory viral infection with fever
B. Arthralgia
C. Myalgia
D. Microbial infection with high fever (associated to ethiotropic antimicrobial treatment)
E. Moderate postoperative pain
6.8. Molecular mechanism of antipyretic action consists in:
A. Inhibiting PGE2 biosynthesis, with pyrogenic effect at central hypothalamic level
B. The inhibition of PGE 2 biosynthesis in the periphery
C. Irreversible acetylation of COX1 at the respiratory level
D. Inhibition of TXA2 biosynthesis
E. Sensitize afferent nerve endings to the algogenic action of histamine and bradykinin

6.9. Analgesic antipyretic drugs produce:
A. Euphoria
B. Tolerance
C. Drug dependence
D. Respiratory depression
E. Cross-allergenic reactions in antipyretic and anti-inflammatory analgesics drugs (NSAIDs) group

6.10. The following statements characterize acetylsalicylic acid:
A. Ulcerogenic effect by gastric acid hypersecretion
B. Hypocoagulation (platelet antiagregatory at low doses and hypoprothrombinemia effect at high doses) with microhaemorrhages and anemia promoting
C. Platelet hyperagregation, at very high anti-inflammatory doses promote thrombotic accidents
D. Contraindicated in moderate algias
E. Contraindicated in thromboembolic disorders

6.11. Acetylsalicylic acid is indicated in the following situations:
A. Moderate pains (neuralgia, myalgia, headache)
B. Inflammatory rheumatic diseases
C. Pregnancy bleeding diathesis
D. Gastro-duodenal ulcer
E. Prior to surgery

6.12. During the treatment with acetylsalicylic acid should be monitored following side effects:
A. Tinnitus
B. Melena
C. Bleeding
D. Tolerance
E. Seizures

6.13. Acute poisoning with paracetamol has the following signs and symptoms:
A. Acute hepatic necrosis
B. GOT increased
C. Cerebral edema
D. Fever
E. Myalgia

6.14. Pharmacodynamics of paracetamol involves the following actions:
A. Analgesic
B. Antiinflammatory
C. Antipyretic
D. Sedative
E. Tranquilizer

6.15. The following statements are the possible side effects of high doses of paracetamol:
A. Weak methemoglobinizing
B. Thrombocytopenia
C. Hepatic cytolysis
D. Cerebral edema
E. Encephalopathy

6.16. The following drugs potentiate liver toxicity of paracetamol:
A. Isoniazid
B. Rifampicin
C. Phenothiazines
D. Caffeine
E. Codeine

6.17. Which of the following side effects of acetylsalicylic acid are side effects type:
A. Ulcerogenic effect
B. Rash
C. Angioneurotic and laryngeal edema
D. Bronchoconstriction
E. Reduction of glomerular filtration

6.18. Acute intoxication with acetylsalicylic acid is manifested by:
A. Initial respiratory alkalosis
B. Subsequent metabolic acidosis
C. Seizures
D. Reduced glomerular filtration
E. Erythema nodosum

6.19. In the prevention of myocardial infarction is used the next dose acetylsalicylic acid:
A. 0.5 g 4-6 times / day
B. 3.5 g in 3-5 sockets
C. 0.1-0.3 g / day
D. 0.3 g (0.160-0.325 g) /day
E. 0.3-0.5 g at 2-3 days

6.20. Metamizole is indicated for:
A. Agranulocytosis
B. Neuralgia
C. Myalgia
D. Colic (biliary, renal)
E. Dysmenorrhea

6.21. The following statements regarding the cyclooxygenase-2 (COX-2) enzyme are true, EXCEPT:
A. Inhibition of COX-2 is the mechanism of anti-inflammatory action of analgesics - antipyretics
B. Inhibition of COX-2 is a mechanism for generating undesirable side effects.
C. Inducible COX-2 is involved in the biosynthesis of prostaglandins with inflammatory and hyperalgesic role, both in the periphery and in the spinal cord
D. COX-2 is the constitutive isoform only in certain tissues (lung, kidney, bone marrow)
E. COX-2 is inducible in all tissues in the presence of proinflammatory stimuli (microorganisms, cytokines and tissue damages)

6.22. Analgesic antipyretics, have the following guidelines for analgesic action (potentiated by the anti-inflammatory action), EXCEPT:
A. Very intense acute pain (surgery, trauma, myocardial infarction)
B. Moderate postoperative pains
C. Moderate algias: headache, dysmenorrhea
D. Orthopedic conditions: fractures, dislocations, sprains
E. Moderate algias: neuralgia, arthralgia, myalgia

6.23. Acetylsalicylic acid has the following indications:
A. Inflammatory rheumatic diseases (acute polyarticular rheumatism, rheumatoid polyarthritis)
B. Viral infection (influenza, varicella, hepatitis), in children under 4 years
C. Gastro-duodenal ulcer
D. Fever with different etiology (inflammatory processes, acute microbial and viral infections)
E. Moderate algias (neuralgia, myalgia, arthralgia, headache etc.)

6.24. Paracetamol may produce the following effects, EXCEPT:
A. Acute intoxication is manifested by acute hepatic necrosis
B. Moderate antipyretic
C. Anti-inflammatory
D. At high doses can cause renal toxicity
E. Moderate analgesic

6.25. Analgesic-antipyretic drugs derivatives of pyrazolone are as follows, EXCEPT:
A. Paracetamol (acetaminophen)
B. Propyphenazone
C. Phenazone
D. Metamizol (Noraminophenazone)
E. Aminophenazone

**Theme nr. 7**
**HYPNOTICS TRANQUILIZERS**

7.1. Depending on the etiology, hyposomnias are:
A. Psychogenic
B. Neurological
C. Symptomatic
D. Intermittent
E. Terminal

7.2. Hypnocoercitives have the following characteristics:
A. Are non-selective CNS depressants
B. Force sleep also in normal individuals
C. Changes nocturnal EEG
D. Acts selectively on specific receptors
E. Hypnogen effect is more obvious in hyposomnias

7.3. Hypnoinducers have the following characteristics:
A. Awakening is easy
B. Produce a "paradoxical sleep debt", at repeated dosing with negative consequences for mental balance
C. Enzyme induction is reduced or absent
D. Not reduce the duration of REM sleep
E. Reduce REM sleep duration

7.4. Nonspecific mechanism of action of barbiturate hypnotics consists of:
A. Depression of the ascending reticular activating band
B. Potentiation of the inhibitory neurotransmitter GABA-mediated
C. Opening of chloride channels
D. Increase the time of opening of the chloride channels
E. Activating a specific site on the GABA-A receptor complex of the postsynaptic effector

7.5. At high doses barbiturate hypnotics have the following effects:
A. Decrease basal metabolism
B. Depression of thermoregulation center with hypothermia
C. Hipnocoercitive action
D. Anticonvulsant action
E. Sympathetic and parasympathetic autonomic ganglia depression

7.6. Serious form of withdrawal syndrome that occurs by discontinuing the treatment with hypnotic barbiturates consists of:
A. Convulsive seizures of “grand mal” epilepticus
B. Agitation
C. Tremor
D. Insomnia
E. Fever

7.7. The treatment of acute intoxication due to administration of hypnotic barbiturates consists of:
A. Infusion with NaHCO3
B. Osmotic diuresis with 5% solution of mannitol
C. Breathing and blood pressure supporting with respiratory and cardiovascular analeptics
D. Antidote administration of flumazenil
E. Respiratory ventilation with oxygen administration

7.8. Which of the following drugs with hypnotic action are hypnoinducors:
A. Nitrazepam
B. Phenobarbital
C. Ciclobarbital
D. Flunitrazepam
E. Midazolam

7.9. Which of the following drugs with hypnotic action are hypnocoercitives:
A. Amobarbital
B. Zolpidem
C. Zopiclone
D. Phenobarbital
E. Midazolam

7.10. Specify the interactions with pharmacokinetic mechanism:
A. Barbiturates + alcohol
B. Barbiturates + chloramphenicol
C. Barbiturates + CNS depressant
D. Barbiturates + cimetidine
E. Barbiturates + paracetamol

7.11. Tranquilizing action consists in:
A. Reduction of psychic stress
B. Balancing emotional behavior
C. Alleviate spastic muscle contractions and conditions
D. Increase seizure threshold appearance
E. Tempering emotional reactions

7.12. Specify the drug substances with long half-life:
A. Diazepam
B. Alprazolam
C. Tofisopam
D. Medazepam
E. Oxazepam

7.13. The following side effects are common reactions to tranquilizers, EXCEPT:
A. Drowsiness
B. Teratogenic
C. Habit
D. Drug dependence
E. Withdrawal syndrome

7.14. Specify the antidote in poisoning with benzodiazepines:
A. Acetylcysteine
B. Glucose
C. Atropine
D. Flumazenil
E. Caffeine

7.15. Diazepam is used in clinical practice for the following actions:
A. Anxiolytic
B. Myorelaxing
C. Anticonvulsant
D. Sedative-hypnoinductor
E. Analgesic-antipyretic

7.16. Anticonvulsant action of diazepam is useful for:
A. Reduction of psychic stress
B. Tetanus
C. Tempering emotional reactions
D. Status epilepticus
E. Balancing emotional behavior

7.17. The following benzodiazepines are used in the general anesthesia induction and pre anesthesia:
A. Midazolam
B. Oxazepam
C. Medazepam
D. Alprazolam
E. Diazepam

7.18. Muscle relaxant action of diazepam is useful for:
A. Neurosis
B. Combating muscle contractures
C. Combating muscle spastic states
D. Tetanus
E. Status epilepticus

7.19. Specify the substance that is antagonistic on GABA receptor complex:
A. Flumazenil
B. Flunitrazepam
C. Phenobarbital
D. Nitrazepam
E. Ciclobarbital

7.20. The following situations are contraindications for benzodiazepine tranquillizers:
A. Muscle contractures
B. Status epilepticus
C. Neurosis
D. Drivers
E. Myasthenia gravis

7.21. Which of the following drugs with tranquilizer action doesn’t belong to the benzodiazepines class:
A. Buspirone
B. Diazepam
C. Hydroxyzine
D. Medazepam
E. Meprobamate

7.22. Which of the following hypnotic barbiturates have medium and long duration action:
A. Secobarbital
B. Ciclobarbital
C. Amobarbital
D. Phenobarbital
E. Pentobarbital
7.23. Barbiturate hypnotics have the following contraindications and precautions, EXCEPT:
   A. Severe hepatic impairment
   B. Insomnia of nervous hyperexcitability
   C. Drivers
   D. Severe renal impairment
   E. Caution: the elderly (accidents in early sleepy or terminal stage)

7.24. Which of the following statements regarding the mechanism of action of barbiturate hypnotics are true:
   A. Specific mechanism of action: potentiation of GABA-mediated inhibitory neurotransmission
   B. Nonspecific mechanism of action: depression of the ascending reticular activating band
   C. Mechanism of action: blocking dopamine D1 and D2 receptors
   D. Specific mechanism of action: the activation of a specific site on the postsynaptic effector GABA-A receptor complex, with the increasing of the opening time of the Cl-channel hyperpolarization and neuronal inhibition; favoring the releasing of GABA
   E. Nonspecific mechanism of action: opening of chloride channels

7.25. Contraindications for administration of diazepam are:
   A. Combating of contractures and skeletal muscle spastic conditions
   B. Myasthenia gravis (MG)
   C. Acute respiratory failure (rapid injection i.v.)
   D. Ambulatory, to the drivers
   E. Anxious syndrome therapy

Theme 8
ANTICONVULSIVANTS

8.1. Exogenous factor involved in the development of seizures is represented by:
   A. Meningeal or brain inflammation
   B. Intracranial tumors
   C. Craniocerebral trauma
   D. Convulsive reactivity correlated with seizure threshold
   E. Poisoning

8.2. Clonic seizures are muscle contractions:
   A. Sudden
   B. Short
   C. Rhythmic
   D. Generalized violent
   E. The lack of coordination between agonists and antagonists

8.3. Tetanic seizures are muscle contractions:
   A. Rhythmic
   B. Generalized violent
   C. The lack of coordination between agonists and antagonists
   D. Short
   E. Sudden
8.4. „Grand mal” epilepticus is characterized by:
A. Sudden loss of consciousness and short duration
B. Generalized clonic seizures
C. EEG changes
D. Maximal tonic spasm of skeletal muscles of the whole body, followed by fall
E. Subentered attacks of generalized clonic seizures

8.5. Status epilepticus is treated with:
A. Ethosuximide
B. Diazepam i.v.
C. Clonazepam i.v.
D. Valproic acid p.o.
E. Trimethadione

8.6. Which of following anticonvulsants acts by blocking sodium channels?
A. Carbamazepine
B. Trimethadione
C. Phenytoin
D. Ethosuximide
E. Phenobarbital

8.7. Which of the following anticonvulsants acts by irreversible inhibition of GABA aminotransferase enzyme?
A. Carbamazepine
B. Phenytoin
C. Lidocaine
D. Vigabatrin
E. Valproic acid

8.8. Which of the following anticonvulsant favors GABA release?
A. Vigabatrin
B. Valproic acid
C. Tiagabine
D. Gabapentin
E. Phenytoin

8.9. Which of the following anticonvulsants acts by selective inhibition of GABA reuptake?
A. Valproic acid
B. Phenobarbital
C. Tiagabine
D. Trimethadione
E. Carbamazepine

8.10. Carbamazepine increases metabolism of the following compounds in concomitant combination:
A. Phenytoin
B. Valproic acid
C. Clonazepam
D. Ethosuximide
E. Lamotrigine
8.11. Carbamazepine is indicated in:
A. „Grand mal” epilepticus
B. Pregnancy
C. Pituitary diabetes insipidus
D. Trigeminal neuralgia
E. Psychomotor epilepsy

8.12. Teratogenic effects given by phenytoin are:
A. Palate clefts
B. Cardiac abnormalities
C. Lupus-like syndrome
D. Jaundice
E. Retarded growth

8.13. Toxic adverse effects given by phenytoin are:
A. Ataxia
B. Dysarthria
C. Mental deficiency
D. Palate clefts
E. Jaundice

8.14. Teratogenic effects given by valproic acid are:
A. Spina bifida
B. Oropharyngeal defects
C. Deformities of the fingers
D. Exfoliative dermatitis
E. Hirsutism

8.15. In chronic treatment with high-dose phenobarbital the following side effects occur:
A. Ataxia
B. Megaloblastic anemia
C. Osteomalacia
D. Gingival hyperplasia
E. Exfoliative dermatitis

8.16. In administration of high doses i.v. phenytoin can trigger:
A. Ventricular fibrillation
B. Stopping of the heart
C. Respiratory depression
D. Gingival hyperplasia
E. Lupus-like syndrome

8.17. Phenytoin is indicated in:
A. „Grand mal” epilepticus
B. Pituitary diabetes insipidus
C. Cardiac arrhythmias
D. Trigeminal neuralgia
E. Psychomotor epilepsy
8.18. The following statements characterize phenacemide:
A. Most toxic antiepileptic
B. The first choice in the "petit mal" epilepticus
C. Reserve antiepileptic
D. Broad spectrum antiepileptic
E. Of choice in psychomotor epilepsy

8.19. The following anticonvulsants are administered in "petit mal" epilepticus:
A. Trimethadione
B. Ethosuximide
C. Phenobarbital
D. Carbamazepine
E. Phenytoin

8.20. Specify the drug substance with anticonvulsant action exhibiting broad spectrum of action:
A. Phenobarbital
B. Trimethadione
C. Ethosuximide
D. Phenacemide
E. Diazepam

8.21. Carbamazepine had the risk of the following adverse reactions (AR):
A. Sialhorrea (increased saliva secretion)
B. Serious hepatotoxicity, which requires frequent monitoring of liver function
C. Coma (chronic administration)
D. Teratogenic effects (spina bifida and congenital heart)
E. Respiratory depression (chronic administration)

8.22. Which of the following drugs with anticonvulsant action are active in status epilepticus:
A. Clonazepam
B. Ethosuximide
C. Phenobarbital
D. Carbamazepine
E. Diazepam

8.23. Which of the following statements regarding the pharmacological properties of clonazepam are true:
A. Major side effect is CNS depression (sedation, somnolence, hypotonia, ataxia)
B. indicated in the small epilepticus, myoclonic seizures
C. there is a good correlation between plasma concentrations and efficacy or toxicity
D. indicated in great epilepticus
E. indicated in status epilepticus i.v. slowly

8.24. The following statements regarding the pharmacological properties of phenytoin are true, EXCEPT:
A. Molecular mechanism of action: blockade of T-type calcium channel
B. Pharmacotoxicological potential is high
C. Produce the gingival hyperplasia
D. Molecular mechanism of action: sodium channel blockade
E. Indicated in epilepsy (“grand mal” epilepticus, psychomotor epilepsy) and cardiac arrhythmias

8.25. The following statements on the pharmacological properties of phenacemide are true, EXCEPT:

A. Is a broad-spectrum antiepileptic (“grand mal” and “petit mal” epilepticus, psychomotor epilepsy)
B. Is a narrow-spectrum antiepileptic
C. Is the most toxic antiepileptic
D. Is used only as a backup antiepileptic
E. At prolonged administration may produce as side effects mental disorders (paranoia, delirium, aggression)

**Theme nr.9**

**ANTIPARKINSONIANS**

9.1. Parkinson's syndrome is manifested clinically by the following characteristic motor disorders:

A. Balance disorder
B. Tremor of the extremities
C. Psychiatric symptoms
D. Hypokinesia
E. Hypertonia

9.2. The following antiparkinsonians are anticholinergic:

A. Trihexyphenidyl
B. Levodopa
C. Selegiline
D. Benztropine
E. Bromocriptine

9.3. The following antiparkinsonians positive influence dopamine metabolism:

A. Orphenadine
B. Trihexyphenidyl
C. Levodopa
D. Amantadine
E. Selegiline

9.4. The following antiparkinsonians are part of ergot alkaloids group:

A. Levodopa
B. Bromocriptine
C. Pergolide
D. Lisuride
E. Amantadine

9.5. The following antiparkinsonians inhibits selectively and reversible COMT which metabolizes levodopa:

A. Trihexyphenidyl
B. Tolcapone
C. Entacapone
D. Selegiline
E. Amantadine

9.6. Specify the drug that increases dopamine biosynthesis:
A. Benzatropine
B. Amantadine
C. Levodopa
D. Trihexyphenidyl
E. Selegiline

9.7. Trihexyphenidyl is contraindicated in:
A. Incipient Parkinson forms
B. In combination with levodopa, for dosage reduction
C. Glaucoma
D. Prostate adenoma
E. Extrapyramidal syndrome induced by neuroleptics

9.8. Selegiline may be biotransformed to:
A. Adrenaline
B. Amphetamine
C. Noradrenaline
D. Methamphetamine
E. Atropine

9.9. The effect „on – off” characteristics for levodopa consists of:
A. Paranoid state
B. Decrease the duration and intensity of the effect
C. Spontaneous rotation of the trunk
D. High fluctuations of the patient’s condition during the day
E. Spontaneous rotation of the trunk, limbs and head

9.10. Choreiform type manifestations that occur in prolonged treatment with levodopa are:
A. Euphoria
B. Mouth opening
C. Paranoid state
D. Spontaneous rotation of the trunk
E. Reducing the intensity and duration of effect

9.11. The following statements characterize levodopa:
A. Precursor of dopamine and noradrenaline
B. Central dopaminergic effects
C. The inhibition of prolactin pituitary secretion
D. Somatotropic growth hormone secretion
E. Selective inhibitor of monoamine oxidase type B

9.12. Antiparkinsonians influencing dopaminergic system are contraindicated in:
A. Incipient Parkinson forms
B. Glaucoma
C. Psychosis
D. Prostate adenoma
E. Association with neuroleptics

9.13. Which of the following drugs is most effective antiparkinsonian:
A. Trihexyphenidyl
B. Amantadine
C. Bromocriptine
D. Levodopa
E. Selegiline

9.14. The following statements regarding the effects of antiparkinsonians which stimulates dopaminergic transmission are true, EXCEPT:
A. Stimulating dopamine release
B. Increase in dopamine biosynthesis
C. Inhibition of MAO-B enzyme, which metabolize dopamine
D. Antagonist action on dopamine D2 receptors
E. Agonist action on dopamine D2 receptors

9.15. Which are true statements regarding the pharmacological properties of trihexyphenidyl:
A. Adverse reactions side effects dopaminergic and sympathomimetic type (cardiovascular, digestive)
B. Better tolerability to dopaminergic antiparkinsonians
C. Intensely antagonize hypertonia, moderately tremor and weak hypokinesia
D. Sialorrhea is canceled
E. Adverse reactions peripheral anticholinergic side effects (dry mouth, constipation, micturition disorders, cycloplegia with visual disturbances)

9.16. Exists the following types of Parkinson disease:
A. Secondary post-encephalitic
B. Secondary toxic and medicinal (by neuroleptics anti-D2)
C. Secondary atherosclerotic
D. Congenital
E. Idiopathic (Parkinson's disease or paralysis agitans)

9.17. The following statements regarding the types of Parkinson disease, are true EXCEPT:
A. Idiopathic (Parkinson's disease or paralysis agitans)
B. Congenital
C. Secondary post-encephalitic
D. Secondary toxic and medicamentous (anti-D2 by neuroleptics)
E. Secondary atherosclerotic

9.18. Are antiparkinsonian drugs dopamine D2 agonists:
A. Pergolide
B. Bromocriptine
C. Selegiline
D. Lisuride
E. Levodopa
9.19. The following statements concerning associations levodopa-dopa decarboxylase inhibitors are true, EXCEPT:
A. Dopa decarboxylase inhibitors diminish dopamine biosynthesis
B. Dopa decarboxylase inhibitors (carbidopa, benserazide) acts only in the periphery
C. Dopa decarboxylase inhibitors protects levodopa by degradation in the periphery
D. Levodopa is associated in the standard products with dopa decarboxylase inhibitors (carbidopa, benserazide)
E. Dopa decarboxylase inhibitors not diffuse through the blood-brain barrier (thus explaining the peripheral actions)

9.20. Besides the three characteristic motor disorders (tremor, hypertonia, hypokinesia), Parkinson syndrome is manifested by other associated symptoms:
A. Skeletal muscle hypotonia
B. Balance disorder
C. Psychiatric symptoms
D. Musculoskeletal pain (consequence of hypertension)
E. Cholinergic type autonomic symptoms (sialorrhea)

9.21. The following statements concerning the pathophysiological, pathogenic and neurochemical bases of Parkinson's disease are true, EXCEPT:
A. Dopaminergic hypoactivity in striatum and other subcortical motor areas of the extrapyramidal system (which controls the skeletal muscle)
B. There is destruction of dopaminergic neurons in the substantia nigra, with striatal fascicle degeneration and reducing levels of dopamine
C. Install a dopaminergic hyperfunction and hypofunction of cholinergic
D. Disturbing the balance between dopaminergic and cholinergic systems, with the installation of a cholinergic hyperactivity
E. Installing a dopaminergic hypofunction in nigrostriatal system, accompanied by a cholinergic hyperfunction

9.22. The following statements regarding adverse reactions after levodopa are true, EXCEPT:
A. Habit (with decreasing intensity and duration of effect) on long-term treatment (after approximately 2 years)
B. Peripheral anticholinergic side effects (dry mouth, constipation, micturition disorders, cycloplegia with visual disturbances)
C. Peripheral dopaminergic and sympathomimetic side effects (cardiovascular, digestive)
D. "On-off" effect (fluctuations of patient status during the day)
E. Paranoid state (the long-term treatment with high dose)

9.23. The following statements regarding the pharmacological properties of selegilin are true, EXCEPT:
A. Early treatment with selegiline delay the need for levodopa treatment for 6-9 months
B. Potentiate some side effects given by levodopa (insomnia, nausea, orthostatic hypotension)
C. Diminish dopamine metabolism through oxidative deamination
D. Is a selective inhibitor of monoamine oxidase type A (IMAO-A)
E. Is a selective inhibitor of monoamine oxidase type B (IMAO-B)
9.24. Levodopa may cause the following side effects:
   A. Peripheral dopaminergic and sympathomimetic side effects (cardiovascular, digestive)
   B. Paranoid state (at the long-term treatment with high doses)
   C. Habit (with decreasing the intensity and duration of effect) on long-term treatment (after approximately 2 years)
   D. Peripheral anticholinergic side effects (dry mouth, constipation, micturition disorders, cycloplegia with visual disturbances)
   E. "On-off" effect (high fluctuations of patient status during the day)

9.25. Which of the following antiparkinsonian drugs are among the anticholinergic drugs:
   A. Trihexyphenidyl
   B. Selegiline
   C. Levodopa
   D. Benztropine
   E. Procyclidine

Theme nr. 10
SYMPATHOMIMETIC AND SYMPATHOLITIC DRUGS

10.1. The following sympathomimetic drugs are indicated in peripheral circulatory hypertonic failure:
   A. Buphenine
   B. Adrenaline
   C. Bamethan
   D. Norepinephrine
   E. Isoxsuprine

10.2. The following sympathomimetic drugs can be used for tocolytic action:
   A. Fenoterol
   B. Naphazoline
   C. Terbutaline
   D. Adrenaline
   E. Ephedrine

10.3. Which of the following drugs are beta-2 adrenomimetics:
   A. Phenylephrine
   B. Orciprenaline
   C. Formoterol
   D. Ritodrine
   E. Methoxamine

10.4. Which of the following drugs present bronchodilator action?
   A. Xylometazoline
   B. Adrenaline
   C. Isoprenaline
   D. Naphazoline
   E. Prenalterol
10.5. The following drugs are given in cardiogenic shock and heart block:
A. Ephedrine
B. Dopamine
C. Dobutamine
D. Prenalterol
E. Oxymetazoline

10.6. The following drugs are beta-1 selective at the cardiac level:
A. Adrenaline
B. Phenylephrine
C. Dobutamine
D. Prenalterol
E. Methoxamine

10.7. Which of the following drugs can be used as nasal and ocular decongestant?
A. Adrenaline
B. Ephedrine
C. Isoxsuprine
D. Naphazoline
E. Terbutaline

10.8. The metabolic effects of sympathomimetic drugs are:
A. Renin release
B. Lipolysis in adipose tissue
C. Radial iris muscle contraction
D. Hepatic glycogenolysis
E. Glycogenolysis in skeletal muscle

10.9. Norepinephrine is indicated in:
A. Acute circulatory insufficiency hypotonic type
B. Serious collapse by metabolic causes
C. Pathology accompanied by acute arterial hypotension with values below 50 mmHg
D. Atherosclerosis
E. Acute circulatory insufficiency hypertonic type

10.10. The following statements are indications of adrenaline:
A. Serious allergic manifestations
B. Cardiac arrest at electrocuted, drowned
C. Asthma attack
D. Ischemic cardiopathy
E. Heart failure

10.11. Ephedrine has the following indications:
   A. Chronic and postural hypotension
   B. Decongestant of the nasal mucosa
   C. Heart block
   D. Ischemic cardiopathy
   E. Arrhythmias
10.12. Which of the following drugs present oxytocic action:
A. Ergotamine
B. Ergometrine
C. Methylergometrine
D. Ergotoxine
E. Nicergoline

10.13. Hormonal effects produced by reserpine are:
A. Anti-thyroxine
B. Hyperprolactinemia
C. Hypotonic action
D. Vasodilation, with a decrease in peripheral vascular resistance
E. Diminishing of psychomotor activity, aggressiveness

10.14. The neuroleptic type effects produced by reserpine are:
A. Decrease renin activity
B. Hypotermizant action
C. Clinical antipsychotic action
D. Increase parasympathetic tone
E. Diminishing psychomotor activity, aggressiveness

10.15. Tamsulosin pharmacodynamics involves:
A. Specific relaxation of smooth muscle of the prostate capsule, urinary ways, with decreased of resistance to urinary flow
B. Poor vascular smooth muscle relaxation, with weak trends for orthostatic hypotension
C. Potassium channel blockade
D. Preventing reuptake and concentration of NA in vesicles
E. Calcium channels blocking

10.16. Adverse reactions of side effects type given by beta blockers are:
A. Depressive phenomena after prolonged treatment
B. Cardiac decompensation, in cardiac patients with a compensation to limit
C. Psoriasiform rash type
D. Agranulocytosis
E. Lupus-like syndrome

10.17. Beta-blockers are indicated in:
A. Angina
B. Cardiac arrhythmias
C. Hypertension
D. Atrioventricular block
E. Decompensated heart failure

10.18. The mechanism of antiarrhythmic action of beta blockers, can be explained by:
A. Decrease of the excitability of contractile myocardium, with preventing of ectopic outbreaks appearance
B. Reducing the oxygen demand of the myocardium and consequently reducing the excitability caused by hypoxia
C. Reducing the need for oxygen of the heart during exercise
D. Lowering intraocular pressure by decreasing the formation of aqueous humor
E. Decreased cardiac output
10.19. Lipophilic beta adrenolytic drugs are characterized by:
A. Massive hepatic biotransformation
B. High digestive absorption
C. Relatively short half-life
D. Medium and long half-life
E. Reduced digestive absorption

10.20. Hydrophilic beta adrenolytic drugs are characterized by:
A. Renal excretion as unchanged form
B. Predominant liver elimination
C. Reduced p.o. bioavailability
D. Hepatic biotransformation and hepatic first-pass effect insignificant
E. High digestive absorption

10.21. Adrenaline has the following indications:
A. Associated to local anesthetics with vasodilator (procaine) side effect, to extend their local action duration and to reduce bleeding
B. In ischaemic cardiopathy
C. As a bronchodilator (in lack of beta-selective adrenomimetics) in asthma attack
D. In cardiac resuscitation (cardiac arrest at electrocuted, drowned)
E. Serious allergic symptoms (anaphylaxis, serum disease, Quincke edema)

10.22. Which of the following statements are true for naphazoline:
A. Is an alpha adrenolytic
B. Indicated exclusively by general route
C. At local administration more than a week appears self-limitation of the effect by tachyphylaxis installing
D. Alpha and beta adrenomimetic, alpha predominantly
E. Indicated exclusively local, as vasoconstrictor, in rhinitis and conjunctivitis

10.23. Which of the following sympathomimetics are adrenomimetics (with direct mechanism):
A. Isoprenaline
B. Adrenaline
C. Cocaine
D. Amphetamine
E. Phenylephrine

10.24. Depending on the pharmacotherapeutic utility, adrenomimetics are classified as follows:
A. General or local vasoconstrictors
B. Oxytocic
C. Bronchodilators
D. Peripheral vasodilators
E. Local anesthetics

10.25. Ephedrine may cause the following side effects:
A. Bronchodilation
B. Anxiety
C. Tremor
Theme 11
PARASYMPATHOMIMETICS. PARASYMPATHOLYTIC DRUGS

11.1. Muscarinic side effects are:
A. Dyspnoea and bronchial asthma crisis in asthmatics
B. Lacrimal hypersecretion
C. Accelerated transit
D. Muscle twitching
E. CNS stimulation

11.2. Specify which are the parasympathomimetics with direct action:
A. Pilocarpine
B. Fluostigmine
C. Methacholine
D. Paraoxon
E. Distigmine

11.3. Which of the following parasympathomimetics are irreversible anticholinesterases:
A. Pilocarpine
B. Edrophonium
C. Carbachol
D. Echotoiophate
E. Paraoxon

11.4. Neostigmine is indicated in:
A. States of intestinal atony
B. Urinary retention
C. Myasthenia gravis
D. Mechanical ileus
E. Parkinson's disease

11.5. Specify which of the following substances are reactivators of cholinesterase:
A. Oximes
B. Hydroxamic acids
C. Neostigmine
D. Pilocarpine
E. Echotoiophate

11.6. Central nicotinic side effects given by irreversible anticholinesterases are:
A. Anxiety
B. Insomnia
C. Seizures
D. Striated muscle twitching contractions
E. Depression of the respiratory center

11.7. The following effects are characteristic for activation of M3 (muscarinic) receptors:
A. Hypersecretion of bronchial glands
B. Lowering of intraocular pressure (at topical application)
C. Bradycardia  
D. Decreasing of conduction through A-V node and His bundle depression  
E. Gastric acid hypersecretion  

11.8. Side effects of nicotine are:  
A. Muscle twitching  
B. Hypertonia  
C. CNS stimulation  
D. Sweating  
E. Lacrimal hyposcretion  

11.9. Parasympathomimetics produce at the eye level:  
A. Active miosis  
B. Active mydriasis  
C. Passive mydriasis  
D. Decreased intraocular pressure (at topical application)  
E. Increased intraocular pressure  

11.10. Specify the antidote in intoxication with atropine:  
A. Adrenaline  
B. Flumazenil  
C. Pilocarpine  
D. Acetylcysteine  
E. Glucose  

11.11. The following drug substances are urinary antispasmodic:  
A. Emepronium  
B. Propiverine  
C. Pirenzepine  
D. Telenzepine  
E. Tropicamide  

11.12. The following drug substances are digestive antispasmodics:  
A. Propanthelene  
B. Fenpipramide  
C. Oxybutynine  
D. Tolterodine  
E. Ipratropium  

11.13. The following drug substances are gastric hyposcretory:  
A. Homatropine  
B. Emepronium  
C. Pirenzepine  
D. Telenzepine  
E. Propiverine  

11.14. Following parasympatholytics have bronchodilator action:  
A. Tropicamide  
B. Cyclopentolate  
C. Oxitropium  
D. Tiotropium
E. Ipratropium

11.15. Which of the following drugs presents mydriatic action?
A. Homatropine
B. Propantheline
C. Tropicamide
D. Telenzepine
E. Cyclopentolate

11.16. Parasympatholytics contraindications are:
A. Glaucoma
B. Gastric hypersecretion
C. Urinary retention
D. Atonic constipation
E. Prostate adenoma

11.17. Side effects of parasympatholytics are:
A. Dry mouth
B. Constipation
C. Lowering intraocular pressure
D. Blurred vision for near and photophobia (at the usage in ophthalmology)
E. Passive mydriasis

11.18. Scopolamine is useful in:
A. Preanesthesia
B. Parkinson
C. Motion sickness
D. Glaucoma
E. Prostate adenoma

11.19. Urinary antispasmodics (parasympatholytics) are indicated in:
A. Overactive bladder
B. Spastic neurogenic bladder
C. Diurnal enuresis
D. Urinary retention
E. Prostate adenoma

11.20. Atropine poisoning treatment consists in:
A. Gastric lavage
B. Administration of pilocarpine (10 mg s.c.) until returning of salivary secretion
C. Administration of barbiturates in the CNS excitation phase
D. Administration of flumazenil
E. Administration of adrenaline

11.21. Parasympatholytics have the following indications:
A. In ophthalmology, in fundus control
B. As gastric hyposcretory
C. As bronchodilators in asthma
D. Glaucoma
E. As antispasmodic in digestive colics and renal excretory
11.22. The following are guidelines for parasympatholytics administration, EXCEPT:
A. Urinary incontinence
B. Enuresis
C. Antispasmodic in digestive system colics and renal excretory
D. Urinary retention
E. Bronchodilators in asthma

11.23. Parasympatholytics have the following contraindications:
A. Atonic constipation
B. Urinary retention
C. Asthma
D. Glaucoma
E. Prostate adenoma

11.24. The following are guidelines for scopolamine, EXCEPT:
A. Glaucoma
B. Motion sickness
C. Mydriatic in ophthalmology
D. Parkinson's disease (more potent as atropine)
E. Preanesthesia associated with a strong opioid (morphine, hydromorphone)

11.25. The following are guidelines for pilocarpine, EXCEPT:
A. Acute congestive closed angle glaucoma (emergency treatment)
B. Iritis and irido-cyclites, alternating with mydriatics, to prevent adhesions between the iris and lens
C. Sialorrhea (salivary hypersecretion)
D. Chronic open-angle glaucoma
E. Poisoning with atropine (i.v. administration)

Theme nr. 12
STEROIDAL AND NONSTEROIDAL ANTIINFLAMMATORIES

12.1. Acetylsalicylic acid is indicated for:
A. Acute polyarticular rheumatism
B. Rheumatoid polyarthritis
C. Hemorrhagic diathesis
D. Hepatic failure
E. Gastrointestinal ulcer

12.2. The mechanism of action of ketoprofen consists in:
A. COX inhibition
B. LOX inhibition
C. Acetylcholine inhibition
D. Inhibition of active oxygen formation in the inflammatory focus
E. Impaired phagocytic function of mononuclear phagocytes

12.3. COX-2 specific blockers are:
A. Ibuprofen
B. Indomethacin
C. Celecoxib
D. Rofecoxib
E. Meloxicam

12.4. COX-2 selective blockers are:
A. Nimesulide
B. Celecoxib
C. Ibuprofen
D. Meloxicam
E. Etodolac

12.5. Meloxicam has the following characteristics, EXCEPT:
A. Increase the concentration of lithium in combination
B. Decrease inhibitory effect of ACE antihypertensives
C. Elimination is increased by cholestyramine
D. Indicated in rheumatoid polyarthritis
E. Is a COX2 specific blocker

12.6. Glucocorticoids works on carbohydrate metabolism by:
A. Stimulation of hepatic gluconeogenesis
B. Stimulation of hepatic glycogen formation and storage
C. Decrease glucose utilization in periphery
D. Promote lipolysis process
E. Stimulation of protein catabolism

12.7. Glucocorticoids are accumulated in inflamed tissue where:
A. Inhibit migration of leukocytes and phagocytic process
B. Stabilize capillaries and prevent their permeabilization
C. Reduce the formation of local edema
D. Maintain pressure vessel response to catecholamines
E. Stimulate proteic catabolism

12.8. Antiallergic action of glucocorticoids is explained by:
A. Inhibits the release of IL-2 by activated T lymphocytes
B. Inhibits the release of IL-1 and TNF-α by activated monocytes through antigen
C. Prevents the amplification of the immune response
D. IgE intervention
E. IgG intervention

12.9. The following glucocorticoids can be administered only by oral route:
A. Prednisone
B. Hydrocortisone sodium phosphate
C. Prednisolone
D. Hydrocortisone sodium succinate
E. Betamethasone

12.10. The following glucocorticoids are administered only on local route:
A. Fluocinolone acetonide
B. Medrison
C. Beclomethasone dipropionate
D. Prednisone
E. Prednisolone
12.11. The following corticosteroids are of natural origin:
A. Methylprednisolone
B. Beclomethasone
C. Hydrocortisone
D. Cortisone
E. Prednisone

12.12. The following glucocorticoids presents long action duration:
A. Hydrocortisone
B. Dexamethasone
C. Betamethasone
D. Cortisone
E. Prednisone

12.13. Glucocorticoids are used as substitution medication in:
A. Chronic adrenal insufficiency
B. Acute adrenal insufficiency
C. Severe inflammatory diseases
D. Alcoholic hepatitis
E. Congenital adrenal hyperplasia

12.14. Glucocorticoids are used as pharmacological agents in the following circumstances:
A. Lupus erythematosus
B. Subacute hepatic necrosis
C. Acute gouty arthritis
D. Acute adrenal insufficiency
E. Chronic adrenal insufficiency

12.15. Indications of glucocorticoids corresponding to antiallergic and anti-inflammatory action are:
A. Anaphylactic shock
B. Status asthmaticus
C. Immune haemolytic anemia
D. Rapidly progressive glomerulonephritis
E. Gouty arthritis

12.16. Glucocorticoids can:
A. Generate de novo steroid diabetes
B. Activate a latent diabetes
C. Worsen an manifest diabetes
D. Worsen status asthmaticus
E. Activate thrombocytopenic purpura

12.17. Indications of glucocorticoids based on immunosuppressant action are:
A. Acute leukemia in children
B. Alcoholic hepatitis
C. Allergic rhinitis
D. Idiopathic thrombocytopenic purpura
E. Malignant lymphomas
12.18. Glucocorticoids indications based on anti-inflammatory action are in the following severe inflammatory diseases:
A. Rheumatoid arthritis
B. Acute leukemia in children
C. Acute polyarticular reumatism
D. Acute gouty arthritis
E. Malignant lymphomas

12.19. Glucocorticoids are useful in following collagenosis:
A. Polymyositis
B. Acute disseminated lupus erythematosus
C. Lupus nephritis
D. Alcoholic hepatitis
E. Chronic active hepatitis

12.20. Glucocorticoids may be administrated in the following infectious states:
A. Severe typhoid fever with visceral complications
B. Serious infections accompanied by shock
C. Serious forms of tuberculosis
D. Virotic encephalitis
E. Disseminated lupus erythematosus

12.21. Which of the following statements regarding the pharmacological properties of ibuprofen are correct?
A. Can be administrated to patients with specific allergy or hypersensitivity to NSAIDs
B. p.o. rapid absorption, bioavailability over 80%
C. Efficacy in patients with rheumatoid arthritis is similar to acetylsalicylic acid (but below indomethacin and phenylbutazone)
D. Digestive disorders (nausea, vomiting, diarrhea, constipation, dyspeptic phenomena, epigastric pain, bleeding) occur more frequently than after acetylsalicylic acid
E. Have anti-inflammatory, analgesic, antipyretic properties

12.22. Specify which of the following statements concerning the drug hydrocortisone (cortisol) are false?
A. Marked fluid retention, by reference for corticosteroids
B. Is not active in local applications
C. No action on sodium and water retention
D. Active in local applications
E. Anti-inflammatory action is considered by reference for glucocorticoids

12.23. The following affirmations on prednisone are true, EXCEPT:
A. Lower mineralocorticoid effect compared to hydrocortisone
B. Is readily absorbed after oral administration
C. Antiinflammatory potency is higher than that of hydrocortisone
D. Effective in local administration
E. Average duration of action (12-36 hours)
12.24. Glucocorticoids have the following indications, EXCEPT:
   A. Collagenoses (acute disseminated lupus erythematosus, polyarteritis nodosa, etc)
   B. Kidney diseases (rapidly progressive glomerulonephritis)
   C. Severe inflammatory diseases (rheumatoid arthritis, acute polyarticular reumatism, acute gouty arthritis)
   D. Arterial hypertension
   E. Serious infections accompanied by shock

12.25. The mechanism of action of NSAIDs includes:
   A. Formation and action reduction of adhesion molecules by endothelial cells, leukocytes, platelets
   B. Biosynthesis reduction of prostaglandins by the inhibition of phospholipase A2
   C. Inhibition of inflammatory cells activation (such as polymorphonuclear neutrophils) with diminishing of the free radicals and endoperoxides formation
   D. Inhibition of prostaglandins biosynthesis by inhibition of cyclooxygenase (COX-1, COX-2)
   E. inhibition of inflammatory cell chemotaxis

**Theme nr. 13**

**ANTACIDS AND ANTIULCEROUS DRUGS**

13.1. Ulcer disease complications are:
   A. Upper digestive bleeding
   B. Perforation
   C. Penetration into neighboring organs
   D. Gastric ulcer malignancy
   E. Episodicity

13.2. Ulcer pain characteristics are:
   A. Rhythm
   B. Upper gastrointestinal bleeding
   C. Episodicity
   D. Perforation
   E. Periodicity

13.3. Predisposing genetic factors that increase the risk of developing ulcer disease are:
   A. Serum pepsinogen I (increased levels in duodenal ulcer)
   B. Helicobacter pylori
   C. Blood group O and nonsecretories (subjects which do not secrete the blood group antigen in gastric juice and in saliva) in duodenal ulcer
   D. Immunological groups HLA- B5 and HLA-B12
   E. NSAIDs

13.4. The ulcerogenetic mechanisms of Helicobacter pylori bacillus are:
   A. Direct cytotoxic mechanism over the gastric and duodenal mucosa cells (due citotoxines and enzymes secreted by Helicobacter pylori), followed by an inflammatory reaction
   B. Serum pepsinogen I
   C. Indirect maintenance mechanism of a gastric acid continuous hypersecretion (such as an acid rebound effect to alkaline pH created by the ammonia produced by the urease which secretes Helicobacter pylori)
D. Blood group O and nonsecretories
E. Immunological groups and HLA-B5, HLA-B12

13.5. Antacids are drugs that reduce the amount of hydrochloric acid in the stomach cavity through the following mechanism:
A. Chemical mechanism: neutralization reaction by double exchange
B. Physical mechanism: adsorption and protective film
C. Competitive antagonism to histamine
D. Blocking ATP-ase H + / K +, gastric parietal cell membrane enzyme, which represents the active transport system which realises the efflux of H + ions in exchange for K + ion influx
E. Reducing the vagal excitosecretory influence

13.6. Ethiopathogenic factors involved in the occurrence of gastric and duodenal ulcer are:
A. Helicobacter pylori
B. Genetic factors
C. Bloodstream
D. Increased vagal tone
E. Parietal cell sensitivity to gastrin

13.7. The following antiulcer drugs reduce the aggressive factors involved in the pathology of ulcer disease:
A. Mucosal protectors and regeneration stimulators
B. Local anesthetics
C. Antacids
D. Inhibitors of gastric secretion
E. Antispasmodic drugs

13.8. The following substances are used as an adjuvant to pharmacotherapy of ulcer disease:
A. Anesthesine (Benzocaine)
B. Diazepam
C. Amitriptyline
D. Ranitidine
E. Pirenzepine

13.9. Antacids are indicated in:
A. Hyperacid gastritis
B. Gastric and duodenal ulcer
C. Gastric bleeding and perforation
D. Acute abdomen
E. Reflux esophagitis

13.10. Antacids diminish the absorption of the following drugs:
A. Digoxin
B. Acetylsalicylic acid
C. Theophylline
D. Levodopa
E. Oral anticoagulants
13.11. Alkalisinant drugs increase renal elimination of the following medications:
A. Digoxin
B. Barbiturates
C. Salicylates
D. Theophylline
E. Phenothiazines

13.12. Sodium hydrogen carbonate increases the effect of the following drugs:
A. Amphetamine
B. Ephedrine
C. Barbiturates
D. Penicillins
E. Sulfonamides

13.13. Aluminum derivatives act by several mechanisms:
A. Neutralizing
B. Adsorbent
C. Stimulating PGE2 secretion
D. Antagonizing histamine
E. Blocking ATP-ase H+ / K+

13.14. Bismuth salts act by the following scheme:
A. Adsorbent
B. Neutralizing
C. Astringent
D. Stimulating the secretion of PGE2
E. Mechanical mucosal protector

13.15. Cimetidine is contraindicated in:
A. Duodenal ulcer
B. Gastric cancer
C. Gastric ulcer
D. Pregnancy
E. Reflux esophagitis

13.16. Prolonged treatment with omeprazole cause hypergastrinemic rebound effect
which in time can cause:
A. Cutaneous eruptions
B. Anaphylactic shock
C. Enterochromaffin cells hyperplasia
D. Carcinoid tumors (rat study)
E. Angioedema

13.17. The following drugs with antiulcer action are from the parasympatholytics group:
A. Propantheline
B. Pirenzepine
C. Nizatidine
D. Carbenoxolone
E. Colloidal bismuth subcitrate
13.18. Carbenoxolone presents the following side effects of aldosterone type:
A. Reabsorption of Na + and Cl- with release of K + and H +
B. Decreases the secretion of pepsin
C. Fluid retention with hypertension, cardiac decompensation, edema
D. Cardiac arrhythmias
E. Stimulates the secretion of mucus and bicarbonate

13.19. Cytoprotective effect of misoprostol is achieved by:
A. Histamine antagonizing
B. Increasing the secretion of mucus and sodium bicarbonate
C. Blocking ATPase pump H + / K +
D. Improving local circulation (vasodilator effect)
E. Promoting mucosal repair processes

13.20. Octreotide is indicated for:
A. Gastric ulcer
B. Acromegaly
C. Gastroenteropancreatic endocrine tumors
D. Reflux esophagitis
E. Hyperacid gastritis

13.21. Which of the following drugs are H2 antihistamines?
A. Cimetidine
B. Misoprostol
C. Lansoprazole
D. Ranitidine
E. Omeprazole

13.22. Parasympatholytics inhibit gastric secretion by the following mechanism:
A. Muscarinic cholinergic receptors activation M1, M3
B. Blocking histamine H2 receptors
C. Inhibition of carbonic anhydrase enzyme
D. Blocking muscarinic cholinergic receptors M1, M3
E. Histamine H2 receptor activation

13.23. Specify the mechanism of action of omeprazole:
A. Blocking H2 histamine receptors
B. Diminishes active transfer of H + ions, extracellular, in gastric cavity, by inhibiting the enzyme H + / K + - ATPase
C. Blocking cholinergic muscarinic receptors M1, M3
D. Inhibits the carbonic anhydrase enzyme
E. Activates cholinergic muscarinic receptors M1, M3

13.24. Which of the following situations is not an indication of omeprazole:
A. Enterochromaffin cell hyperplasia
B. Evolutive duodenal ulcer
C. Evolutive gastric ulcer
D. Zollinger-Ellison syndrome
E. Reflux esophagitis
13.25. Which of the following actions belong to acetazolamide:
A. Diuretic action, with urine alkalization
B. Lowering intraocular pressure in glaucoma
C. Blocking H2 histamine receptors
D. Antiepileptic action, in the “petit mal” epilepticus
E. Inhibit gastric secretion

**Theme nr.14**
**ANTIHYPERTENSIVES**

14.1. Venous factors that influence the blood pressure are:
A. Vascular diameter
B. Arteriolar resistance
C. Venous capacity
D. Volemia
E. Viscosity

14.2. Humoral mechanism that controls the blood pressure includes the following endogenous vasoconstrictor substances:
A. Bradykinine
B. Angiotensine II
C. Vasopressin
D. Kalidine
E. Histamine

14.3. Which of the following drugs with antihypertensive action are from beta adrenolytic group:
A. Propranolol
B. Betaxolol
C. Moxonidine
D. Bisoprolol
E. Rilmenidin

14.4. Which of the following drugs are AT1 antagonists of angiotensin II:
A. Enalapril
B. Candesartan
C. Valsartan
D. Captopril
E. Perindopril

14.5. In HTA monotherapy, the first choice are:
A. Calcium channel blockers
B. Prazosin
C. Diuretics
D. Beta blockers
E. Clonidine
14.6. The second step in the pharmacotherapy of hypertension involves the association of two antihypertensive. The following combinations are the first choice, EXCEPT:
A. Diuretic + beta blockers
B. Diuretic + ACE inhibitors
C. Diuretic + alfa blockers
D. Diuretic + clonidine
E. Calcium channel blockers + ACE inhibitors

14.7. Hypertension pharmacotherapy in the elderly patients as monotherapy use as the first choice:
A. Thiazide diuretic or furosemide
B. Nifedipin
C. Clonidine
D. ACE inhibitors
E. Beta blockers

14.8. In pheochromocytoma is administered:
A. Beta blockers
B. Calcium channel blockers
C. Phentolamine
D. ACE inhibitors
E. Nitroprusside

14.9. The first choice drugs to hypertensive patients with hyperkalemia are:
A. Antaldosteronic diuretics
B. Potassium sparing diuretics
C. Losartan
D. Candesartan
E. Enalapril

14.10. Associations recommended by WHO-ISH for hypertension treatment are:
A. Tiazide diuretic + beta blockers
B. Tiazide diuretic + ACE inhibitors (or AT-1antagonist)
C. Beta blockers + alfa blockers
D. Calcium channel blockers + ACE inhibitors
E. Clonidine + beta blockers

14.11. Hidralazins are used in the following situations:
A. Moderate and severe hypertension forms
B. i.v. in hypertensive emergencies
C. Heart failure
D. Tachycardia
E. Ischemic heart disease

14.12. Sodium nitroprusside acts by the following mechanism:
A. Arterioles and venules vasodilatation with short hypotension
B. Decreases post and preload (favorably in the cardiac failure)
C. Increases the secretion of renin
D. Blocks the calcium channels L-type
E. Blocks beta receptors
14.13. Calcium channel blockers are the first choice in hypertension accompanied by:
A. Angor pectoris
B. Asthma
C. Dyslipidemia
D. Congestive heart failure
E. AV block

14.14. Which of the following ACE inhibitors are prodrugs:
A. Enalapril
B. Fosinopril
C. Lisinopril
D. Captopril
E. Perindopril

14.15. Specify the antihypertensive drugs which belong to the group of ganglionic blockers:
A. Reserpine
B. Guanethidine
C. Guanadrel
D. Trimetafan
E. Alphamethyldopa

14.16. Specify the drugs with antihypertensive action which belongs to the group of musculotrope vasodilators:
A. Sodium nitroprusside
B. Hidralazine
C. Reserpine
D. Doxazosin
E. Dihidralazine

14.17. Specify the antihypertensive drugs which are alpha adrenolytics:
A. Propranolol
B. Prazosin
C. Atenolol
D. Doxazosin
E. Terazosin

14.18. Clonidine is indicated in:
A. Hypertension with glaucoma
B. Combination with beta adrenolytic drugs
C. Hypertension all the forms, monotherapy or in association
D. Gestational hypertension
E. Drivers

14.19. Specify the drug substances with antihypertensive action that act on imidazole II receptors:
A. Nifedipine
B. Moxonidine
C. Verapamil
D. Rilmenidine
E. Carvedilol
14.20. Nifedipine presents the following effects:
A. Intense coronaryodilation with antianginal effect
B. Reflex tachycardia, consecutive of hypotension
C. Weak bronchodilation
D. Increases the contractility of myometrium
E. Pronounced bronchoconstriction

14.21. Which of the following drugs with antihypertensive action are beta adrenolytics?
A. Atenolol
B. Metoprolol
C. Clonidine
D. Moxonidine
E. Sotalol

14.22. Which of the following drugs with antihypertensive action are alfa adrenolytics?
A. Terazosin
B. Doxazosin
C. Fendiline
D. Verapamil
E. Prazosin

14.23. Specify the antihypertensive drugs which belongs to the group of ganglionic blockers:
A. Rilmenidine
B. Trymefan
C. Clonidine
D. Moxonidine
E. Nifedipine

14.24. Which of the following drugs with antihypertensive action belong to vasodilators group?
A. Diltiazem
B. Verapamil
C. Dihydralazine
D. Atenolol
E. Nifedipine

14.25. Specify the drug that does not belong to the group of calcium channel blockers nifedipine type:
A. Amlodipine
B. Fendiline
C. Nicardipine
D. Diltiazem
E. Nisoldipine

**Theme nr.15**
**ANTIALLERGIC DRUGS**

15.1. Which of the following allergens are drugs:
A. Egg white
B. House dust
C. Insuline
D. Protamine
E. Atmospheric fungus

15.2. In type IV allergic reactions are involved:
A. Prostaglandins
B. IgM
C. Lymphokines
D. IgE
E. IgG

15.3. After prolonged glucocorticoid treatment (over 20-30 days) following side effects occur:
A. Osteoporosis
B. Reducing the resistance to infection
C. Eye injury
D. Increase sensitivity of beta receptors to beta adrenergic bronchodilators
E. Decrease fixation of IgE

15.4. Immunological histamine releasing factors are:
A. Cytokines: IL-1, IL-3, IL-8
B. Substance P in inflammation
C. The cold
D. The heat
E. The sunlight

15.5. H1 receptor activation leads to the following effects:
A. Bronchoconstriction
B. Vasodilation
C. Cardiac depression
D. Increase in capillary permeability
E. Regulation of neurotransmitter release

15.6. The activities mediated by histamine H1 receptor are:
A. Smooth muscle contraction
B. Gastric acid secretion
C. Inhibition of synaptic neurotransmission
D. Decrease of conduction time in AV node
E. Pruritus

15.7. Histamine shock appears to high doses of histamine and it is characterized by:
A. Progressive and profound decrease in blood pressure
B. Tachycardia
C. Bronchoconstriction
D. Bronchodilation
E. Bradycardia

15.8. Which of the following effects uncorrelated with H1 receptor blockade are anticholinergic effects:
A. Dryness of the mouth and mucous membranes
B. Urinary retention
C. Antiemetic action
D. Potentiation of central depressant effect of alcohol
E. Local anesthetic effect

15.9. Acute intoxication with H1 antihistamines are characterized by:
A. Sinus tachycardia
B. Pruritus
C. Urinary retention
D. Dilated pupils
E. Sphincter relaxation

15.10. The following drugs are the first generation antihistamines, EXCEPT:
A. Chlorpheniramine
B. Chlorphenoxamine
C. Loratadine
D. Clemastine
E. Promethazine

15.11. The following drugs are antihistamines of IInd generation, EXCEPT:
A. Astemizol
B. Clemastine
C. Loratadine
D. Azelastine
E. Cetirizine

15.12. The following drugs may increase the plasma concentrations of terfenadine:
A. Erytromicine
B. Glucose
C. Ketoconazole
D. Distilled water
E. Cimetidine

15.13. Chlorphenoxamine is contraindicated in:
A. Allergic rhinitis
B. Allergic conjunctivitis
C. Allergic dermatitis
D. Glaucoma
E. Prostate adenoma

15.14. The following statements characterize clemastine:
A. High potency
B. Prolonged effect
C. Low potency
D. Short duration of action
E. Is administered in serum sickness

15.15. Which of the following antihistaminic drugs have prolonged effect (8-12 hours):
A. Chlorpheniramine
B. Promethazine
C. Clemastine
D. Chloropyramine
E. Chlorphenoxamine
15.16. Which of the following antihistamines may give as adverse effect "torsades des pointes":
A. Loratadine
B. Clemastine
C. Astemizol
D. Terfenadine at therapeutic doses
E. Promethazine

15.17. What are antihistamines that does not give sedation effect:
A. Promethazine
B. Loratadine
C. Terfenadine
D. Clemastine
E. Chlorpheniramine

15.18. Specify the medicine belongs antihistamines drugs group with central muscle relaxant action:
A. Loratadine
B. Astemizole
C. Chlorphenoxamine
D. Terfenadine
E. Promethazine

15.19. Specify the drug with antihistamine action which belongs from phenothiazine group:
A. Clemastine
B. Astemizole
C. Promethazine
D. Terfenadine
E. Loratadine

15.20. The following statements characterize promethazine:
A. Presents significant sedative-hypnotic effects
B. Anticholinergic effects
C. Analgesic effects
D. Local anesthetic effects
E. Not cross the blood-brain barrier

15.21. Which of the following histamine release factors are chemical factors?
A. Substance P in inflammation
B. Dextrans
C. Morphine
D. d-Tubocurarine
E. Contrast agents

15.22. Which of the following histamine release factors are physical factors?
A. Cold
B. Sunlight
C. Injuries
D. Dextrans
E. Burns
15.23. Which of the following statements are true for chlorphenoxamine?
A. Can be administrated to drivers
B. Central muscle relaxant
C. Antiparkinsonian
D. Contraindicated in glaucoma
E. Contraindicated in prostate adenoma

15.24. Which of the following statements is not true for histamine?
A. Decreases gastric secretion
B. Is considered one of the most important mediators of allergy and inflammation
C. Derived from the decarboxylation of histidine
D. Is a biogenic amine
E. Is found in mast cells

15.25. Which of the following statements is true for clemastine?
A. In injectable administration may cause dizziness
B. The 1st generation of antihistaminic drugs
C. Exhibits an antiemetic action
D. The IIrd generation of antihistaminic drugs
E. Indicated in allergic rhinitis

Theme nr. 16
ANTIASTHMATICS

16.1. The following drugs with antiasthmatic action belong to the anti inflammatory group:
A. Ketotifen
B. Fluticasone
C. Fenspiride
D. Formoterol
E. Oxitropium

16.2. For the long term control in mild persistent asthma drugs for first line are:
A. Antiinflammatory inhalatory corticosteroids (small doses)
B. Theophylline retard
C. Montelukast
D. Chromones inhibitors of degranulation
E. Inhaled beta-2 adrenergic

16.3. Routes of administration used in asthma are:
A. Inhalation, in the prophylaxis and therapy of asthma crisis
B. Sublingual, in immediate prophylaxis and therapy of asthma crisis
C. p.o., in long term prophylaxis
D. By injection (s.c., i.v., i.m.) in therapy of asthma crisis
E. p.o. in therapy of asthma crisis

16.4. The following drugs are contraindicated to asthmatics:
A. Acetylsalicylic acid
B. Morphine
C. Cephalosporins
D. Glucocorticoids
E. Penicillins

16.5. The following adrenomimetic bronchodilators are part of the IIIrd generation:
A. Salbutamol
B. Fenoterol
C. Adrenaline
D. Isoprenaline
E. Terbutaline

16.6. The following bronchodilators present short duration of action:
A. Adrenaline
B. Salmeterol
C. Isoprenaline
D. Fenoterol
E. Isoetharine

16.7. The following bronchodilators are parasympatholytics:
A. Fenoterol
B. Ipratropium
C. Oxitropium
D. Tiotropium
E. Terbutaline

16.8. At high doses, tiotropium may give the following side effects:
A. Constipation
B. Mouth dryness
C. Tachycardia
D. Urinary retention
E. Bronchoconstriction

16.9. Antiasthmatic effect of theophylline is the result of the following actions:
A. Bronchodilator
B. Antiinflammatory
C. Bronchoconstrictor
D. Immunomodulator of reactions induced by allergens
E. Analgesics

16.10. The CNS stimulatory effect of teophiline could intervene favorable in asthma with nocturnal exacerbations, frequent through:
A. Reducing of profound sleep, which is accompanied by the increasing of parasympathetic tone which favor the nocturnal crisis of bronchospasm
B. Stimulation of ciliary mucus clearance
C. Inhibition of basophils, mast cells degranulation and their releasing
D. Stimulation of bulbar respiratory center, with increasing it’s reactivity to carbon dioxide and increasing respiratory minute volume
E. Inhibits the leukotriene LTB4 from macrophages
16.11. The fast i.v. administration of theophylline leads to:
A. Gastric irritation
B. Arrhythmias
C. Convulsions
D. Sudden death
E. Gastric hypersecretion

16.12. Theophylline is contraindicated in:
A. COPD
B. Epilepsy
C. Asthmatic bronchitis
D. Myocardial failure
E. Asthma

16.13. Pathophysiological implications of Cys-LT in asthma resulted from Cys-LT1 receptor activation are:
A. Bronchoconstriction
B. Bronchial mucus hypersecretion
C. Bronchodilation
D. Increase capillary permeability
E. Increase infiltration of eosinophils and basophils in airways

16.14. The following drugs are inhibiting degranulation of mast cells:
A. Cromoglicic acid
B. Fenspiride
C. Sodium cromoglycate
D. Nedocromil
E. Oxitropium

16.15. Inhibitors of mast cells degranulation acts through the following mechanism:
A. Stabilizing the mast cell membrane sensitized with prevent releasing of bronchoconstriction, inflammation and anaphylaxia mediators
B. Selective and potent inhibition of 5-LOX
C. Competitive blocking of the Cys-LT receptors
D. Activation of beta 2-adrenergic receptors
E. Blocking of cholinergic M3 receptor

16.16. The following compounds acts by competitive blocking to the Cys-LT receptors:
A. Fenspiride
B. Zileuton
C. Montelukast
D. Zafirlukast
E. Theophylline

16.17. By local administration of corticosteroids, in asthma appear the following side effects:
A. Reversible dysphonia
B. Respiratory mucosa atrophy
C. Capillary fragility
D. Acne
E. Candidosis
16.18. In asthma, chronic administration of systemic corticosteroids leads to the following more frequently side effects:
A. Candidosis
B. Acne
C. Hypokalemia
D. Capillary fragility
E. Myopathy

16.19. In asthma, chronic administration of systemic corticosteroids leads to the following more rarely side effects:
A. Steroid diabetes
B. Capillary fragility
C. Growth retardation in children
D. Acne
E. Mental disorders

16.20. The systemic glucocorticoids with intravenous administration (i.v.) are first line drugs in:
A. Severe attacks of asthma
B. Severe chronic asthma refractory to inhaled corticosteroids
C. Status asthmaticus
D. Corticodependent severe chronic asthma
E. Mild crisis of asthma

16.21. Which of the following bronchodilators are musculotrope type:
A. Salbutamol
B. Aminophylline
C. Theophylline
D. Adrenaline
E. Zileuton

16.22. Which of the following bronchodilators is NSAID:
A. Nedocromile
B. Zileuton
C. Fluticasone
D. Fenspiride
E. Beclomethasone

16.23. Which of the following adrenomimetic bronchodilators are the IIIrd generation:
A. Adrenaline
B. Salbutamol
C. Ephedrine
D. Terbutaline
E. Isoprenaline

16.24. Which of the following adrenomimetic bronchodilators present long action (>12 hours):
A. Adrenaline
B. Isoprenaline
C. Salmeterol
D. Orciprenaline
E. Formoterol

16.25. Which of the following drugs are contraindicated in patients with asthma disease:
   A. Adrenaline
   B. Barbiturics
   C. Morfine
   D. Propranolol
   E. Pilocarpine

**Theme nr. 17**
**ANTITUSSIVES, EXPECTORANTS**

17.1. Peripherally acting substances used in cough pharmacotherapy are:
   A. Codeine
   B. Expectorants
   C. Antiseptics and nasal decongestants
   D. Glaucine
   E. Oxeladine

17.2. Inhibitors of cough centers are:
   A. Codeine
   B. Oxeladine
   C. Carbocysteine
   D. Dextromethorfan
   E. Acetylcysteine

17.3. Which of the following drugs with antitussive action are opioids:
   A. Codeine
   B. Oxeladine
   C. Noscapine
   D. Clofedanol
   E. Dextromethorfan

17.4. The cough center is located in:
   A. Medulla
   B. Midbrain
   C. Bronchial smooth muscles
   D. Bridge brain
   E. Intercostal muscles

17.5. Which of the following statements are true for codeine:
   A. Through metabolism result morphine (active metabolite)
   B. Diffuses through the placenta and breast milk
   C. Antittusive effect occur at higher doses than analgesic effect
   D. Stimulates the bronchial secretions
   E. Analgesic effect is weaker than of morphine

17.6. Which of the following statements are false for codeine:
   A. Increase the intrabile pressure, as a consequence of Oddi sphincter spasm
   B. Inhibitory effect of bulbar respiratory center is almost three time powerful compared to morphine
   C. Inhibitory effect of bulbar respiratory center is weaker than morphine
D. Cause convulsions in children
E. Antitussive effect is weaker than morphine

17.7. The following statements are false for codeine, EXCEPT:
   A. Decrease the intrabule pressure
   B. Anticonvulsant effect in children
   C. Antitussive effect occurs at lower doses than the analgesic effect
   D. Not diffuse through the placenta
   E. Via metabolism result inactive metabolites

17.8. In which of the following situations morphine is indicated as antitussive:
   A. Lung cancer
   B. Ribs fractures
   C. Of first choice in dry irritating cough in common cold
   D. Pneumothorax
   E. Pulmonary infarct

17.9. Which of the following central antitussives are not opioids:
   A. Butamirate
   B. Codeine
   C. Pentoxyverine
   D. Oxeladine
   E. Clophedanol

17.10. Which of the following antitussives are used in irritating and nonproductive cough:
   A. Pentoxyverine
   B. Oxeladine
   C. Clobutinol
   D. Acetylcysteine
   E. Codeine

17.11. Expectorants produce fluidisation of the sputum through:
   A. Inhibition of bronchial glands secretion
   B. Modification of the physico-chemical properties of viscous secretion
   C. Inhibition of sputum elimination mechanisms
   D. Increase the bronchial glands secretion
   E. Stimulating of the sputum elimination mechanisms

17.12. Secretostimulants which acts by mixed mechanism are:
   A. Guaiacol derivatives
   B. Sodium benzoate
   C. Trypsin
   D. Bromhexine
   E. Ammonium salts

17.13. Bronchosecretolytics which act by biochemical mechanism are:
   A. Trypsin
   B. Acetylcysteine
   C. Tyloxapol
   D. Alphachimotripsin
   E. Bromhexine
17.14. Which of the following bronchosecretolytics action by chemical mechanism:
   A. Bromhexine
   B. Acetylcysteine
   C. Ambroxol
   D. Alphachimotripsin
   E. Carbocysteine

17.15. Which of the following bronchosecretolytics act by mucoregulatory mechanism:
   A. Bromhexine
   B. Alphachimotripsin
   C. Sodium iodide
   D. Sodium benzoate
   E. Ambroxol

17.16. Which of the following bronchosecretolytics have physical-chemical mechanism (to reduce surface tension):
   A. Bromhexine
   B. Ambroxol
   C. Tyloxapol
   D. Acetylcysteine
   E. Carbocysteine

17.17. Which of the following therapeutic methods with expectorant value is non-medicamentous:
   A. Saponins from Primula species administered p.o.
   B. Inhalation of hot water vapors or aerosols in a isotonic or hypertonic sodium chloride solution
   C. Amonium salts administered p.o.
   D. Iodides administered p.o.
   E. Sodium benzoate administered p.o.

17.18. Which of the following statements are true for ammonium salts:
   A. Stimulant effect on the CNS
   B. Contraindicated in acute bronchitis
   C. Contraindicated in gastric-duodenal ulcer
   D. Indicated in acute bronchitis
   E. Contraindicated in epilepsy

17.19. Which of the following situation are contraindications of iodides:
   A. Acute pulmonary congestive states
   B. Gastric-duodenal ulcer
   C. Chronic bronchitis
   D. Sensitizing to iodine
   E. Hyperthyroidism

17.20. Which of the following statements represent interdicted associations for acetylcysteine:
   A. Cyclophosphamide
   B. Tetracycline
   C. Paracetamol intoxication
   D. Erythromycin
   E. Antitussives (in intense cough)
17.21. Which of the following expectorants may be used as antidote in paracetamol intoxication:
   A. Bromhexine
   B. Ambroxole
   C. Acetylcysteine
   D. Ammonium chloride
   E. Sodium benzoate

17.22. Which of the following expectorants is indicated in uropathy caused by cyclophosphamide:
   A. Acetylcysteine
   B. Ambroxole
   C. Bromhexine
   D. Sodium benzoate
   E. Sodium iodide

17.23. Which of the following expectorants have active metabolites:
   A. Carbocysteine
   B. Bromhexine
   C. Ambroxole
   D. Guaifenesin
   E. Tyloxapol

17.24. Which of the following expectorants are eliminated by salivary secretion:
   A. Ambroxole
   B. Ammonium chloride
   C. Iodides
   D. Carbocysteine
   E. Bromhexine

17.25. Which of the following expectorants have also diuretic action:
   A. Acetylcysteine
   B. Ambroxole
   C. Bromhexine
   D. Ammonium chloride
   E. Sodium benzoate

   **Theme nr 18**
   **DIURETICS**

18.1. Which of the following drugs with diuretic action are thiazides:
   A. Hydrochlorothiazide
   B. Furosemide
   C. Polythiazide
   D. Cyclopenthiazide
   E. Ethacrynic acid

18.2. Which of the following drugs with diuretic action inhibits the reabsorption of sodium in the loop of Henle cortical terminal segment:
   A. Clopamide
   B. Furosemide
   C. Hydrochlorothiazide
   D. Xipamide
E. Ethacrynic acid

18.3. Which of the following drugs with diuretic action are inhibitors of carbonic anhydrase:
   A. Methazolamide
   B. Hydrochlorothiazide
   C. Ethacrynic acid
   D. Acetazolamide
   E. Xipamide

18.4. Which of the following drugs are competitive antagonists of aldosterone:
   A. Canrenone
   B. Triamterene
   C. Spironolactone
   D. Amiloride
   E. Furosemide

18.5. Which of the following drugs are the effect antagonists of aldosterone:
   A. Amiloride
   B. Furosemide
   C. Triamterene
   D. Canrenone
   E. Spironolactone

18.6. Which of the following substances with diuretic action are osmotic diuretics:
   A. Furosemide
   B. Indapamide
   C. Manitol
   D. Hydrochlorothiazide
   E. Triamterene

18.7. Which of the following drugs with diuretic action remove potassium:
   A. Hydrochlorothiazide
   B. Triamterene
   C. Spironolactone
   D. Canrenone
   E. Amiloride

18.8. Which of the following drugs with diuretic action retain potassium:
   A. Spironolactone
   B. Canrenone
   C. Furosemide
   D. Triamterene
   E. Amiloride

18.9. Which of the following drugs with diuretic action present high efficacy:
   A. Acetazolamide
   B. Indacrinone
   C. Spironolactone
   D. Furosemide
   E. Ethacrynic acid
18.10. Which of the following drugs with diuretic action present low efficacy:
   A. Canrenone
   B. Spironolactone
   C. Ethacrynic acid
   D. Triamterene
   E. Acetazolamide

18.11. Which of the following drugs with diuretic action present short action:
   A. Furosemide
   B. Polythiazide
   C. Chlorthalidone
   D. Ethacrynic acid
   E. Indapamide

18.12. Which of the following drugs with diuretic action present long action:
   A. Ethacrynic acid
   B. Polythiazide
   C. Indapamide
   D. Spironolactone
   E. Cyclothiazide

18.13. Which of the following situation represent the electrolyte and acid-base imbalances resulting from treatment with diuretics:
   A. Hypokalemia
   B. Hyperkalemia
   C. Hypomagnesemia
   D. Hyperazotemia
   E. Hyperchloremic acidosis

18.14. In acute pulmonary edema the drug of first choice is:
   A. Furosemide oral administration, in high doses
   B. Furosemide, i.v.
   C. Hydrochlorothiazide
   D. Spironolactone
   E. Xipamide

18.15. In which of the following situations mannitol is administered by intravenous route (i.v.):
   A. Cerebral edema
   B. Acute congestive glaucoma
   C. Acute renal failure
   D. Acute pulmonary edema
   E. Liver cirrhosis

18.16. Which of the following are indications of hydrochlorothiazide:
   A. Alkalosis
   B. Nephrogenic diabetes insipidus
   C. Pregnancy
   D. Urinary oxalate stones
   E. High blood pressure
18.17. Antidiuretic effect of hydrochlorothiazide consists in:
   A. Inhibition of phospholipase A2
   B. Inhibition of angiotensin converting enzyme
   C. Inhibition of phosphodiesterase with increase of AMPc concentration, mediator of which depends that water permeability of the distal and collecting tubules
   D. Stimulation of phosphodiesterase, with decrease of AMPc concentration, mediator of which depends that water permeability of the distal and collecting tubules
   E. Stimulation of phospholipase C

18.18. Furosemide is indicated in:
   A. Pregnancy
   B. Breastfeeding
   C. Acute pulmonary edema
   D. Brain edema
   E. Barbiturate intoxication

18.19. Acetazolamide is used as:
   A. Diuretic
   B. In renal failure with anuria
   C. In glaucoma
   D. Gastric hyposcretory
   E. In epilepsy

18.20. Spironolactone is contraindicated in:
   A. Resistant edema, in combination with furosemide
   B. Hypokalemia
   C. Severe hepatic failure
   D. Edema with hyperaldosteronism
   E. Breastfeeding

18.21. Which of the following substances are active metabolites of spironolactone:
   A. Hydrochlorothiazide
   B. Canrenone
   C. Triamterene
   D. Canrenonic acid
   E. Amiloride

18.22. Which of the following statements is false for hydrochlorothiazide:
   A. Is a diuretic drug
   B. Is an antihypertensive drug
   C. Is antidiuretic drug
   D. Decrease glycemia
   E. Increase toxicity of lithium salts

18.23. Which of the following statements is true for indapamide:
   A. Loop diuretic
   B. Short duration of action
   C. Long duration of action
   D. Inhibits carbonic anhydrase
   E. Presents hyperglycaemic activity
18.24. Diuretics may act through the following mechanisms:
   A. Inhibition of sodium reabsorption in the terminal segment of Henle loop
   B. Stimulation of sodium reabsorption in the ascendent segment of Henle loop
   C. Stimulation of carbonic anhydrase
   D. Inhibition of sodium reabsorption in the ascendent segment of Henle loop
   E. Inhibition of carbonic anhydrase

18.25. Which of the following statements are true for ethacrynic acid:
   A. Loop diuretics
   B. First choice in acute pulmonary edema
   C. Ototoxicity with reversible or permanent deafness
   D. Diuretic belonging to thiazidic diuretics group
   E. Aldosterone antagonist effect