

Thesis of Pharmacology (AOK-KA 230) Final Examination

I./ General pharmacology

- I/1. Drug-receptor interactions. Receptor theory.
- I/2. Binding of drugs.
- I/3. Dose-response relations: affinity, specific activity.
- I/4. Location and types of receptors.
- I/5. Passage of drugs across cellular membranes.
- I/6. Passage of drugs across specialized membranes.
- I/7. Principles of pharmacokinetics: half life, volume of distribution, clearance.
- I/8. Drug absorption: enteral administration of drugs.
- I/9. Drug absorption: parenteral administration of drugs.
- I/10. Distribution of drugs in the body.
- I/11. Excretion of drugs.
- I/12. Biotransformation of drugs.
- I/13. Drug interactions: Pharmacokinetic interactions.
- I/14. Pharmacokinetic problems during long-term drug treatment.
- I/15. Dosage schedules of drugs, therapeutic blood level.
- I/16. Drug effectiveness, therapeutic index.
- I/17. Factors influencing the safety and effectiveness of drugs: biological variations.
- I/18. Side effects: drug allergy and drug idiosyncrasy.
- I/19. Drug interactions: synergism.
- I/20. Drug interactions: antagonism.
- I/21. Cumulation, tolerance and tachyphylaxis.
- I/22. Pharmacogenetics: individual response to drugs.
- I/23. Contemporary drug abuse.
- I/24. Development of new drugs – Preclinical investigations.
- I/25. Development of new drugs – Clinical investigations.

II/ Autonomic nervous system

- II/1. General aspects of neuropharmacology: Sites of action of chemical mediators.
- II/2. Cholinergic responses and drugs mimicking cholinergic nerve stimulation.
- II/3. Adrenergic responses and drugs mimicking adrenergic nerve stimulation.
- II/4. Anatomy of the cholinergic system, chemical mediators, targets for drug action.
- II/5. Cholinergic receptors.
- II/6. Directly acting parasympathomimetic agents.
- II/7. Indirectly acting parasympathomimetic agents.
- II/8. Parasympatholytic agents.
- II/9. Ganglionic stimulants.
- II/10. Ganglionic blocking agents.
- II/10. Anatomy of adrenergic system, chemical mediators, targets for drug action.
- II/11. Adrenergic receptors.
- II/13. Drugs acting on the synthesis, metabolism, storage and release of norepinephrine.
- II/14. Directly acting sympathomimetics – Alpha-1-adrenoceptor agonists.
- II/15. Directly acting sympathomimetics - Beta-adrenoceptor agonists.
- II/16. Indirectly acting sympathomimetics.
- II/17. Adrenergic receptor blocking agents – Alpha-sympatholytic drugs.
- II/18. Adrenergic receptor blocking agents – Beta-sympatholytic drugs.
- II/19. Directly acting sympathomimetics – Alpha-2-adrenoceptor agonists.
- II/20. Gastrointestinal smooth muscle relaxants.
- II/21. Anatomy of the innervation of striated muscle, targets for drug action.
- II/22. Neuromuscular blocking agents - non-depolarizing agents.
- II/23. Neuromuscular blocking agents - depolarizing agents.
- II/24. Local anesthetics.
- II/25. Drugs acting on the uterus.

III/ Central nervous system

- III/1. Uptake, distribution and potency of inhalation anesthetics.
- III/2. Stages of anesthesia. Pharmacologic effects of anesthetics.
- III/3. Inhalational anesthetics.
- III/4. Intravenous anesthetics.
- III/5. Premedication of general anesthesia.
- III/6. Drugs acting on opioid receptors: strong agonists.
- III/7. Drugs acting on opioid receptors: intermediate agonists.
- III/8. Drugs acting on opioid receptors: antagonists.
- III/9. Nonsteroidal anti-inflammatory drugs: mechanism of action, indications, side effects.
- III/10. Nonsteroidal anti-inflammatory drugs: salicylates, salicylate-like analgesics.
- III/11. Nonsteroidal anti-inflammatory drugs: non-salicylate derivatives.
- III/12. Hypnotic drugs: drugs acting on the benzodiazepine receptors.
- III/13. Hypnotic drugs: drugs acting on other than benzodiazepine receptors.
- III/14. Antiepileptic drugs.
- III/15. Antipsychotic drugs: Pharmacologic effects and adverse effects.
- III/16. Antipsychotic drugs: Classification of agents, examples.
- III/17. Anxiolytic (anti-anxiety) drugs.
- III/18. Skeletal muscle depressants acting on the spinal cord. (Centrally acting muscle relaxants).
- III/19. Antiparkinson drugs.
- III/20. Xanthine derivatives.
- III/21. Psychomotor stimulants and anorectics.
- III/22. Psychotomimetic, hallucinogenic agents.
- III/23. Antidepressant drugs: MAO inhibitors.
- III/24. Antidepressant drugs: non-MAO inhibitors.
- III/25. Antihistamines: H1 and H2 receptor antagonists.

IV/ Cardiovascular system

- IV/1. Drugs inhibiting the renin-angiotensin system.
- IV/2. Mode of action, effectiveness, and dosing scheme of digitalis.
- IV/3. Therapeutic indications and side effects of digitalis.
- IV/4. Non-glycoside type positive inotropic agents.
- IV/5. Vasodilators and beta-blockers in the therapy of heart failure.
- IV/6. ACE inhibitors and diuretics in the treatment of congestive heart failure.
- IV/7. Causes and mechanisms of cardiac rhythm disturbances.
- IV/8. Electrophysiological basis of antiarrhythmic action. Mechanisms of antiarrhythmic effects.
- IV/9. Antiarrhythmic drugs: sodium channel blocking drugs (Class I).
- IV/10. Antiarrhythmic drugs: beta-adrenoceptor antagonists (Class II).
- IV/11. Antiarrhythmic drugs: cardiac repolarization prolongation. Amiodarone (Class III).
- IV/12. Antiarrhythmic drugs: Calcium-channel antagonists (Class IV).
- IV/13. Antiarrhythmic drugs: digitalis, adenosine, magnesium.
- IV/14. Antianginal drugs: nitrate derivatives.
- IV/15. Antianginal drugs: beta-adrenergic antagonists.
- IV/16. Antianginal drugs: calcium antagonists.
- IV/17. Treatment of angina pectoris.
- IV/18. Treatment of myocardial infarction.
- IV/19. Pharmacologic approaches to atherosclerosis.
- IV/20. Therapy of migraine.
- IV/21. Antidiuretic drugs.
- IV/22. Extrarenally acting diuretics. Osmotic diuresis.
- IV/23. Renally acting diuretics: drugs producing potassium loss.
- IV/24. Renally acting diuretics: potassium sparing agents.
- IV/25. Antihypertensive drugs.

V/ Other groups of drugs

- V/1. Antianemic drugs.
- V/2. Anticoagulants, thrombolytic and antiplatelet drugs.
- V/3. Expectorants, antitussives.
- V/4. Treatment of asthma bronchiale: Bronchodilators.
- V/5. Treatment of asthma bronchiale: Anti-inflammatory agents.
- V/6. Treatment of peptic ulcer: Neutralisation of gastric acid.
- V/7. Treatment of peptic ulcer: Inhibition of gastric acid secretion.
- V/8. Laxatives and antidiarrheal agents.
- V/9. Emetics and antiemetics.
- V/10. Principles of immunopharmacology.
- V/11. Vitamins.
- V/12. Diabetes mellitus treatment: peptide derivative agents.
- V/13. Diabetes mellitus treatment: non-peptide derivative agents.
- V/14. Sex hormones, oral contraceptives. Anabolic steroids.
- V/15. Thyroid hormones, antithyroid drugs.
- V/16. Posterior pituitary hormones - vasopressin and oxytocin.
- V/17. Glucocorticoids.
- V/18. Pharmacologic approaches to gout.
- V/19. Sulfonamides. DNA-gyrase inhibitors (quinolones).
- V/20. Beta-lactam antibiotics: penicillins, cephalosporins.
- V/21. Inhibitors of bacterial protein synthesis. Tetracyclines, aminoglycosides, chloramphenicol, macrolides.
- V/22. Drugs used in the treatment of tuberculosis. Antiviral agents.
- V/23. Anthelmintic drugs. Antifungal drugs.
- V/24. Antiprotozoal drugs. Drugs used in the treatment of amebiasis.
- V/25. Drugs used in the chemotherapy of neoplastic diseases.

VI/ Toxicology

- VI/1. Diagnosis of poisoning and principles of treatment.
- VI/2. Antidotes, chelators.
- VI/3. Poisoning with acids.
- VI/4. Alkaline poisoning.
- VI/5. Carbon monoxide poisoning.
- VI/6. Cyanide poisoning.
- VI/7. Poisoning with nitrites and nitrates.
- VI/8. Arsenic poisoning.
- VI/9. Mercury poisoning.
- VI/10. Lead poisoning.
- VI/11. Poisoning with animal toxins.
- VI/12. Poisoning with mushrooms.
- VI/13. Acute methanol and ethanol intoxication.
- VI/14. Chronic methanol and ethanol intoxication.
- VI/15. Ethylene glycol and diethylene glycol intoxication.
- VI/16. Acute and chronic nicotine intoxication.
- VI/17. Atropine intoxication.
- VI/18. Poisoning with organophosphates.
- VI/19. Poisoning with salicylates and paracetamol.
- VI/20. Poisoning with sedatohypnotics.
- VI/21. Poisoning with antidepressants.
- VI/22. Poisoning with strychnine.
- VI/23. Poisoning with digitalis.
- VI/24. Poisoning with morphine.
- VI/25. Poisoning with cocaine and amphetamine.