

CLINICAL PHARMACOLOGY OF ANTIALLERGIC DRUGS AND DRUGS WITH ACTION ON IMMUNE PROCESSES

A. Actuality

Allergy is a universal response of the body to the action of various endogenous and exogenous noxious factors, it is a pathological process characteristic of most diseases. Technical and scientific progress modified significantly the environment, this favoring the vertiginous growth of allergic affections incidence, systemic diseases and immunodeficiency states. Currently there is a rich arsenal of these drugs, but for efficient and rational using of their is important to know their pharmacological features.

B. Training aim

To deepen knowledge of the pharmacology of drug groups used in the treatment allergic diseases and in pathologies involving immune system. Acquire and apply the pharmacokinetic and pharmacodynamic principles to individualize and optimize the administration of these drugs.

C. Teaching objectives

The students should be able to:

- a) Elucidate pharmacodynamic and pharmacokinetic peculiarities of drug groups used in immune system diseases.
- b) Establish dosage principles of drugs depending on group affiliation and etiology and severity of the disease.
- c) Forecast possible side effects and complications, to establish their dependence on dosing regimen, their prophylaxis.
- d) Apply contemporary methods of pharmacological and non-pharmacological correction of drug-induced adverse drug reactions.
- e) Write down the personal form (P-medicines) of drugs used to treat immune system diseases.

D. Knowledge from previously studied disciplines and related subjects

Medico-biological subjects. Allergic reactions. The basic components of the immune response. Interdependence of alteration, protection and adaptation reactions in pathologies involving immune system.

Clinical subjects. Allergic diseases. Their classification, clinical manifestation, pathogenesis and etiology, treatment principles of systemic diseases and immunodeficiency states.

Pharmacology. Classification of anti-allergic drugs and drugs with influence on the immune system. Mechanism of action, effects, indications, side effects.

E. Questions for self-training

I. Clinical-pharmacological characteristics of anti-allergic drug groups used in and acting on immune processes.

1. Classification of anti-allergic drugs. The medication of immediate and delayed allergic reactions.
2. Inhibitors of mast cell degranulation in allergic diseases: classification, indications and principles of use, adverse reactions and their prophylaxis, pharmacokinetics, drug interactions.
3. Antileukotrienes used as anti-allergic drugs: the mechanism of action, indications and principles of selection and use in those situations, adverse reactions and their prophylaxis, pharmacokinetics.
4. Inhibitors of 5-lipoxygenase as anti-allergic drugs. The mechanism of action, indications and principles of use, adverse reactions and their prophylaxis, pharmacokinetics.
5. Classification of H1-histaminoblocks by generation: classification, peculiarities of mechanism of action and pharmacodynamic effects, indications, contraindications and principles of use, adverse reactions and their prophylaxis, pharmacokinetics, drug interactions.

6. Principles of selection and dosage of drug preparations used in immediate-type allergic reactions: allergic rhinitis, urticaria, angioneurotic edema, anaphylactic shock.
7. Classification of drugs used in delayed allergic reactions: Clinical pharmacology of minor immunosuppressive drugs (4-aminoquinoline derivatives, gold compounds, thiol derivatives): peculiarities of the mechanism of action and pharmacodynamic effects, indications, contraindications and principles of use, adverse reactions and their prophylaxis, pharmacokinetics. Principles for the selection and dosing of drugs.
8. Clinical pharmacology of glucocorticoids: classification, peculiarities of the mechanism of action and pharmacodynamic effects, indications, contraindications and principles of use, adverse reactions and their prophylaxis, pharmacokinetics. Chronopharmacological principles of glucocorticoid use.
9. Principles of selection and use of anti-allergic drugs in pregnant women, children, the elderly.
10. Classification of drugs with influence on the immune system: immunosuppressive, immunostimulator, immunomodulator drugs.
11. Cytotoxic immunosuppressives: classification, particularities of mechanism of action and pharmacodynamic effects, indications, contraindications and principles of use, adverse reactions and their prophylaxis, pharmacokinetics.
12. Clinical pharmacology of immunostimulator drugs: classification, particularities of mechanism of action and pharmacodynamic effects, indications, contraindications and principles of use, adverse reactions and their prophylaxis, pharmacokinetics.
13. Clinical pharmacology of immunomodulator drugs: classification, particularities of mechanism of action and pharmacodynamic effects, indications, contraindications and principles of use, adverse reactions and their prophylaxis, pharmacokinetics, drug interactions.
14. Entomological drugs as immunomodulators: particularities of mechanism of action and pharmacodynamic effects, indications, contraindications and principles of use, adverse reactions.

II. Clinical pharmacological selection and use of drugs in some pathological conditions and diseases:

Principles for the selection and use of drugs in anaphylactic shock.

Principles of the selection and use of immunomodulator drugs in different systemic diseases and immunodeficiency states.

F. Individual Work:

1. Brief characterization of the main drugs.

Vertically: International Nonproprietary Name (INN) of drug

Horizontally: synonyms, delivering forms, mode of administration, doses (therapeutic, maximal), mechanism of action, indications, contraindications, side effects.

dezloratadine, leflunomide, immunophane, viferone, intron A, polyoxydoniu.

2. Exercises on medical prescription (see year III):

sodium cromoglycate, ketotifen, dexamethasone, prednisolone, montelukast, zileuton, diphenhydramine, cetirizine, loratadine, chloropyramine, clemastine, azathioprine, interferon, levamisole, prednisolone.

3. Indicate drugs used in (for):

urticaria; allergic rhinitis; contact dermatitis; exfoliative dermatitis; Quincke's edema, anaphylactic shock, organ transplant, in the period of convalescence.

4. Tests on clinical pharmacology (for faculty of medicine). Chisinau, 2014, p.21.

5. Clinical cases in clinical pharmacology. Chisinau, 2017, p.34.

6. Virtual situations.

7. Selection of Personal drugs (P- drugs) and Personal treatment (P- treatment) according to the criteria of efficacy, safety, acceptability and cost for inclusion in the personal form (P drugs).