MEDICINAL LIQUIDS AND GASES. MODIFIED DISTRIBUTION MEDICAMENTS (Part II)

A. Actuality. Treatment of the patient of any profile requires, in most cases, the use of medication. Hence the need to know the approved container forms and the prescribing methods of the various forms of medicine used in medical practice.

B. The purpose of the training. Familiarize students with methods of prescribing liquid and gaseous medicinal products and modified forms of medicated forms.

C. Learning objectives:

a) The student must **know**: the magistral and official prescription of the forms of liquid and gaseous drugs; Latin abbreviations and signs used in recipes; forms of modified distribution drugs.

b) The student should **be able to**: correctly prescribe the formulations of liquid and gaseous drugs, to distinguish the correct prescription from the wrong one.

D. Initial level of knowledge required for interdisciplinary integration

Latin language.Declaring nouns; prepositions used in the recipe; the main abbreviations and signs.

E. Self-training questions

1. Solutions for internal use. Classification.Requirements.Methods of dosing and calculation of their concentration.

2. Solutions for external use. Classification.Methods of expressing their concentration.Excipients for this type of solution.

3. Suspensions. Classification.Methods of prescribtion.The difference of solutions.

4. Drops for internal use. Requirements.Prescription methods.Calculation of their concentration.

5. Drops for external use. Classification.Vehicles for them.

6. Injections. Requirements for injectable forms.

7. Magistrainjectabilsolutions (prepared ex tempore). Prescription methods.Calculation of the dose for administration.

8. Injection into special packaging: ampoules, vials. Methods of prescription (solutions, suspensions, lyophilized powders).

9. Injection preparations with special names.

10. Aqueous extractive solutions (decoction, infusion), alcoholic (tinctures, extracts), oily (medicinal oils).

11. Typizating medications. Prescribing them.

12. Emulsions, syrups, aromatic waters, medicinal juices, mixtures, aerosols, organopreparations, pre-filled syringes (syringes).

13. Drugs with modified drug delivery and dispensing systems (Part II):

    a) What are the basic functions of targeted release delivery systems?

    b) Mechanisms and factors that determine the release of substances medicinal products from transport systems

    c) Characteristics of the carrier particles

    d) Therapeutic use of carrier particles

14. Drug gaseous forms. Aerosols.

F. Independent work (is done in written form while preparing for the lesson)
1.) Questions on medical prescription.
 Write out the following drugs using and concentrations given below:

Prescribe recommended formulations in the following drug forms:

Solutions for internal use
1. Calcium chloride. Dose for single use - 75 centigrams. One spoonful 3 times a day.
2. Potassium acetate. Dose for single use - 1.5 grams. One spoonful 3 times a day.
Solutions for external use
- aqueous solutions
1. Psoralen 0.1% - 50 ml. Apply on injured parts of the skin.
2. Nitrofural 1: 5000 - 500 ml. To wash the wounds.

Suspensions for internal use
1. Magnesium oxide 20% - 150 ml. One spoonful 3 times a day. Shake before use.
2. Co-trimoxazole 100 ml. Internally, 2 teaspoons twice a day.

Drops for internal use
1. Potassium Iodide 0.00025. 5 drops 3 times a day.
2. Atropine sulphate, 0.0005. 10 drops 3 times a day.

Drops for external use
- aqueous solutions
1. Pilocarpine hydrochloride 1% - 10 ml. Eye drops. One drop seven times a day, in conjunctiva
- alcoholic solutions
1. Resorcinol 0.25% - 100 ml (in 25% ethyl alcohol).
Eye drops
- oily solutions
1. Chlofosfole 5% - 10 ml.
- glycerol solutions
1. Phenol 5% - 10 ml. Eye drops.
Magisterial injectable solutions
1. Sodium salicylate 15% - 50 ml. Intravenously, 10 ml each
2. Procaine 0.25% - 500 ml. For anesthesia by infiltration.
3. Glucose 5% - 500 ml. Intravenous in a slow infusion over 3 hours.

Official Injectable solutions

Ampoules
- aqueous injectable solutions
1. Calcium chloride 10% - 10 ml. Intravenously, 10 ml each.
2. Lidocaine 10% - 2 ml. Intramuscularly, 2 ml each.
- oily injection solutions

1. Hexestrol 0.1% -1 ml. Intramuscularly, 1 ml.

2. Hydroxyprogesteronecaproate 12.5% - 1 ml. Intramuscularly, 1 ml once a week.

- aqueous injectable suspensions

1. Deoxycorticosteronetrimethylacetate 2.5% - 1 ml. Intramuscularly, 1 ml once every 2 weeks.

- powdered powders

1. Stearic acid of 50 milligrams. Dissolve in 1 ml sterile injectable water. Intramuscularly 1 ml.

2. Prednisolone hemisuccinate of 25 milligrams. Dissolve in 5 ml water for injections. Intravenously.

Vials

- aqueous solutions

1. Insulin 40 UA / ml. 5 ml subcutaneously by 3 times a day.

- Suspensions

1. Cortisone acetate 2.5% - 10 ml. Intramuscularly. 1 ml a day.

- sterile solutions

1. Aminocaproic Acid 5% - 100 ml. Intravenous.

2. Mannitol 15% - 400 ml. Intravenous.

- lyophilized powders

1. Sodium benzylpenicillin - 250000 UA. To be dissolved in 2 ml water for injections. Intramuscularly, 250000 UA 6 times a day.

2. Vincristine of 5 dmg. Dissolve in 1 ml of water for injections. Intravenously, 1 ml once a week.

Suspensions for external use

1. Dexamethasone 0.1% - 10 ml. In the conjunctival sac. One drop in each conjunctival sac 2 times a day.

Emulsions

1. Bismuth subnitrate 3 g in 250 ml of almond oil. One spoonful 3 times a day, 7 days.

Mixtures

1. Sodium benzoate 1 g, Bromhexine 1.5 g, 45 ml syrup - 250 ml volume. One spoonful 3 times a day for 5 days.

Syrups

1. Amoxicillin 28g - 200ml. One teaspoon of syrup every 6 hours for 7 days.

Decoctions

1. Oak bark decoction 20 g - 200 ml. For gargling.

Infusions

1. Chamomile flowers infusion 2 g / day for 4 days. One teaspoon 4 times a day, internally.

Tinctures

1. Valerian tincture 30 ml. Internal. 30 drops 3 times a day.

Fluid extracts

1. Shepherd's purse 25 ml. Internal. 25 drops 3 times a day.

2) Tests (Guidance for Laboratory Work in Pharmacology)