

CEREBRAL AND PERIPHERAL VASODILATOR DRUGS. DRUGS USED IN MIGRAINE. VENOTROPIC DRUGS.

A. Actuality . Cerebral and peripheral circulation disorders constitute a considerable weight in medical practice, and for their treatment multiple groups of drugs are used with influence on vascular tone, blood coagulability, metabolic and energetic processes. Migraine affects a considerable part of the population, able to work, and constitutes a major emergency problem and the prophylaxis of migraine attacks using a wide variety of drugs. Venous pathology, caused by a wide variety of factors, requires a multilateral approach by using preparations with influence on vascular tone, vascular elasticity and permeability, coagulability and metabolic processes.

B. The purpose of the training: The student must familiarize himself with the pharmacological properties of cerebral and peripheral vasodilators, antimigraine and venotropic drugs.

C. Learning objectives:

- a) The student **must know:** definition, classification, mechanism of action, effects, indications, contraindications and side effects of cerebral and peripheral vasodilators, antimigraine and venotropic preparations.
- b) The student **must be able to:** prescribe mandatory medicines in the possible medicinal forms, select the medicines according to the disease and the pathological conditions.

D. Knowledge of previous and related disciplines necessary for interdisciplinary integration.

Human anatomy. Arteries, veins, anastomoses of cerebral vessels.

Histology. Cytochemical and functional peculiarities of the brain.

Human physiology. Physiology of cerebral and peripheral circulation.

The pathophysiology. Parameters of cerebral circulation insufficiency.

Semiology of internal diseases. Notion about dyscirculatory encephalopathy, migraine.

E. Self-training questions:

1. Classification of drugs used in cerebral and peripheral circulation disorders.
2. Peripheral vasodilators: mechanisms of action, indications and adverse reactions.
3. Cerebral vasodilators:
 - a) Vinca minor alkaloids: mechanism of action, indications and adverse reactions.
 - b) Xanthine derivatives: mechanism of action, indications and adverse reactions.
 - c) Calcium channel blockers used as cerebral anti-ischemic agents: mechanism of action, indications and adverse reactions.
4. Classification of antimigraine drugs. Drugs used in the suppression of migraine attacks: mechanisms of action. Groups of drugs used for migraine prophylaxis.
5. Classification of angioprotectors. Mechanisms of action, indications.
6. Venotropic preparations: classification. Preparations with mixed action (venotonic and venoprotective): effects and mechanisms of action, indications
7. The groups and preparations used in the prophylaxis and treatment of venous thrombosis.

F. Individual works for the student's (points 1, 2, 3 and 4 is obligatory and is done in written form while preparing for the lesson)

- 1) To prescribe the following drugs in all possible medicinal forms:
 1. Vinpocetine . 2. Pentoxifylline . 3. Xanthinol nicotinate . 4. Nicergoline . 5. Cinnarizine . 6. Sumatriptan . 7. Ravimig 8. Piracetam . 9. Troxerutin .

<i>No.</i>	<i>The name of the drug</i>	<i>Medicinal form, dose</i>
1.	Pentoxifylline	Tablets 0.2; 0.4 Sol. 2% - 5 ml in ampoules
2.	Nicergoline	Tablets 0.005; 0.01 Lyophilized powder 0.004 in ampoules
3.	Xanthinol nicotinate	Tablets 0.15 Sol. 15% - 2 ml in ampoules
4.	Vinpocentine	Tablets 0.01 Sol. 0.5% - 2 ml in ampoules
5.	Piracetam	Tablets/Capsules 0.4; 0.8 Granules 56.0 (undosed); 2.8 in packets (dosed) Sol. 20% - 125 ml in bottles (internal use) Sol. 20% - 5 ml in ampoules
6.	Sumatriptan	Tablets/Capsules 0.05; 0.1 Sol. 1.2% - 0.5 ml in pre-filled syringes (subcutaneous) Aerosol 2 ml (intranasal)
7.	Ravimig	Tablets 0.05
8.	Troxerutin	Capsules 0.3 Gel 2%-100.0
9.	Cinnarizine	Tablets/ Capsules 0.025

2.) List the groups and drugs used in (for): migraine attacks, migraine prophylaxis, vestibulo-cochlear disorders, ischemic stroke, chronic cerebral circulatory insufficiency, Raynaud's syndrome, obliterating endarteritis, cerebral atherosclerosis, ischemic ophthalmological disorders, chronic venous insufficiency, trophic ulcers of the lower limbs.

3.) Problems of situation

A patient with symptoms of cerebral circulatory disorders and accusations of a pronounced and frequent headache was hospitalized. As a result of the examination, a migraine state was established.

What drugs will you use to control the attack of headache and the systematic treatment of migraine?

4) Tests for self-training (Guide for laboratory work in pharmacology).

G. Interactive activity

1. **Experimental and virtual didactic movie** (elaboration of minutes, conclusions).

2. **Clinical cases** (Guide for laboratory works in pharmacology).

3. **Virtual situations** (Guide for laboratory works in pharmacology).