

Semester II.

Pharmacology

Laboratory 11

Medication of urinary tract

1. Pharmacognosy

2. Pharmacodynamics

- ▶ Demonstration of the diuretic effect of some substances

3. Pharmacography

4. Classification of substances with action on the urinary tract

1. Pharmacognosy

- ▶ diuretic substances
- ▶ urinary antiseptic substances
- ▶ antibiotics
- ▶ standartized product of these substances

2. Pharmacodynamics

- ▶ **Demonstration of the diuretic effect of some substances**

Technique

- ▶ The animals are selected after administration of 2.5 ml water / 100 g weight and eliminating at least 40% of the received quantity in two hours.
- ▶ During the experiment, 2.5 ml of saline solution 9% per 100 g of weight is administered to all the animals
- ▶ Some of these remain as a control, while the others receive:
 - two animals hydrochlorothiazide 10-40 mg/kg, oral or parenteral
 - other two dimed 0.1 ml/kg body, parenteral
 - two animals acetazolamide 100 mg/kg orally
 - two animals hydrochlorothiazide and dimed

- ▶ After 1-2 hours of administration, the collected urine is measured in a graduated test tube.
- ▶ The effect of the substances appears after 45-60 minutes.
- ▶ The most pronounced diuresis will produce the mixture of **hydrochlorothiazide and dimed which sum up its actions.**
- ▶ The weakest effect of those presented is acetazolamide.

3. Pharmacography

Rp./ Teoglicin 10 ml vials N V
D.S ext. in inj. i.v. slow to horse
(diuretic)

Rp./ Glucoză 33% 10 ml vials N X
D.S ext. in inj. i.v. to cow
(diuretic and general tonic)

Rp./ Metenamin 40 % 10,0
D.t.d. XII
S. ext. in inj. i.v. to horse
6 vials /day
(urinary antiseptic)

Rp./ Phenyli salicylici 10,0
Methenamin I 40% 6,0
Magnesii subcarbonici ad 20,0
M.f pulv.
Div. p. aeq
D.S. int 2x1/day to dog
(urinary antiseptic)

Rp./ Calcii gluconici 10% 10 ml
D.t.d. XXX
S. ext. in inj. i.v. to horse
(general tonic, diuretic)

Rp./ Calcii chlorati 10% 10 ml
D.t.d N L
S. ext. in inj. i.v. to cow
(recalcification, slightly diuretic)

4. Classification of substances with action on the urinary tract

Diuretic drugs	Electrolytic	<i>-natrium sulfuricum</i>
	Osmotic	<i>-kalium nitricum -hypotonic mineral water -mannitol</i>
	Herbal drugs	<i>-fructus junipe - equisetum arvensae - stigmates majidis</i>
	Electroless	<i>-glucosum - sacharum -lactosum</i>
	Purine	<i>-Teobrominum -Hidrosal -Teofilinum -Teoglucina</i>
	Acidifying	<i>-amonium chloratum -calcium chloratum</i>

4. Classification of substances with action on the urinary tract

• Diuretic drugs	Mercurial	-Dimed -Calomel
	Sulfonamide	-Nefrix -Furosemid -Ederen
	Cardiotonic	-Digitalis, strophantine -Cinara scolimus
• Antidiuretic drugs		-vasopressin -hypotonic, sedative, saline purgative, diaphoretic -aldosterone
• Urinary antiseptics		-Metamine, -Sulfamides, -Antibiotics: penicillin, streptomycin, tetracycline