1. Farmacocinetica generală (1, pag. 67-168).

General Pharmacokynetics

References:

Aurelia Nicoleta Cristea - Farmacologie generala, Ed. Didactica si Pedagogica, Bucuresti, editia a II-a (revazuta si adaugita), 2009, pag. 46-171

***1. The consequences of fixing drugs in tissues are the following, except:**

A. Slow removal

B. Extension of the duration of action

C. Decrease of the duration of action

D. The occurrence of adverse effects

E. Extending the duration of intoxication.

(pag. 101)

***2. The route of administration that is used exclusively for the general action is:**

A. Intravenous

B. Oral

C. Intrarectal

D. Urethral

E. Intraperitoneally.

(pag. 60, 68, 82)

***3. The total water in the body (measured in l / 70kg) is:**

A. 5

B. 3

C. 10-12

D. 20-35

E. 35-52.

(pag. 97)

4. Specify the drugs that cannot be administered intravenously:

A. Hemolytics

B. With a pH different from blood's pH

C. Which precipitates plasma proteins

D. With osmotic pressure different from blood pressure

E. Tissue irritants.

(pag. 77-78)

5. The extravascular injectable routes of administration are:

A. Intramuscularly

B. Intravenous

C. Subcutaneous

D. Intraarterial

E. Intraosseous

(pag. 77)

6. Substances that pass difficult through the blood-brain barrier are:

A. Quaternary ammonium derivatives

B. Fat-soluble substances

C. Narcotic barbiturates

D. L-DOPA

E. Amines.

(pag. 93)

7. Absorption through the alveolar epithelium is favored by:

A. Very large area (100sqm)

B. Very rich capillary network

C. Optimal diameter for aerosols of 100 microns

D. Slow respiratory rate and voluntary cessation of breathing

E. Bronchial hypersecretia.

(pag. 71-73)

8. The process of drug binding to plasma proteins is characterized by:

A. The binding is specific

B. Ionic bonds cannot be established

C. The balance between free and bound form is dynamic

D. The free form is active

E. The bound form is the reserve form.

(pag. 88)

9. The cutaneous route of administration has the following particularities:

A. Vasodilation decreases absorption

B. Local massage promotes percutaneous absorption

C. Absorption is mainly carried out by the trans-folicular pathway

D. The epidermal layer frequently has a "reservoir" effect

E. The subcutaneous fat layer has a retention effect for fat-soluble substances.

(pag. 75-76)

10. The peculiarities of diffusion through the blood-milk barrier are:

A. Chemotherapeutics do not diffuse

B. Purgatives diffuse

C. Milk is isotonic with plasma, but more acid than plasma

D. Alcohol diffuses

E. Acid drugs may be concentrated in breast milk (pag. 95)

2. Farmacodinamie generală (1, pag. 214-273).

General Pharmacodinamics

References:

Aurelia Nicoleta Cristea - Farmacologie generala, Ed. Didactica si Pedagogica, Bucuresti, editia a II-a (revazuta si adaugita), 2009, pag. 172-231

***1. If there is no other recommendation, it is preferable for the drugs to be administered in relation to the meals:**

A. 30 minutes before

B. 1 hour later

C. 1 hour before or 3 hours after

D. During the meals

E. Immediately after.

(pag. 203)

***2. The drugs given in the morning, 30 minutes before the meal, are:**

A. Anorexigen

B. Antacids

C. Anti-inflammatory

D. Hydrochloric acid and pepsin

E. Antihelmintics.

(pag. 203)

***3. Which drugs have the lowest latency:**

A. Delayed pharmaceutical forms

B. Drugs with indirect mechanism of action

C. Drugs related to plasma proteins

D. Drugs administered IV

E. Drugs that act by the active metabolite.

(pag. 178)

4. Which associations are examples of antagonism used in therapeutics:

A. Naloxone + morphine

B. Procaine + antimicrobial sulfamide

C. Thiazide diuretic + antidiabetic

D. Vitamin K + coumarin anticoagulants

E. Neostigmine + antidepolarizing curare-like compounds.

(pag. 211)

5. Choose the correct statements about melatonin:

A. It is a hormone secreted exclusively at night by the pineal gland

B. It generates the sleep-wake circadian rhythm

C. Melatonin secretion increases with age

D. It has a strong antioxidant effect

E. It is active only on receptors in brain structures.

(pag. 205)

6. Select the associations representing examples of potentiation synergism pursued in therapeutics:

A. Antidiabetic + beta-adrenolytic

B. Penicillins + tetracyclines

C. General anesthetic + tranquilizer

D. Opioid analgesic (fentanyl) + neuroleptic (droperidol)

E. Antihypertensive + diuretic.

(pag. 210-211, 214)

7. Which drugs have bisens effects:

A. Adrenaline

B. Paracetamol

C. Noradrenaline

D. Phenobarbital

E. Acetylsalicylic acid.

(pag. 174)

8. Autoimmune diseases of the receptors are:

A. Miastenia gravis

B. Insulin-resistant diabetes

C. Grave disease

D. Feminization of the male fetus

E. Hereditary hypercholesterolemia.

(pag. 200)

9. The duration of pharmacodynamic action is increased by the following factors:

A. High percentage of plasma protein binding

B. Diffusion in all three water compartments

C. Distribution exclusively in the intravascular space

D. Selective tissue distribution

E. Hardly reversible substrate fixation.

(pag. 188)

10. Specify the factors on which the maximum effectiveness of a drug depends:

A. The route of administration

B. Intrinsic activity

C. The number of activated receptors

D. Maximum effective dose

E. The drug is a total or partial agonist.

(pag. 177)

3. Farmacotoxicologie generală (1, pag. 291-336).

General Pharmacotoxicology

References:

Aurelia Nicoleta Cristea - Farmacologie generala, Ed. Didactica si Pedagogica, Bucuresti, editia a II-a (revazuta si adaugita), 2009, pag. 232-274

Valentin Stroescu, Bazele farmacologice ale practicii medicale, Editia a VII-a, Editura Medicala, Bucuresti 2001, pag. 117-151

***1. The following drugs cause photoreactions in case of systemic administration, except:**

A. Tetracyclines

B. Griseofulvin

C. Bromide

D. Phenothiazines

E. Sulfonamides.

(pag. 241)

***2. Choose the false statement about tachyphylaxis:**

A. It installs quickly

B. It can be complete

C. It is reversible

D. It represents the chronic tolerance

E. It is short-lived after discontinuation of treatment.

(pag. 259)

***3. Note which of the aminoglycosides has the highest and frequently irreversible hearing toxicity and therefore systemic administration is excluded:**

A. Amikacin

B. Neomycin

C. Streptomycin

D. Gentamicin

E. Kanamycin.

(pag. 238)

4. Select the types of addicts considered to be minor:

A. To hypnotic barbiturates

B. To tranquilizers

C. To alcohol

D. To morphine

E. To heroin.

(pag. 262)

5. Note the drugs that can suppress lactation:

A. Bromocriptine

B. Metronidazole

C. Furosemide

D. Paracetamol

E. Estradiol.

(pag. 273)

6. Note the drugs that trigger anaphylactic type I allergic side effects:

A. Penicillins

B. Antihistamines H1

C. Dextrans

D. Procaine

E. Radiographic contrast iodized substances.

(pag. 251)

7. The effect of ricochet:

A. Occurs at the abrupt discontinuation of pharmacotherapy

B. Is the rebound effect

C. Is the withdrawal syndrome

D. Clinically, it manifests itself by exacerbated returning of the treated disease

E. Has a negative feedback mechanism.

(pag. 264)

8. Aseptic meningitis (headache, fever, lethargy) is a CNS toxic effect observed in young women treated with:

A. Ibuprofen

B. Furosemide

C. Oral contraceptives

D. Sulindac

E. Naproxen

(pag. 236)

9. Rhabdomyolysis (muscle destruction) can be caused by:

A. Cimetidine

B. Halothane

C. Lithium

D. Curare-like compounds

E. Antimalarials.

(pag. 239)

10. Metronidazole is contraindicated during breastfeeding because it determines in infants:

A. Vomiting

B. Yellow color of the teeth

C. Medullary depression

D. Neurological disorders

E. Hypothyroidism.

(pag. 272)

4. Medicamente utilizate în tratamentul afecțiunilor osteoarticulare (2, Capitolul 2. Artroza, pag. 10-15; Capitolul 3. Osteoporoza, pag. 17-25; Capitolul 4. Artrita reumatoidă, pag. 27-36).

Drugs used in the treatment of osteoarticular diseases

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) – Bucharest: Prior, 2019 – Chapter 2. Arhtrosis, pp.10-15; Chapter 3. Osteoporosis, pp. 17-25; Chapter 4. Rheumatoid arthritis, pp. 27-36.

***1. Note the monoclonal antibody that binds to IL-6 receptors and is used to treat rheumatoid arthritis:**

A. Tofacitinib

B. Tramadol

C. Tocilizumab

D. Testosterone

E. Teriparatide.

(page 36).

***2. Choose the correct statement about hydroxychloroquine:**

A. It has myelosuppressive and hepatic side effects

B. The onset of the effect is very fast

C. It is rarely used in mild rheumatoid arthritis

D. Not associated with disease-modifying antirheumatic drugs (DMARDs)

E. The onset of the effect is delayed, up to 6 weeks.

(page 33).

***3. Choose the correct statement about glucocorticoid-induced osteoporosis:**

A. Glucocorticoids reduce bone resorption

B. Glucocorticoids reduce renal calcium excretion

C. Bone loss from glucocorticoids is slow

D. Glucocorticoids reduce bone formation by decreasing proliferation and differentiation

E. The most pronounced reduction in bone mass occurs after 6 years of treatment with glucocorticoids.

(page 25).

4. Corticosteroids administered intraarticularly in the treatment of osteoarthritis are:

A. Tramadol

B. Triamcinolone

C. Mephenamic acid

D. Methylprednisolone acetate

E. Acetylsalicylic acid.

(page 11).

5. Analgesics administered orally in the treatment of osteoarthritis are:

A. Celecoxib

B. Paracetamol

C. Capsaicin

D. Hydrocodone / paracetamol

E. Oxycodone / paracetamol

(page 11).

6. Examples of estrogenic agonists / antagonists and estrogenic complexes with tissue selectivity are:

A. Teriparatide

B. Raloxifen

C. Calcitonin

D. Denosumab

E. Ibandronat.

(page 22).

7. Select the true statements about teriparatide:

A. It is a bisphosphonate

B. It is a recombinant human product

C. It stimulates bone formation, increases the rate of bone remodeling, the number and activity of osteoblasts

D. It is indicated for patients at high risk of osteosarcoma

E. It is indicated for postmenopausal women with an increased risk of fracture.

(pages 24, 25).

8. Select the true statements about bisphosphonates:

A. They inhibit bone resorption

B. They may cause esophageal, gastric or intestinal irritation

C. Rare side effects include maxillary osteonecrosis

D. They are administered exclusively orally

E. Of the available antiresorbent agents, bisphosphonates have the lowest efficacy.

(pages 19-23).

9. Disease-modifying antirheumatic drugs (DMARDs) are:

A. Methotrexate

B. Methylprednisolone

C. Abatacept

D. Alendronate

E. Leflunomide.

(page 27).

10. TNF-alpha inhibitors used in the treatment of rheumatoid arthritis are:

A. Etanercept

B. Infliximab

C. Abatacept

D. Adalimumab

E. Anakinra.

(page 35).

5. Medicamente utilizate în tratamentul afecțiunilor cardiovasculare (2, Capitolul 9. Insuficiența cardiacă, pag. 81-86; Capitolul 10. Hipertensiunea arterială, pag. 94-103;

Capitolul 11. Boala cardiacă ischemică, pag. 110-115; Capitolul 14. Tromboembolismul venos, pag. 134-142).

Drugs used in the treatment of cardiovascular diseases

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) - Bucharest: Prior, 2019 - Chapter 9. Heart failure, pp. 81-86; Chapter 10. Hypertension, pp. 94-103; Chapter 11. Ischemic heart disease, pp. 110-115; Chapter 14. Venous thromboembolism, pp. 134-142.

***1. The angiotensin receptor blocker used to treat heart failure is:**

A. Carvedilol

B. Captopril

C. Ivabradin

D. Candesartan

E. Quinapril.

(pages 82, 83).

***2. In ischemic heart disease, it is not recommended the therapy with:**

A. Acetylsalicylic acid

B. Atenolol

C. Diltiazem

D. Metoprolol

E. Dipyridamole.

(page 110).

***3. Note the cardioselective beta-blocker:**

A. Timolol

B. Spironolactone

C. Carvedilol

D. Bisoprolol

E. Labetalol.

(page 96).

4. Acceptable first-line options in hypertension therapy are:

A. Calcium channel blockers

B. Beta-blockers

C. Thiazide diuretics

D. Angiotensin converting enzyme inhibitors

E. Angiotensin receptor blockers.

(page 94).

5. Choose the alternative antihypertensives that can be used for some patients after first-line medication:

A. Perindopril

B. Amlodipine

C. Prazosin

D. Aliskiren

E. Minoxidil.

(page 99).

6. Direct oral anticoagulants indicated in the treatment of the acute episode of venous thromboembolism are:

A. Dabigatran

B. Rivaroxaban

C. Apixaban

D. Edoxaban

E. Enoxaparin.

(page 136).

7. Choose the correct statements for unfractionated heparin therapy in venous thromboembolism:

A. When an immediate and complete anticoagulant effect is required, it is preferred to administer it i.v. in bolus

B. During therapy, patients will be monitored for possible bleeding symptoms

C. If major bleeding occurs, subcutaneous protamine sulfate is administered

D. Unfractionated heparin binds to antithrombin

E. Heparin-induced thrombocytopenia is a common immune reaction that does not require immediate intervention.

(page 139).

8. Choose the true statements regarding the administration of beta-blockers in ischemic heart disease:

A. The choice of a particular agent depends on the presence of comorbidities

B. They should be prescribed as initial therapy to reduce symptoms in patients with stable ischemic heart disease

C. If treatment should be discontinued, the doses should be gradually reduced over 3-4 days

D. Common side effects include tachycardia and hypertension

E. If initial monotherapy is ineffective, beta-blockers may be associated with calcium channel blockers.

(page 113).

9. Alpha 2 central agonists used in the treatment of hypertension are:

A. Clonidine

B. Rezerpina

C. Hydralazine

D. Minoxidil

E. Methyldopa.

(page 102).

10. Choose the thiazide diuretics:

A. Amiloride

B. Furosemide

C. Spironolactone

D. Indapamid

E. Hydrochlorothiazide.

(page 96).

6. Medicamente utilizate în tratamentul tulburărilor metabolice (2, Capitolul 8. Dislipidemiile, pag. 68-76; Capitolul 19. Diabetul zaharat, pag. 173-189).

References:
Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) – Bucharest: Prior, 2019 - Chapter 8. Dyslipidemia, pp. 68-76; Chapter 19. Diabetes mellitus, pp. 173-189

***1. It is not an inhibitor of HMG-CoA reductase:**

A. Nicotinic acid

B. Atorvastatin

C. Rosuvastatin

D. Simvastatin

E. Pravastatin

(page 70, 71)

***2. Identify the sodium-glucose co-transporter-2 inhibitor:**

A. Pramlintide

B. Sitagliptin

C. Metformin

D. Dapagliflozin

E. Pioglitazone

(page 180 - 182)

***3. Select the adverse reaction caused by bile acid sequestrants:**

A. Myositis

B. Incomplete absorption of vitamins A, D, E, K

C. Redness of the skin and itching

D. Hepatitis

E. Rhabdomyolysis

(page 70, 71, 74)

4. Select the correct statements about fibrates:

A. Fibrates increase VLDL synthesis

B. Fibrates may produce a transient, moderate increase in transaminase and alkaline phosphatase levels

C. Fibrates may decrease the effects of oral anticoagulants

D. Fibrates may cause gallstones

E. Combination with statins may lead to a higher incidence of hepatotoxicity or myositis

Correct answers: B, D, E (page 70, 74, 76)

5. Treatment of hypertriglyceridemia includes:

A. Cholestyramine

B. Fenofibrate

C. Atorvastatin

D. Niacin

E. Fish oil

(page 69, 70, 76)

6. Select the types of long-acting insulin:

A. Degludec

B. Lispro

C. Aspart

D. Detemir

E. Glargine

(page 174, 175, 177)

7. Select the correct answers about antidiabetics:

A. Metformin promotes pancreatic release of insulin

B. Exenatide is given orally in 2 daily doses

C. Antidiabetic sulfonylurea derivates stimulate insulin secretion by binding to a specific beta-pancreatic cell receptor

D. Sodium-glucose co-transporter 2 inhibitors (SGLT-2) represent first-choice therapy in adults with chronic kidney disease

E. Dipeptidyl peptidase-4 (DPP-4) inhibitors frequently cause nasopharyngitis and upper respiratory tract infections

(page 185 - 187)

8. Select the correct answers about antidiabetics:

A. Thiazolidinediones are contraindicated in patients with heart failure (class III or IV)

B. Alpha-glucosidase inhibitors should be given at the beginning of meals

C. Glinides should be taken after meals

D. Pramlintide can be given in both type 1 and type 2 diabetes

E. Sodium-glucose co-transporter 2 inhibitors (SGLT-2) can cause fungal infections of the genitourinary tract

(page 175, 187 - 189)

9. Monotherapy with metformin can cause the following side effects:

A. Genitourinary tract infections

B. Hypoglycemia

C. Abdominal discomfort

D. Upper respiratory tract infections

E. Lactic acidosis

(page 185 - 187)

10. Select the true statements about insulin:

A. Insulin frequently causes weight loss

B. Fast-acting insulins are given subcutaneously, 10 minutes before a meal

C. Long-acting insulins produce nocturnal hypoglycaemia more frequently compared to intermediate-acting insulin (NPH)

D. If the same injection site is used repeatedly, lipo-hypertrophy may occur

E. Regular insulin is given subcutaneously, every 30 minutes after meals

(page 176, 178, 185)

7. Pharmacological treatment of gastrointestinal disorders (2, Capitolul 22.

Constipația, pag. 212-215; Capitolul 23. Diareea, pag. 217-218; Capitolul 24. Boala de reflux gastroesofagian, pag. 225-230; Capitolul 29. Ulcerul gastroduodenal, pag. 272-276).

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) - Bucharest: Prior, 2019 - Chapter

22. Constipation, pp. 212-215; Chapter 23. Diarrhea, pp. 217-218; Chapter 24. Gastroesophageal reflux disease, pp. 225-230; Chapter 29. Gastroduodenal ulcer, pp. 272-276.

***1. Select the protector of the gastric mucosa:**

A. Cimetidine

B. Sucralfate

C. Omeprazole

D. Ranitidine

E. Pantoprazole

(page 275).

***2. Select the chlorine channel activating agent useful in the treatment of constipation:**

A. Castor oil

B. Docusate

C. Lubiprostone

D. Lactulose

E. Bulk-forming laxatives

(page 212).

***3. Select the somatostatin analogue drug:**

A. Reserpine

B. Colchicine

C. Clindamycin

D. Octreotide

E. Misoprostol

(page 218).

4. Select laxatives agents that cause softening of feces in 1-3 days:

A. Docusate

B. Castor oil

C. Bisacodyl

D. Lactulose

E. Volume laxatives

(page 212).

5. Select drugs that induce constipation:

A. Clonidine

B. Magnesium sulfate

C. Docusate

D. Trihexyphenidyl

E. Iron preparations

(page 212).

6. Select antibiotics that cause diarrhea:

A. Broad-spectrum antibiotics

B. Clindamycin

C. Bethanechol

D. Chinidine

E. Tetracyclines

(page 218).

7. Select the true statements about proton pump inhibitors:

A. They inhibit hydrogen-potassium adenosine triphosphatase

B. They may decrease the absorption of ketoconazole and itraconazole

C. They do not degrade in acidic environment

D. They cause strong and short-lasting antisecretory effects

E. Omeprazole can reduce the effectiveness of clopidogrel

(page 229).

8. Select the H2 - histaminergic receptor antagonists:

A. Omeprazole

B. Famotidine

C. Pantoprazole

D. Ranitidine

E. Nizatidine

(page 229).

9. If initial treatment used to eradicate *Helicobacter pylori* fails, second-line therapy should:

A. Contain antibiotics that were included in the initial therapeutical regimen

B. Use antibiotics for which the development of resistance is unlikely

C. Not include drugs with local action

D. Have a maximum duration of 7 days

E. Have an extended duration of 14 days

(page 275).

10. Select the true statements regarding metoclopramide:

A. It is a dopaminergic antagonist

B. Common side effects include drowsiness, agitation, dizziness

C. Accelerates the emptying of the stomach

D. Does not cause tardive dyskinesia

E. Does not improve esophageal clearance

(page 230).

8. Drugs used in hormonal contraception and menopausal hormone therapy

(2, Capitolul 30. Contracepția, pag. 281-293; Capitolul 31. Terapia hormonală în menopauză, perimenopauză și postmenopauză, pag. 296-308).

Bibliography associated with the topic:

Pharmacotherapy Manual / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. Ed. In Romanian) - Bucharest: Prior, 2019 – Chapter 30. Contraception, pp. 281-293; Chapter 31. Hormone therapy in menopause and postmenopause, pp. 296-308

***1. The following side effects are caused by the administration of the injectable contraceptive Medroxyprogesterone acetate depot (MPAD), except:**

A. Irregular menstruation
B. Weight gain
C. Convulsions
D. Depression
E. Breast tenderness

(page 293).

***2. The predominant and most active form of endogenous estrogen is:**

A. Ethinylestradiol
B. Estradiol
C. Estrone
D. Dydrogesterone
E. Progesterone

(page 298).

***3. The oral progestogens indicated to prevent endometrial hyperplasia are the followings, except:**

A. Medroxyprogesterone acetate

B. Micronized progesterone

C. Norethindrone acetate

D. Ospemifen

E. Dydrogesterone

(page 302).

4. Indicate the true statements about menopausal hormone therapy (MHT):

A. Intravaginalestrogen administration reduces the risk of recurrent urinary tract infections and may relieve urinary incontinence

B. MHT is the most effective treatment for the relief of moderate to severe vasomotor symptoms and sleep disorders.

C. The risk of venous thromboembolism and stroke increases with oral administration of estrogen-containing MHT

D. Estrogens administered transdermally have a higher risk than estrogens administered orally to cause breast tenderness and deep vein thrombosis

E. Estrogen transdermal forms are estradiol pellets

(page 296, 298, 301, 306).

5. Indicate the true statements about combined hormonal contraceptives (CHC):

A. CHC are not recommended in women over the age of 35 who have uncontrolled high blood pressure or diabetes with vascular damage.

B. CHC are indicated in women over the age of 35 who smoke more than 15 cigarettes a day

C. CHC, regardless of estrogen dose, may cause slight increases in blood pressure (6-8 mmHg)

D. Phenobarbital, Carbamazepine and Phenytoin increase the effectiveness of oral contraceptives

E. For women without coexisting medical conditions, an oral contraceptive containing 35 micrograms or less of ethinylestradiol and less than 0.5 mg of norethindrone is recommended.

(page 282, 291).

6. Severe or potentially severe symptoms in patients using combined hormonal contraceptives may be due to:

A. Myocardial infarction

B. Thrombophlebitis or thrombosis

C. Vitamin B12 deficiency

D. Gastric ulcer

E. Systemic lupus erythematosus

(page 286).

7. Frequently used combined hormonal therapeutic regimens with oral administration for menopause include:

A. Equine conjugated estrogens and Medroxyprogesterone acetate

B. Micronized progesterone and Norethindrone acetate

C. Ethinylestradiol and Norethindrone acetate

D. Ethinylestradiol and Ospemifen

E. Estradiol and Drosperinone

(page 303).

8. Frequently used combined hormone therapy regimens with transdermal administration for menopause include estradiol alongside:

A. Bazedoxifene

B. Norethindrone acetate

C. Micronized progesterone

D. Levonorgestrel

E. Medroxyprogesterone acetate

(page 303).

9. Which of the following statements about menopausal hormone therapy (MHT) are true?

A. Estrogens that are not administered orally include transdermal, intranasal and vaginal products

B. Estradiol pellets are placed subcutaneously in the abdomen or buttocks

C. Micronized progesterone frequently causes endometrial hyperplasia

D. Continuous-combined estrogen-progestin administration causes endometrial atrophy, but prevents monthly bleeding

E. Hormone treatment in menopause should be avoided in women at high risk of thromboembolic events

(page 298, 302, 307).

10. Side effects of progestogens include:

A. Gallbladder diseases

B. Irritability

C. Sleeping disorders

D. Water retention

E. Venous thromboembolism

(page 306).

9. Medicamente utilizate în tratamentul tulburărilor neurologice (2, Capitolul 53. Epilepsia, pag.535-556; Capitolul 56. Boala parkinson, pag. 588-596; Capitolul 57. Statusul epileptic, pag.601-607).

Drugs used in the treatment of neurological disorders

Bibliography associated with the topic:

Pharmacotherapy Manual / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. Ed. In Romanian) - Bucharest: Prior, 2019 - Chapter 53. Epilepsy,

pp. 535-556; Chapter 56. Parkinson's Disease, pp. 588-596; Chapter 57. Epileptic Status, pp. 601-607.

***1. The following side effects are characteristic of phenytoin, except:**

A. Nystagmus

B. Sialorrhea

C. Ataxia

D. Behavioral disorders

E. Gingival hyperplasia

(page 547).

***2. The following antiparkinsonian drugs are dopaminergic agonists, except:**

A. Bromocriptine

B. Pramipexole

C. Rasagiline

D. Ropinirole

E. Rotigotine

(page 590).

***3. Which of the following antiparkinsonian drugs is a catechol-O-methyltransferase (COMT) inhibitor?**

A. Selegiline

B. Amantadine

C. Levodopa

D. Carbidopa

E. Entacapone

(page 595).

4. Which of the following statements about anticonvulsants are true?

A. Due to the enzyme-inducing effect Phenobarbital, Phenytoin and Carbamazepine may cause treatment failure in women using oral contraceptives

B. Progestogens may be effective for catamenial epilepsy or convulsions that occur during ovulation

C. Clearance for phenytoin, carbamazepine and lamotrigine decreases during pregnancy

D. Valproic acid can be used during pregnancy because it does not cause teratogenic effects

E. The use of topiramate during pregnancy has been associated with palatal cleft, low birth weight and hypospadias

(page 538, 539).

5. These are barbiturate anticonvulsants:

A. Clobazam

B. Phenobarbital

C. Diazepam

D. Primidone

E. Phenytoin

(page 543).

6. Indicate the true statements about the treatment of generalized convulsive epileptic status:

A. A benzodiazepine should be given as soon as possible if the patient is still in a convulsive state

B. Lorazepami.v. is considered benzodiazepine of first-choice by most practitioners

C. Diazepam i.v. it is extremely hydrophilic and is rapidly distributed in the brain

D. Phenytoin has a half-life of 20-36 hours and is not considered a first-line agent, due to the latency of the effect

E. Phenobarbital is recommended in case of ineffectiveness after administration of the combination of benzodiazepines and phenytoin

(page. 603, 604).

7. Levodopa:

A. It is anticholinergic antiparkinsonian agent

B. It is a precursor to dopamine

C. May have a prolonged half-life when combined with carbidopa, benserazide or entacapone

D. May cause motor complications even 5-6 months after starting treatment, especially when using high doses from the beginning

E. Determines as frequent motor complications, after long-term administration, the end-of-dose effect and dyskinesia produced by the peak concentration

(page 593).

8. They are anticholinergic antiparkinsonian drugs:

A. Carbidopa

B. Trihexyphenidyl

C. Benztropine

D. Apomorphine

E. Amantadine

(page 590).

9. These are true statements about anticholinergic antiparkinsonian drugs:

A. They can relieve tremor and dystonia in some patients

B. Determine anticholinergic side effects such as dry mouth, constipation and urinary retention

C. They are indicated alone or in combination with other antiparkinsonian drugs

D. They are represented by selegiline and rasagiline

E. They frequently cause dyskinesia and involuntary choreiform movements

(page 593).

10. Long-term use of Phenobarbital is associated with:

A. Osteomalacia

B. Hemolyticanemia

C. Megaloblasticanemia

D. Folate deficiency

E. Kidney stones

(page 554).

10. Medicamente utilizate în tratamentul durerii (2, Capitolul 55. Managementul durerii, pag. 570-585).

Pharmacological treatment of pain

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) - Bucharest: Prior, 2019 - Chapter 55. Pain management, pp.570-585.

***1. Select the non-opioid analgesic derived from propionic acids:**

A. Ibuprofen

B. Etodolac

C. Diclofenac

D. Diflunisal

E. Paracetamol

(page 573).

***2. Select the opioid receptor antagonist:**

A. Naloxone

B. Pethidine

C. Tramadol

D. Fentanyl

E. Tapentadol

(page 576, 577, 584).

***3. Select the non-opioid analgesic derived from pyrazole:**

A. Celecoxib

B. Ketoprofen

C. Naproxen

D. Ketorolac

E. Diflunisal

(page 573, 574).

4. Identify the true statements about non-opioid analgesics:

A. Paracetamol has intense anti-inflammatory action

B. Long-term use of nonsteroidal anti-inflammatory drugs exclusively causes gastrointestinal side effects

C. Paracetamol has analgesic and antipyretic activity

D. Nonsteroidal anti-inflammatory drugs reduce prostaglandin synthesis

E. Paracetamol overdose has a high risk of hepatotoxicity

(page 570).

5. Select the non-opioid analgesics from the salicylate class:

A. Acetylsalicylic acid

B. Diflunisal

C. Paracetamol

D. Diclofenac

E. Meclofenamate

(page 573).

6. Oxymorphone:

A. Has many advantages over morphine

B. Is used in mild-to-moderate pain

C. Prolonged-release oxymorphone formulations are administered on an empty stomach

D. Is used in severe pain

E. Cannot be administered to patients diagnosed with cancer

(page 578, 584).

7. Select the true statements about morphine:

A. It is the first-line opioid used for pain associated with myocardial infarction, because it increases the oxygen demand of the myocardium

B. It should be avoided in patients with impaired renal function

C. It may induce orthostatic hypotension in patients with hypovolemia

D. It does not cause respiratory depression

E. The association with alcohol amplifies the CNS depression

(page 584).

8. Tramadol:

A. Is an analgesic with central action

B. Is indicated in moderate and moderate-severe pain

C. Binds to miu opioid receptors, promoting norepinephrine reuptake

D. Binds to miu opioid receptors, promoting serotonin reuptake

E. May increase the risk of seizures

(page 582, 585).

9. Select the major side effects of opioid analgesics:

A. Increased gastrointestinal motility

B. Drowsiness

C. Tolerance and dependence

D. Respiratory depression

E. Histamine release

(page 582).

10. Select the opioid agonists-antagonists:

A. Morphine

B. Codeine

C. Methadone

D. Pentazocine

E. Nalbuphine

(page 575, 576).

11. Medicamente utilizate în tratamentul tulburărilor psihice (2, Capitolul 66. Tulburarea de anxietate generalizată, tulburarea de panică și tulburarea de stres posttraumatic, pag. 693-695; Capitolul 68. Tulburarea depresivă majoră, pag. 730-741; Capitolul 69. Schizofrenia, pag. 744-761; Capitolul 70. Tulburările ciclului somn-veghe, pag. 763-766).

Drugs used in the treatment of mental disorders

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) - Bucharest: Prior, 2019 - Chapter 66. Generalized anxiety disorder, panic disorder and post-traumatic stress disorder, pp. 693-695; Chapter 68. Major Depressive Disorder, pp. 730-741; Chapter 69. Schizophrenia, pp. 744- 761; Chapter 70. Sleep-wake disorders, pp. 763-766.

***1. In the treatment of acute anxiety, the most effective drugs are:**

A. Antidepressants

B. Atypical antipsychotics

C. Benzodiazepines

D. Anticonvulsants

E. Antibiotics.

(page 693).

***2. The common side effect of all antidepressants is:**

A. Hepatic toxicity

B. Priapism

C. Orthostatic hypotension

D. Risk of suicide

E. Weight gain.

(pages 734-736).

***3. The selective agonist of the melatonin receptors MT1 and MT2 is:**

A. Zolpidem

B. Zaleplon

C. Triazolam

D. Eszopiclon

E. Ramelteon.

(page 763).

4. Choose the correct statements about benzodiazepine treatment for acute anxiety:

A. Initial doses are small and adjusted weekly

B. Disorientation and psychomotor disorders may occur as side effects

C. After abrupt discontinuation of administration, symptoms of rebound, recurrence and withdrawal may occur.

D. Treatment should generally not exceed 8 weeks

E. For the elderly, high doses are used for drugs with a long half-life.

(page 695).

5. Note the selective serotonin reuptake inhibitors antidepressants:

A. Fluoxetine

B. Duloxetine

C. Sertraline

D. Amitriptyline

E. Escitalopram.

(page 731).

6. First-generation antipsychotics are:

A. Flufenazine

B. Fluoxetine

C. Clozapine

D. Perphenazine

E. Risperidone.

(page 745).

7. Tricyclic antidepressants are:

A. Venlafaxine

B. Vilazodona

C. Mirtazapine

D. Imipramine

E. Nortriptyline.

(page 731).

8. The most common side effects of mirtazapine are:

A. Serotonergic syndrome

B. Constipation

C. Dry mouth

D. Drowsiness

E. Weight gain.

(page 737).

9. Second generation antipsychotics are:

A. Aripiprazole

B. Haloperidol

C. Chlorpromazine

D. Olanzapine

E. Quetiapine.

(page 745).

10. Choose the true statements about maintenance therapy in schizophrenia:

A. The goal is to avoid relapses

B. Treatment is continued for at least 12 weeks after the remission of the first psychotic episode

C. For most patients, it is necessary to continue treatment at the lowest effective dose for up to 5 years

D. Discontinuation of treatment is done by gradually decreasing the dose

E. Treatment is continued for at least 12 months after the remission of the first psychotic episode.

(page 749).

12. Medicamente utilizate în tratamentul afecțiunilor respiratorii (2, Capitolul 77. Astmul bronșic, pag. 846-858; Capitolul 76. Rinita alergică, pag. 835-841; Capitolul 78. Bronhopneumopatia obstructivă cronică, pag. 861-866).

Pharmacological treatment of respiratory diseases

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) - Bucharest: Prior, 2019 - Chapter 77. Asthma, pp. 846-858; Chapter 76. Allergic rhinitis, pp. 835-841; Chapter 78. Chronic obstructive pulmonary disease, pp. 861-866.

***1. The first-line treatment recommended for severe acute asthma and exercise-induced bronchoconstriction is:**

A. Indacaterol

B. Olodaterol

C. Salmeterol

D. Salbutamol

E. Formoterol

(page 846)

***2. Select the false statement about corticosteroid treatment given in asthma:**

A. Corticosteroids are the first-line therapy used for the long-term control of persistent asthma

B. The response to inhaled corticosteroids sets in slowly over time

C. Use of an inhaler (spacer) reduces the local side effects of inhaled corticosteroids

D. Intravenous therapy does not offer any advantage over oral administration, except for patients for whom the oral route is inaccessible

E. At the beginning of therapy, patients should use small and less frequent doses of inhaled corticosteroids

(page 849)

***3. Identify the false statement about H1 antihistamines:**

A. The sedative effect of histamine H1 receptor antagonists is independent of their ability to cross the blood-brain barrier

B. They prevent the formation of oedema, erythema, pruritus and the increased capillary permeability

C. They should be used with caution in patients at risk of urinary retention

D. Administration during meals helps prevent gastrointestinal side effects

E. The relief of allergic rhinitis symptoms is due to the anticholinergic effect

(pag. 835)

4. In patients with a poor response to initial anti-asthmatic treatment and marked wheezing, dyspnoea, the following will be recommended:

A. Add an orally administered systemic corticosteroid

B. Add montelukast

C. Repeat inhalation of the short-acting beta-2-adrenergic agonist immediately

D. Add theophylline aerosols

E. If the patient's condition is serious and does not respond to the initial treatment, contact the doctor and go to the emergency unit

(page 848, 856, 857)

5. Select the correct statements regarding the pharmacological therapy of asthma:

A. In nocturnal asthma, long-acting inhaled beta-2 adrenergic agonists are preferred to those with oral sustained-release

B. For patients with severe asthma exacerbations, a single oral dose of 2 g of magnesium sulphate is recommended

C. Cigarette smoke stimulates theophylline clearance

D. Oral leukotriene receptor antagonists are not used in the treatment of acute exacerbations

E. In the case of aerosolized ipratropium bromide, the required time to obtain maximum bronchodilation is longer than for aerosols with short-acting beta-2-adrenergic agonists

(page 849, 856, 857)

6. Select the sympathomimetics with a longer duration of action (up to 12 hours) used as topical decongestants in allergic rhinitis:

A. Phenylephrine

B. Oxymetazoline

C. Naphazoline

D. Xylometazoline

E. Beclomethasone

(page 835, 838, 840)

7. Identify the correct statements regarding the pharmacological therapy of allergic rhinitis:

A. Intranasal corticosteroids relieve Candida albicans infections

B. Sodium cromoglycate is a leukotriene receptor antagonist used in children from the age of 6 months in the treatment of persistent allergic rhinitis

C. Ipratropium bromide can cause dryness of the nasal mucosa

D. Montelukast may be associated with an antihistamine in seasonal allergic rhinitis

E. Montelukast is the third line of treatment for allergic rhinitis

(page 840, 841)

8. Select the side effects caused by theophylline:

A. Tachycardia

B. Convulsions

C. Dysphonia

D. Urinary retention

E. Oral candidiasis

(page 863, 864)

9. Select the correct answers about COPD corticosteroid therapy:

A. Adrenal suppression occurs more frequently with inhaled corticosteroids than with systemic corticosteroids

B. The association with long-acting bronchodilators is contraindicated

C. Triple therapy (long-acting beta-2-adrenergic agonist plus long-acting anticholinergic plus inhaled corticosteroid) is the first or second choice in patients with multiple symptoms and increased risk of exacerbation of COPD (group D)

D. Administered chronic, in high doses, inhaled corticosteroids may induce osteoporosis and cataracts

E. They represent first-choice therapy in patients with COPD from group A (few symptoms, few risks)

(page 861, 864)

10. Antimicrobial treatment that can be given in uncomplicated exacerbations of COPD includes:

A. Sulfamethoxazole-trimethoprim

B. Azithromycin

C. Amoxicillin

D. Doxycycline

E. Second or third generation cephalosporins

(page 866)

13. Principii ale antibioterapiei (2, Capitolul 35. Alegerea regimului antimicrobian, pag. 333-342).

Principles of antibiotic therapy

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. Ed. In Romanian) - Bucharest: Prior, 2019 - Chapter 35. Choosing the antimicrobial regime, pp. 333-342.

***1. A disulfiram reaction occurs in the case of concomitant therapy with:**

A. Isoniazid and carbamazepine

B. Rifampicin and methadone

C. Metronidazole and ethyl alcohol

D. Macrolides and digoxin

E. Macrolides and theophylline.

(page 339).

***2. Blocking the excretion of beta-lactams occurs in the case of concomitant therapy with:**

A. Chloramphenicol and phenytoin

B. Foscarnet and pentamidine

C. Rifampicin and cyclosporine

D. Penicillins and probenecid

E. Amphotericin B and cyclosporine.

(page 339).

***3. The prolongation of the QT interval occurs in the case of concomitant therapy with:**

A. Quinolones and iron

B. Quinolones and vitamins

C. Quinolones and zinc

D. Quinolones and sucralfate

E. Class III quinolones and antiarrhythmics.

(page 340).

4. Increasing the spectrum of antimicrobial therapy is generally necessary in:

A. Nosocomial infections

B. Dental infections

C. Intra-abdominal infections

D. Pelvic infections in women

E. Mixed etiology infections.

(page 338).

5. The criteria that favor the transition to oral antimicrobial therapy are:

A. Absence of fever for 8 to 24 hours

B. Functional gastrointestinal tract

C. General clinical improvement

D. Absence of fever for 12 to 48 hours

E. Reduction of leukocyte count.

(page 341).

6. The disadvantages of antimicrobial therapeutic associations are:

A. Higher risk of drug toxicity

B. Superinfections with even more resistant bacteria

C. Obtaining a synergistic antimicrobial activity

D. Some combinations of antimicrobials may be antagonistic

E. An increased cost.

(page 341).

7. The reduction of tetracycline absorption occurs in the case of concomitant therapy:

A. Tetracycline and antacids

B. Tetracycline and calcium

C. Tetracycline and digoxin

D. Tetracycline and iron

E. Tetracycline and sucralfate.

(page 340).

8. For the choice of a rational antimicrobial therapy, the following factors must be taken into account:

A. Severity of infection

B. Patient characteristics

C. Characteristics of administered drugs

D. The acute or chronic nature of the infection

E. The cost of therapy.

(page 334).

9. Select the true statements about obtaining a synergistic antimicrobial activity:

A. The combination of cefoxitin with penicillins is frequently used.

B. It is advantageous for infections caused by gram-negative bacilli in immunocompromised patients.

C. It may lead to superior results in infections caused by Pseudomonas aeruginosa.

D. It may lead to superior results in infections caused by Enterococcus spp.

E. Combinations of aminoglycosides and beta-lactams have been frequently used.

(page 341).

10. Antimicrobial associations are generally used for:

A. Increasing the spectrum covered by empirical therapy

B. Obtaining antagonistic effects

C. Obtaining additive side effects

D. Obtaining synergistic effects against the microorganisms that caused the infection

E. Prevention of pathogen resistance.

(page 338).

14. Tratamentul farmacologic al infecțiilor fungice invazive (2, Capitolul 38. Infecțiile fungice invazive, pag. 363-376).

Pharmacological treatment of invasive fungal infections

Bibliography associated with the topic:

Pharmacotherapy Manual / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. Ed. In Romanian) - Bucharest: Prior, 2019 - Chapter 38. Invasive fungal infections, pp. 363-376.

***1. Therapeutic recommendations in histoplasmosis include the following aspects, except:**

A. In general, antifungal therapy does not benefit asymptomatic or mild affected patients

B. Patients with chronic pulmonary histoplasmosis without immunosuppression may be treated with oral itraconazole

C. Patients with chronic pulmonary histoplasmosis, without immunosuppression, can be treated with amphotericin B i.v.

D. Maintenance therapy with itraconazole is contraindicated in AIDS patients

E. In AIDS patients, primary intensive antifungal therapy is performed with amphotericin B i.v. for 12 weeks

(page 363).

***2. In CNS histoplasmosis, the following is administered as initial therapy:**

A. Amphotericin B 0.3-0.5 mg/kg/day, 2-4 weeks (total dose 500 mg)

B. Amphotericin B lipid formulations 5 mg/kg/day, 4-6 weeks

C. Itraconazole 200 mg 3 times a day, 3 days

D. Itraconazole 200 mg once or twice a day, 6-12 weeks

E. Itraconazole 200 mg 2 or 3 times a day for at least a year

(page 365).

***3. Indicate the true statement about the treatment of invasive candidiasis:**

A. In immunocompetent patients, the duration of treatment is two weeks after the last positive blood culture and the disappearance of the signs and symptoms of infection

B. In immunocompetent patients it is recommended to maintain existing central venous catheters plus fluconazole loading dose 400 mg

C. In urinary candidiasis it is recommended to maintain the instruments in the urinary tract plus treatment for 3 days with oral fluconazole 200 mg orally, daily

D. In urinary candidiasis it is recommended to maintain the instruments in the urinary tract plus treatment for 3 days with oral amphotericin B 0.3-1 mg/kg/day

E. Amphotericin B i.v. is contraindicated in patients with chronic disseminated candidiasis (hepatosplenic candidiasis) 0.6-0.7 mg/kg/day

(pp. 373-375).

4. Antifungal therapy for invasive candidiasis with *Candida albicans* includes:

A. Fluconazole

B. Caspofungin

C. Micafungin

D. Amphotericin B

E. Vancomycin

(page 374-375).

5. Indicate the true statements about the treatment of *Aspergillus* infections:

A. Voriconazole is the drug of first-choice for primary therapy in most patients with aspergillosis

B. Caspofungin is contraindicated in the treatment of invasive aspergillosis

C. Lipid formulations with amphotericin B can be used as initial therapy in patients with reduced renal function

D. Lipid formulations with amphotericin B are contraindicated in patients using other nephrotoxic drugs

E. Amphotericin B can be used in patients who cannot tolerate voriconazole

(page 376).

6. The therapy of first-choice for blastomycosis includes:

A. Lipid formulation with Amphotericin B 3-5 mg/kg i.v. daily, 1-2 weeks or until symptoms improve, in case of mild lung damage

B. Amphotericin B deoxycholate 0.7-1 mg/kg i.v. daily, 1-2 weeks or until symptoms improve, in case of severe lung damage

C. Lipid formulation with Amphotericin B 3-5 mg/kg i.v. daily, 4-6 weeks, in case of CNS damage

D. Itraconazole 200 mg orally 3 times/day as lifelong suppressive therapy in patients with immunosuppressive therapy, which cannot be interrupted

E. Itraconazole at doses of 1000 mg/day as a first-line agent in blastomycosis without CNS localization

(page 367, 368).

7. Specific antifungals for the treatment of coccidioidomycosis include:

A. Amphotericin B i.v.

B. Itraconazole orally

C. Fluconazole orally

D. Fluconazole i.v.

E. Caspofungin orally

(page 369).

8. Indicate the true statements about the treatment of cryptococcosis:

A. In case of symptomatic infection, is required treatment with fluconazole for 6-12 months

B. Amphotericin B with flucytosine is the initial therapy of first-choice for acute cryptococcal meningitis in AIDS patients

C. Amphotericin B is administered intrathecally daily 1 mg/kg for the treatment of cryptococcal meningitis in patients with serious condition

D. Fluconazole is used as a chronic suppressive therapy for cryptococcal meningitis in HIV patients

E. Fluconazole orally is contraindicated in patients with organ transplant

(page 369-371).

9. Indicate the echinocandin antifungal drugs useful in the treatment of acute disseminated hematogenous candidiasis with unknown species:

A. Caspofungin

B. Amphotericin B

C. Micafungin

D. Voriconazole

E. Anidulafungin

(page 373, 375).

10. Prophylaxis of candidemia in patients with neutropenia is performed with:

A. Fluconazole orally loading dose 800 mg, then 400 mg daily

B. Fluconazole orally 400 mg daily

C. Itraconazole orally solution 2.5 mg/kg every 12 hours

D. Amphotericin B i.v. 1 mg/kg plus Fluconazole orally 800 mg daily

E. Micafungini.v. 50 mg (1 mg/kg in patients under 50 kg) daily

(page 373).

15. Tratamentul farmacologic al infecțiilor tractului respirator (2, Capitolul 43. Infecțiile tractului respirator inferior, pag. 416-429; Capitolul 44. Infecțiile tractului respirator superior, pag. 430-436).

Pharmacological treatment of infectious respiratory diseases

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) - Bucharest: Prior, 2019 – Chapter 43. Lower respiratory tract infections, pp. 416-429; Chapter 44. Upper respiratory tract infections, pp. 430-436

***1. Preferred antibiotics in the treatment of chronic bronchitis exacerbations are the following, except:**

A. Ampicillin

B. Levofloxacin

C. Doxycycline

D. Trimethoprim/sulfamethoxazole

E. Gentamicin

(page 420).

***2. Select the correct empirical antimicrobial therapy of community-acquired pneumonia, caused by methicillin-resistant *Staphylococcus aureus*, in pediatric patients who have not been completely immunized:**

A. Oxacillin

B. Vancomycin/Clindamycin

C. Amoxicillin

D. Levofloxacin

E. Doxycycline

(page 426, 428)

***3. Select the empirical treatment that will be administered in the first 48 hours after the onset of symptoms in outpatients or patients with community-acquired viral pneumonia, who have comorbidities (diabetes, heart disease, alcoholism):**

A. Clarithromycin

B. Ciprofloxacin

C. Tetracycline

D. Oseltamivir

E. Meropenem

(page 424)

4. Select the true statements about the treatment of acute bronchitis:

A. Acetylsalicylic acid is recommended as symptomatic treatment for children

B. Paracetamol is recommended as an antipyretic (maximum dose of 4 g for adults)

C. Patients should be encouraged to drink enough fluids to prevent dehydration

D. Codeine is contraindicated in severe cough

E. Mild, annoying persistent cough can be treated with dextromethorphan

(page 416, 417)

5. Select the correct empirical treatment for pneumonia caused by atypical pathogens *(Legionella pneumophila, Mycoplasma pneumonia, Chlamydophila pneumonia)*:

A. Azithromycin

B. Doxycycline

C. Oseltamivir

D. Moxifloxacin

E. Zanamivir

(page 425)

6. Select the second-line antibiotic treatment recommended in acute otitis media:

A. Cefuroxime

B. Amoxicillin

C. Ceftriaxone

D. Amoxicillin-clavulanate

E. Clindamycin

(page 431).

7. Patients diagnosed with pharyngitis caused by group A beta-haemolytic streptococcus who are allergic to penicillin should not be given:

A. Clindamycin

B. Azithromycin

C. Clarithromycin

D. Penicillin G benzathine

E. Amoxicillin

(page 433).

8. Select true statements about the treatment for acute rhinosinusitis:

A. Nasal decongestants reduce inflammation due to vasodilation

B. It is recommended to administer intranasal oxymetazoline for 10 days

C. Nasal decongestants can induce rebound nasal congestion

D. Antihistamines are the first-line treatment for acute bacterial sinusitis

E. Guaifenesin may reduce the viscosity of nasal secretions

(page 435).

9. Select false statements regarding treatment with decongestants in acute rhinosinusitis:

A. Nasal decongestants are represented by guaifenesin

B. They are commonly used in the treatment of non-bacterial rhinosinusitis

C. The duration of administration of nasal decongestants should be limited (not more than 3 days)

D. Oral decongestants can stimulate muco-ciliary clearance and they are first-choice treatment in acute bacterial sinusitis

E. Long-term intranasal administration of oxymetazoline may induce tolerance

(page 435).

10. High doses of amoxicillin-clavulanate are required in the treatment of acute bacterial rhinosinusitis in the following situations:

A. Allergy to beta-lactams

B. Children under 2 years

C. Recent hospitalization

D. Immunocompromised patients

E. Adults over 65 years

(page 436).

16. Tratamentul farmacologic al bolilor cu transmitere sexuală (2, Capitolul 46. Bolile cu transmitere sexuală, pag. 443-459).

Pharmacological treatment of sexually transmitted diseases

Bibliography associated with the topic:

Pharmacotherapy Manual / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. Ed. In Romanian) - Bucharest: Prior, 2019 - Chapter 46. Sexually transmitted diseases, pp. 443-459.

***1. For pregnant women who have an infection with *Neisseria gonorrhoeae*, in case of suspicion of concomitant infection with *Chlamydia trachomatis*, is preferred the treatment with:**

A. Ceftriaxone

B. Azithromycin

C. Cefixime

D. Itraconazole

E. Amphotericin B

(page 443).

***2. The treatment of choice in syphilis, regardless of the stage of the disease, is:**

A. Penicillin G orally

B. Cefixime single oral dose

C. Penicillin G administered parenterally

D. Doxycycline orally

E. Tetracycline orally

(page 449).

***3. The recommended treatment in trichomoniasis in case of symptomatic and asymptomatic infections is:**

A. Metronidazole 2 g, orally, in a single dose

B. Metronidazole 2 g, orally, at 12 hours, 7 days

C. Penicillin G 3-4 million IU every 4 hours or in continuous infusion, 10-14 days

D. Doxycycline 100 mg orally, at 6 hours, 14 days

E. Tetracycline 500 mg orally, at 6 hours, 28 days

(page 458).

4. The treatment of first-choice for the first episode of genital herpes includes the oral administration of:

A. Acyclovir

B. Valganciclovir

C. Valaciclovir

D. Famciclovir

E. Oseltamivir

(page 455).

5. Most patients treated for primary and secondary syphilis develop after treatment the Jarisch-Herxheimer reaction characterized by:

A. Fever

B. Chills

C. Arthralgia

D. Worsening of syphilitic lesions

E. High blood pressure

(page 449).

6. Indicate the true statements about drug therapy in syphilis:

A. In primary syphilis in adults, benzathine penicillin G is administered 2.4 million IU in a single dose i.m.

B. In late latent syphilis in adults, benzathine penicillin G is administered 2.4 million IU, i.m., one dose per week for 3 consecutive weeks.

C. In neurosyphilis, crystalline Penicillin G, water-soluble, 18-24 million IU i.v. (3-4 million IU every 4 hours or in continuous infusion) for 10-14 days

D. The Jarisch-Herxheimer reaction after treatment is an allergy to penicillins

E. Tetracyclines are contraindicated in patients allergic to penicillins

(page 449-451).

7. The drugs of first-choice for *Chlamydia trachomatis* infection are:

A. Azithromycin

B. Acyclovir

C. Doxycycline

D. Penicillin G

E. Metronidazole

(page 452).

8. The recommended treatment for *Chlamydia trachomatis* infections can be achieved with:

A. Azithromycin 500 mg orally every 8 hours for 3 days in case of urogenital infections during pregnancy

B. Azithromycin 1 g, oral, single dose, in case of uncomplicated urethral infections in adults

C. Doxycycline 100 mg, orally, at 12 hours, daily, for 7 days in case of uncomplicated urethral, endocervical or rectal infections in adults

D. Metronidazole 50 mg/kg/day, orally, in four divided doses (at 6 hours), for 14 days, in case of pneumonia in infants

E. Erythromycin base or ethylsuccinate 50 mg/kg/day, orally, in four divided doses (at 6 hours), for 14 days, in case of conjunctivitis of the newborn or pneumonia in infants

(page 453).

9. Indicate the true statements about the therapeutic regimens for the treatment of *Trichomonasvaginalis* infection:

A. Metronidazole and tinidazole are indicated in the first trimester of pregnancy

B. In case of failure of the initial treatment with metronidazole or tinidazole, the treatment can be resumed using the same therapeutic agents

C. In persistent or recurrent infectionsis administered Metronidazole 500 mg, orally, every 12 hours, for 7 days

D. In symptomatic infectionsis administered Tinidazole 2g, orally, in a single dose

E. In asymptomatic infectionsis administered Metronidazole 2g, orally, in a single dose

(page 455, 458).

10. For genital herpes in case of recurrent infections, episodic treatment can be performed with:

A. Acyclovir 400 mg, orally, daily, at 8 hours, for 5 days

B. Aciclovir 400 mg, orally, daily, at 8 hours, for 2 days

C. Acyclovir 800 mg, orally, daily, at 12 hours, for 5 days

D. Acyclovir 200 mg, orally, 5 times a day, for 7-10 days

E. Famciclovir 250 mg, orally, daily, at 8 hours, for 7-10 days

(page 456).

17. Tratamentul farmacologic al infecțiilor tractului urinar (2, Capitolul 50. Infecțiile tractului urinar, pag. 505-514).

Pharmacological treatment of urinary tract infections

References:

Pharmacotherapy: A pathophysiologic approach / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. ro. ed.) - Bucharest: Prior, 2019 - Chapter 50. Urinary tract infections, pp. 505-514.

***1. Select the fluoroquinolone used in the treatment of urinary tract infections:**

A. Cefaclor

B. Fosfomycin

C. Nitrofurantoin

D. Aztreonam

E. Levofloxacin

(page 508, 509).

***2. It is administered in a single dose (3g), in lower urinary tract infections, on an outpatient basis, in adults:**

A. Fosfomycin trometamol

B. Nitrofurantoin

C. Levofloxacin

D. Ciprofloxacin

E. Pivmecillinam

(page 510).

***3. Select the aminoglycoside that is generally used as a reserve antibiotic for infections caused by multidrug-resistant bacteria:**

A. Tobramycin

B. Amikacin

C. Gentamicin

D. Imipenem

E. Cefepime

(page 509).

4. Select the antimicrobial agents with relatively low potential for side effects, used in pregnant women diagnosed with urinary tract infections:

A. Cephalexin

B. Tetracyclines

C. Amoxicillin

D. Fluoroquinolones

E. Amoxicillin/clavulanate

(page 514).

5. Characteristic adverse reactions of aminoglycosides are:

A. Photosensitivity

B. Ototoxicity

C. Tendinitis

D. Confusion

E. Nephrotoxicity

(page 509).

6. Select the true statements about cephalosporins:

A. They may cause hypersensitivity reactions (rash, anaphylaxis)

B. Complete blood count is a monitoring parameter in the treatment of cephalosporins

C. Ceftazidime and cefepime are not active on Pseudomonas aeruginosa

D. Second- or third-generation cephalosporins have a narrow spectrum of action

E. They may cause superinfections and seizures

(page 509).

7. Identify the correct parenteral therapy administered in the treatment of urinary tract infections:

A. Gentamicin

B. Doripenem

C. Cefepime

D. Imipenem-cilastatin

E. Nitrofurantoin

(page 509).

8. Select the true statements about antimicrobial agents used to treat urinary tract infections:

A. The combination of trimethoprim-sulfamethoxazole is also effective in the prophylactic treatment of recurrent infections

B. Nitrofurantoin is effective in both treatment and prophylaxis of recurrent urinary tract infections

C. The amoxicillin-clavulanate combination is preferred in the treatment of uncomplicated cystitis

D. Moxifloxacin should not be used due to inadequate urine concentrations

E. The combination of trimethoprim-sulfamethoxazole achieves low urinary concentrations

(page 508).

9. Select the fluoroquinolones used in the treatment of urinary tract infections:

A. Moxifloxacin

B. Levofloxacin

C. Ciprofloxacin

D. Fosfomycin

E. Nitrofurantoin

(page 508).

10. In acute uncomplicated pyelonephritis cause by the pathogen *Escherichia coli*, it is recommended:

A. Quinolone therapy for 7 days

B. Quinolone therapy for 4-6 weeks

C. Trimethoprim-sulfamethoxazole therapy (if sensitive) for 14 days

D. Nitrofurantoin therapy for 5 days

E. Trimethoprim-sulfamethoxazole therapy (if sensitive) for 3 days

(page 511).

18. Tratamentul afecțiunilor oncologice (2, Capitolul. 60. Cancerul mamar pag. 632-641; Capitolul 64. Cancerul de prostata pag. 673-679).

Treatment of oncological diseases

Bibliography associated with the topic:

Pharmacotherapy Manual / Barbara G. Wells, Terry L. Schwinghammer, Joseph T. DiPiro, Cecily V. DiPiro; Adina Popa (coord. Ed. In Romanian) - Bucharest: Prior, 2019 - Chapter 60. Breast cancer, pp. 632-641; Chapter 64. Prostate Cancer, pp. 673-679

***1. The following statements about the treatment of prostate cancer are true, except:**

A. Luteinizing hormone-releasing hormone (LHRH) agonists are a reversible androgenic ablation method

B. The leuprorelin implant is an osmotic mini-pump that delivers daily doses for 1 year

C. Flutamidein monotherapy is the treatment of first-choice due to its increased efficacy

D. Flutamide can cause gynecomastia, hot flashes and loss of libido

E. Docetaxel in combination with Prednisone improves survival in castration-refractory cases

(page 673, 674, 678, 679).

***2. Which of the following drugs is an inhibitor of androgen hormone synthesis?**

A. Aminoglutethimide

B. Bicalutamide

C. Goserelin

D. Letrozole

E. Degarelix

(page 678).

***3. The following side effects are caused by the administration of Tamoxifen as adjuvant hormone therapy in the treatment of primary or early breast cancer, except:**

A. Vaginal bleeding

B. Hot flashes

C. Pulmonary embolism

D. Osteoporosis with increased risk of fractures of the hip, radius and spine

E. Endometrial cancer

(page 636).

4. For breast cancer patients with bone metastases it is recommended to combine a bone resorption inhibitor such as:

A. Pamidronate

B. Letrozole

C. Zoledronic acid

D. Anastrozole

E. Denosumab

(page 637).

5. Indicate aromatase inhibitors useful as adjunctive hormone therapy in the treatment of postmenopausal breast cancer:

A. Trastuzumabemtansine

B. Letrozole

C. Exemestane

D. Anastrozole

E. Lapatinib

(page 636, 639).

6. Indicate the selective estrogen receptor modulators (SERM) used to treat metastatic breast cancer:

A. Tamoxifen

B. Toremifene

C. Goserelin

D. Medroxyprogesterone

E. Ethinylestradiol

(page 641).

7. Which of the following drugs are luteinizing hormone-releasing hormone (LHRH) agonists?

A. Vinorelbine

B. Tamoxifen

C. Paclitaxel

D. Leuprorelin

E. Goserelin

(page 636, 639).

8. Which of the following drugs used to treat breast cancer are anti-HER2 agents?

A. Lapatinib

B. Tamoxifen

C. Trastuzumab

D. Triptororelin

E. Pertuzumab

(page 637).

9. Degarelix:

A. It is the gonadotropin-releasing hormone (GnRH) antagonist

B. Reduces testosterone production to castration levels in up to 7 days

C. It is administered orally

D. It is given as a subcutaneous injection every 28 days

E. May cause osteoporosis

(page 678).

10. Write down the recommended antiandrogens for the treatment of prostate cancer:

A. Bicalutamide

B. Raloxifene

C. Flutamide

D. Nilutamide

E. Tamoxifen

(page 674, 675).

19. Formularea și biodisponibilitatea medicamentelor (3, vol. I, pag. 87-101, pag. 221-243).

Formulation and bioavailability of pharmaceutical products

Reference:

3 Iuliana Popovici, Dumitru Lupuliasa Tehnologie farmaceutica Ed Polirom, Iasi, vol 1, editia IV, 2017; pag 87-101, pag 221 - 243

1. Main components of a drug are:

A. the auxilliary substances

B. the active substances

C. the manufacturing process

D. the packaging materials

E. the storage conditions

(pag 87-101/Popovici)

2. Excipients may influence:

A. the pharmaceutical form production

B. the stability of the pharmaceutical form

C. the bioavailability of the pharmaceutical form

D. the toxicity of the pharmaceutical form

E. only options b and c are correct

(pag 90/Popovici)

3. The most important types of equivalence are:

A. bioechivalence

B. pharmaceutical equivalence

C. chemical equivalence

D. sublime equivalence

E. pharmacological equivalence

(pag 222,223/Popovici)

4. The following factors may influence the process of formulation:

A. factors related to the active substance

B. manufacturing processes

C. packaging materials

D. location of the production unit

E. factors related to pharmaceutical form and route of administration

(pag. 87-101/Popovici)

5. The determination of bioavailability in biological fluids is performed using:

A. moistening tests

B. dissolution tests

C. blood probes

D. dissintegration tests

E. urine probes

(pag 224/Popovici)

6. Physiological factors influencing bioavailability in oral absorption:

A. excipients

B. active substances

C. pH

D. the degree of filling of the gastrointestinal tract

E. enzimes

(pag 241/Popovici)

7. The pharmacist can influence the bioavailability of a medicine by choosing:

A. the physical state of the active substance

B. the pharmaceutical form

C. chemical status of the active substance

D. the colour of the drug

E. the preparation technology

(pag 229/Popovici)

***8. The quality conditions for an ideally formulated product are:**

A. instability

B. favorable environment for the development of microorganisms

C. irritating features

D. lack of side effects

E. toxicity

(pag 87/Popovici)

***9. The following are intended for oral administration:**

A. ointmetnts

B. tablets

C. supositories

D. transdermal systems

E. liniments

(pag 88/Popovici)

***10. Considering the auxilliary substances, the following affirmation is correct:**

A. they are ingredients with therapeutic effect

B. they must be chemically inert

C. they may have low toxicity

D. the pharmacist may not control the release rate of the active substance from the pharmaceutical form by choosing the auxiliary substances

E. FDA not approved substances may be used in formulation.

(pag 88/Popovici)

20. Preparate parenterale (3, vol. I, pag. 486-528; 4, FR X pag. 492-493, pag. 510-514, pag. 1071- 1073; 4, FR X Supl. 2004: pag. 135-142).

Parenteral preparations

Reference:

3 Iuliana Popovici, Dumitru Lupuliasa Tehnologie farmaceutica Ed Polirom, Iasi, vol 1, editia IV, 2017; pag 486 – 528

4 FR X pag 492-493, pag 510-514, pag 1071-1073, FR X Supl 2004 pag 135-142

1. According to the Xth R. Ph., Injectable Preparations are sterile:

A. solutions

B. tablets

C. suspensions

D. emulsions

E. powders which will be dissolved or suspend in a sterile solvent prior to use.

(FR X pag 510)

2. Types of filters used for sterilizing filtration:

A. porous solid filters

B. stitted glass filters

C. silk fibers

D. press filters provided with branches

E. Millipore filters

(pag 511/Popovici)

3. The 2004 supplement of Xth R. Ph. provides for the determination of bacterial endotoxins and pyrogens for:

A. tablets

B. powders for injection/infusion solutions

C. concentrates for injection/infusion solutions

D. infusions

E. injections

(pag. 138/Supl 2004)

4. Xth R. Ph. provides as methods for sterilization:

A. dry heat sterilization

B. flaming

C. sterilization by filtration

D. gas sterilization

E. water vapor sterilization under pressure

(FR X pag 1071 - 1073)

5. Regarding the preparation of perfusions, the following are correct:

A. generally, the operations are similar with those used for injectable solutions

B. each phase of preparation takes place in a separate department and different cycle

C. they are prepared in continuous flow, without interruption

D. the operations are similar with those used for orally administered solutions

E. the operations are similar with those used for orally administered suspensions

(FR X pag 492-493, pag 510-514)

6. For gas sterilization, the following are used:

A. ß-propiolactone

B. ethylene oxide

C. formaldehyde

D. oxygen

E. carbon dioxide

(pag 501-505/Popovici)

7. An injectable solution is considered isohydric if:

A. its pH is equal to that of the blood

B. its pH is, according to FR X, of 2.5-9.5

C. its pH is slightly acidic

D. its pH is slightly alkaline

E. its pH is 7,35-7,40

(pag 525/Popovici)

***8. The advantages of formaldehyde sterilization are:**

A. high cost of the procedure

B. long duration of desorption

C. usage of a gas with a very strong odor and easy to detect

D. high temperatures protocol

E. none of the above answers

(pag 502/Popovici)

***9. According to Xth R. Ph., the following pharmaceutical form must correspond to the Passage Test:**

A. injectable suspensions

B. i.v. suspensions

C. internal use emulsions

D. powders for injectable solutions

E. injectable solutions

(pag. 512/FR X)

***10. Acording to the Xth R. Ph., the folowing can be used to prepare infusions:**

A. active ingredients

B. suspending agents

C. sweeteners

D. dyes

E. flavouring agents

(pag. 492/FR X)

21. Preparate oftalmice (3, vol. I, pag. 672-688; pag. 700-708; 4, FR X pag. 709-711; 4, FR XSupl. 2004. pag. 127-134).

Ophtalmic pharmaceutical forms

Reference:

3 Iuliana Popovici, Dumitru Lupuliasa Tehnologie farmaceutica Ed Polirom, Iasi, vol 1, editia IV, 2017; pag 672 – 688, pag 700-708

4 FR X pag 709-711, FR X Supl 2004 pag 127-134

1. Advantages of ophthalmic preparations:

A. local ophtalmic therapy ensures a rapid and direct action by using high drug concentrations

B. because of the hemato-ocular barrier, the local concentration cannot be reached by systemic administration

C. due to the hemato-ocular barrier, the local concentration is easily reached in the systemic administration

D. the ophtalmic administration is easy, fast, non-traumatic by using a dropper, directly to the conjunctival sac

E. different pharmaceutical dosage forms may be used for ophtalmic administration such as: solutions, suspensions, ointments, aerosol, tablets

(pag 672 – 688/Popovici)

2. Disadvantages of ophthalmic preparations:

A. because of the hemato-ocular barrier, the local concentration cannot be reached by systemic administration

B. during treatment, decreased sensitivity of the eye may be noted

C. solutions have short period persisting in the eye of few minutes

D. aqueous ophthalmic solutions are not a favorable media for microorganisms development

E. using an improper solution may lead to microtrauma, that triggers the defense mechanisms, pain sensation, photophobia, hyperthermia and edema of the conjunctiva

(pag 672 – 688/Popovici)

3. The following are correct:

A. the sterility of monodose (single use eye drops) is ensured with one of the methods used for the sterilization of parenteral preparations (filtration and moist heat are preferred)

B. no preservatives are allowed when preparing single use eye drops

C. no preservatives are allowed when preparing multiple dose eye drops

D. the sterility of single dose eye drops is ensured with preservatives

E. monodose eye drops are applied only on the accidentally injured eye or in surgical interventions

(pag 672 – 688, 700-708/Popovici)

4. „Zefirol" is:

A. benzalkonium chloride

B. chlorhexidine acetate

C. is used in concentrations of 0.01-0.02%

D. is used in concentrations 1-2%

E. is bactericidal on gram - and gram + germs

(pag 686/Popovici)

5. As solvent, the oily ophthalmic solutions use:

A. 1% methylcellulose solution

B. polyvinyl alcohol

C. gelatine

D. castor oil

E. peanut oil

(pag 701/Popovici)

6. Regarding the ophthalmic preparations, the following are correct:

A. alkaline solutions are less tolerated, compared to acidic solutions

B. solutions with a pH 5 - 10.5 may be administered ophtalmically without producing discomfort or pain

C. alkaline solutions are better tolerated, compared to acidic solutions

D. a pH = 6 is highly iritating

E. a pH $\leq$ 5.8 or $\geq$ 11.4 is not iritating

(pag 677/Popovici)

7. Antibacterial agents used for ophthalmic dosage forms must:

A. be effective on a narrow range of microorganisms

B. be influenced by the pH of the solution

C. be water solvable

D. have long term effect

E. have the ability to produce sensitivity or allergy

(pag 672-686/Popovici)

***8. The use of preservatives is mandatory in case of:**

A. miotics

B. irrigation solutions used during eye surgery

C. enzymatic products used during eye surgery

D. multidose eye drops

E. single-dose eye drops

(pag 672/Popovici)

***9. Oculoguttae are:**

A. oral drops

B. auricular drops

C. implants

D. elixirs

E. ophthalmic drops

(FR X pag 709)

***10. Antimicrobial preservatives are is not allowed in the following eye drops:**

A. with antibiotic content

B. single dose

C. multidose

D. with tap water content

E. packaged in glass containers

(pag 673/Popovici)

22. Preparate nazale (3, vol. I, pag. 388-397; 4, FR X pag. 823-824; 4, FR X-Supl. 2004. pag. 120-126).

Nasal pharmaceutical preparations

Reference:

3 Iuliana Popovici, Dumitru Lupuliasa Tehnologie farmaceutica Ed Polirom, Iasi, vol. I, pag. 388-397;

4 FR X pag. 823-824; 4, FR X-Supl. 2004. pag. 120-126.

1. The following affirmations are correct:

A. the nasal drops may contain preservatives

B. the nasal drops must not contain preservatives

C. regarding the nasal suspensions, the dimensions of the particles must not exceed 500µm

D. most of the nasal drops are hydrophilic

E. most of the nasal drops are lipophilic

(pag 388/Popovici)

2. Xth Romanian Pharmacopoeia recommends as vehicles for nasal drops:

A. glycerol

B. isotonic aqueous solutions

C. neutralized sunflower oil

D. paraffin oil

E. ether

(FR X pag. 823-824)

3. The following are used as viscosity enhancing agents for nasal preparations:

A. methylcellulose

B. carboxymethylcellulose

C. polyvinylpyrrolidone

D. ureea

E. carbopols

(pag 394/Popovici)

4. As isotonic solutions for nasal preparations, the following two are used:

A. 9‰ potasium chloride solution

B. 50 ‰ fructose solution

C. 50 ‰ mannitol solution

D. 9‰ sodium chloride solution

E. 50 ‰ glucose solution

(pag 393/Popovici)

5. To obtain the nasal preparations, the following additives may be used:

A. solubilizing agents

B. pH buffers

C. viscosity enhancers

D. dyes

E. preservatives

(FR X pag. 823)

6. The contact time with the nasal mucosa may be increased with:

A. paraffin oil

B. distilled water

C. tween 80

D. carbopol

E. P.V.A.

(page 394, 395/Popovici)

7. When praparing nasal drops, in Romania it is forbidden to use the following substances:

A. carbopols

B. isotonic solutions

C. paraffin oil

D. sunflower oil

E. liquid paraffin

(page 393/Popovici)

***8. Rhinopharyngeal preparations are known as:**

A. auricular preparations

B. oculenta

C. nasal preparations

D. LACRISERT

E. OCUSERT

(FR X pag. 823-824)

***9. Nasal liquid preparations are packaged in:**

A. tightly closed bottles with dripping devices

B. prefilled syringes

C. ampoules

D. transparent bottles

E. vials

(page 397/Popovici)

***10. According to the Xth R. Ph., the pH of nasal preparations should be in the range of:**

A. 5 - 7

B. 6 - 7.5

C.7 - 8

D.6 – 8,5

E. 5 - 8

(FR X pag. 823-824)

23. Suspensii farmaceutice (3, vol. II, pag. 447-477; 4, FR X pag. 893-894).

Pharmaceutical suspensions

***1. The following excipients are used for obtaining suspensions according to the Romanian Pharmacopoeia X except for:**

A. Flocculating agents

B. Colorants

C. Adequate preservatives

D. Wetting agents

E. Adsorbents

***2. The suspension label must mention according to the Romanian Pharmacopoeia X:**

A. store at 4°C

B. store at room temperature

C. store away from humidity

D. store in hermetically sealed containers

E. Shake before use

***3. In a suspension the quantity of either toxic or highly active drug that is suspended must not surpass, according to the Romanian Pharmacopoeia X, the maximum dose for**

A. 3 days

B. 5 days

C. 12 hours

D. 24 hours

E. 11 days

4. The particle size in a suspension according to the Romanian Pharmacopoeia X:

A. is determined by examining 100 mg suspended active substance with a microscope

B. 90% of all particles must have a diameter of maximum 50 micrometers

C. 90% of all particles in an ophthalmic suspension must have a diameter of maximum 25 micrometers

D. 10% of the particles examined have a diameter of maximum 100 micrometers

E. is determined by examining 10 g suspended active substance with a microscope

5. Internally administered suspensions may contain the following excipients according to the Romanian Pharmacopoeia X

A. microorganisms

B. binders

C. Flavoring agents

D. Sweetening agents

E. Adsorbents

6. Deflocculated suspensions

A. The particles are individually suspended

B. Sedimentation occurs slowly

C. The sediment cannot be easily redispersed

D. The particles are reunited in the form of floc or flake

E. Sedimentation is fast

7. Flocculated suspensions

A. Flocculation is achieved through electrolytes, macromolecules or surfactants

B. The sediment can be easily redispersed

C. The limit between the sediment and the supernatant is not clear because of the smaller particles

D. Sedimentation is fast

E. The particles are reunited in the form of floc or flake

8. Choose the correct answers regarding suspensions

A. Suspending agents form films around the particles

B. Suspending agents decrease attraction between particles

C. High viscosity of the dispersion medium leads to slow sedimentation

D. Reducing particle size beyond a certain limit may lead to a compact cake upon sedimentation

E. The reduction of particle size increases the sedimentation rate

9. Choose the correct answers

A. Hydrophobic materials are easily wetted by non-polar liquids

B. Hydrophilic materials are easily wetted by water

C. Structured vehicles decrease the viscosity of the suspension

D. Structured vehicles are aqueous solutions of natural and synthetic gums

E. Structured vehicles reduce the sedimentation of particles.

10. Structured vehicles used in suspensions:

A. They are also called thickening or suspending agents

B. They are used to increase the viscosity of the suspension.

C. They will resist any change in pH when an acid or base is added.

D. They are aqueous solutions of natural and synthetic gums.

E. They are added to produce osmotic pressure comparable to biological fluids.

24. Preparate semisolide pentru aplicații cutanate (3, vol. II, pag. 715-749; 4, FR X pag. 951-953;4, FR X-Supl. 2004. pag. 152-158).

Semisolid dosage forms for topical applications

1. **Semisolid preparations for application to the skin include according to the 2004 FRX Supplement the following:**

   A. Ointments

   B. Creams

   C. Gels

   D. Medicated plasters

   E. Solutions

2. **The label of semisolid preparation must mention:**

   A. All the stages of preparation

   B. If the preparation is sterile, when applicable

C. All the substances contained

D. All the preservatives added

E. Conditions for the preparation process

3. Hydrophilic gels may contain

A. Starch

B. Cellulose derivatives

C. Paraffin oil

D. Propylene glycol

E. Aluminum and magnesium silicates

4. Lipophilic gels may contain

A. paraffin oil

B. Propylene

C. Fatty oils

D. Cellulose derivatives

E. Aluminum or zinc soaps

5. In the case of semi-solid preparations, the 2004 FRX Supplement mentions that appropriate measures must be taken to ensure the microbiological quality in the following stages:

A. Preformulation

B. Manufacture

C. Packaging

D. Distribution

E. Storage

***6. The following are ointment bases, except for**

A. White petrolatum

B. Cocoa butter

C. Lanolin

D. Paraffin

E. White wax

***7. Ointments are prepared by**

A. Incorporation

B. Use of structured vehicle

C. Use of controlled flocculation

D. Hand rolling

E. Compression molding

*** 8. The following are gelling agents except for**

A. Carboxymethylcellulose

B. Hydroxyl propyl methylcellulose

C. Carbomer 934

D. Tragacanth

E. White wax

9. Advantages of ointments are:

A. When used, they may stain the clothes

B. Pharmaceutical ointments are generally greasy and difficult to remove

C. Pharmaceutical ointments may be easily spread on skin

D. The release of the drug is prolonged compared to many other topical dosage forms

E. They persist at the site of application resulting in a prolonged release of the drug

10. Hydrocarbon bases are characterized by

A. They form an occlusive film

B. They have excellent retention on the skin

C. They are difficult to apply to (spread over) wet surfaces

D. They are predominantly hydrophobic

E. They may be easily washed from the skin and from clothing

25. Preparate transdermice (3, vol. II, pag. 847-869; pag. 883-887; 4, FR X-Supl. 2004: pag. 171-173).

Transdermal drug delivery systems

1. Choose the correct answers regarding transdermal drug delivery systems

A. It may include a semisolid or solid matrix

B. The structure of the matrix affects the transdermal diffusion of the active substance

C. it may only include a solid matrix

D. The structure of the matrix does not affect the transdermal diffusion of the active substance

E. the matrix type is irrelevant

***2. Transdermal drug delivery systems are also known as**

A. Emplastra subcutanea

B. Emplastra usum dermicum

C. Emplastra transcutanea

D. romplastra transcutanea

E. Emplastra medicati

***3. Transdermal drug delivery systems**

A. May include a single active substance

B. Do not include stabilizing agents

C. May include only colorants approved by the Ministry of Health

D. May include one or more active substances

E. May include antioxidants

***4. Transdermal drug delivery systems are stored**

A. In a cold place

B. At Venena

C. At Separanda

D. At room temperature

E. anywhere

***5. The label of a transdermal drug delivery system**

A. it should mention the total quantity of active substances

B. it must have a blue frame

C. it must have a red frame

D. it should not mention the total quantity of active substances

E. it must have a black frame

6. Transdermal Nitro-glycerine

A. It is used for the treatment of angina

B. Each patch delivers nitro-glycerine over 24 hours

C. It is used for the treatment of arrhythmia

D. Each patch delivers nitro-glycerine over 48 hours

E. It is available in two strengths 5mg and 10mg.

7. Transdermal Nicotine:

A. It is used in smoking cessation programmes

B. It has been shown to be an effective aid in quitting the smoking habit

C. The available patches contain from 7-22 mg of nicotine

D. It is used for daily application

E. Each patch delivers nicotine over 72 hours

8. When formulating transdermal therapeutic systems, the adhesive must:

A. Stick to the skin for the patch's lifetime.

B. It must be non-irritating and non-allergenic as it may be in place for up to 7 days.

C. It must be incompatible with the drug

D. It should allow the patch to be removed painlessly

E. It must be compatible with excipients

9. The rate-limiting membrane in transdermal drug delivery systems:

A. It is a semi-permeable membrane

B. It separates reservoir from the underlying adhesive layer

C. It is designed to control the rate of delivery of the active ingredient to the skin surface

D. It can be prepared from co-polymers of ethylene acetate

E. It separates the reservoir from the backing layer

10. The rate limiting membrane -type patch has the following components

A. Backing layer

B. Drug in adhesive layer

C. Drug in matrix/reservoir

D. Rate limiting membrane

E. Removable release layer

26. Preparate rectale (3, vol. II, pag. 900-931; 4, FR X, pag. 889-890; 4, FR X-Supl. 2004. pag. 145-151).

Rectal preparations

1. Rectal suppositories may have

A. Spherical shape

B. Ovoidal shape

C. Torpedo shape

D. Cylindrical - conical shaped

E. The base diameter is between 8-10 mm

***2. Choose the correct answer regarding cocoa butter**

A. It is a hydrophilic base

B. It is mentioned by FR X

C. It cannot be used for obtaining suppositories by fusion method

D. It is not mentioned by FR X

E. It cannot be used for obtaining suppositories by hand rolling

***3. Suppositories, intended for adults, weight according to the Romanian Pharmacopoeia X:**

A. 1-5 g

B. 2-4 g

C. 2-3 g

D.1-2 g

E. 5-12 g

***4. Rectal suppositories obtained using lipophilic bases must melt at 37 +/- 2 ºC in**

A. 60 minutes

B. 15 minutes

C. 30 minutes

D. 45 minutes

E. 90 minutes

***5. Rectal suppositories obtained using hydrophilic bases must melt at 37 +/- 2 ºC in**

A. 60 minutes

B. 30 minutes

C. 20 minutes

D. 90 minutes

E. 40 minutes

6. Rectal suppositories

A. Intended for introduction into vagina

B. Local or systemic action

C. They are usually globular, oviform, or cone-shaped

D. Cone or bullet shaped

E. They weight between 2-3 g (adults)

7. Choose the correct answers regarding cocoa butter:

A. It is a yellowish white solid brittle fat

B. It can get easily overheated

C. It has emulsifying properties

D. It is water soluble

E. It is an excellent emollient

8. Choose the correct affirmations involving glycerinated gelatin

A. It is hygroscopic

B. Suppositories have a laxative action when inserted into the rectum

C. Suppositories dissolve in the secretions of the body cavity in which they are inserted

D. It melts at body temperature

E. It can be used for obtaining suppositories by hand rolling

9. Suppositories can be obtained by:

A. Compression molding

B. Hand rolling

C. Incorporation

D. Fusion method

E. In situ soap method

10. The following are cocoa butter substitutes

A. Paraffin

B. Witepsol

C. Fattibase

D. Glycerinated gelatin

E. White petrolatum

27. Comprimate, capsule (3, vol. III, pag. 194-211; pag. 262-272, pag. 422-451; 4, FR X pag. 192- 194, pag. 284-286; 4, FR X-Supl. 2004. pag. 52-68).

Capsules/tablets

1. **The following auxiliary substances are used for the preparation of tablets according to the Romanian Pharmacopoeia X:**

A. Flow aids

B. Disintegrants

C. Viscosity enhancers

D. Binders

E. Diluents

2. **Choose the correct answers according to the Romanian Pharmacopoeia X:**

A. Talc must not surpass 1% for tablet preparation

B. Stearic acid must not surpass 3% for tablet preparation

C. Adding flavoring and sweetening agents is allowed for mouth dissolving tablets

D. Adding flavoring and sweetening agents is allowed for tablets that are administered after being dissolved

E. Aerosil must not surpass 3% for tablet preparation

3. **Choose the incorrect answers according to the Romanian Pharmacopoeia X:**

A. Tablets are solid pharmaceutical preparations that contain single doses of one or more active substances

B. Tablets are solid pharmaceutical preparations that contain single or multiple doses of one or more active substances

C. Colorants approved by the Ministry of Health cannot be added

D. Colorants approved by the Ministry of Health can be added

E. They are stored in hermetically sealed containers

***4. Effervescent tablets must dissolve or disperse in water, according to the Romanian Pharmacopoeia X, in less than**

A. 20 minutes

B. 25 minutes

C. 10 minutes

D. 15 minutes

E. 5 minutes

***5. Coated tablets must dissolve or disperse in pepsin – acid solution, according to the Romanian Pharmacopoeia X, in less than**

A. 25 minutes

B. 40 minutes

C. 15 minutes

D. 30 minutes

E. 1 hour

***6. They are intended for oral administration except for**

A. Soft capsules

B. Cachets

C. Hard capsules

D. Tablets

E. Ointments

7. Choose the tablets ingested orally:

A. Delayed release tablet

B. Repeat action tablet

C. Effervescent tablet

D. Sugar coated tablet

E. Sublingual tablet

8. Talc acts in tablet formulation as:

A. Lubricant

B. Glidant

C. Antiadhesives

D. Sweetener

E. Coloring agent

9. Choose the glidants used in tablet formulation

A. Starch

B. Magnesium stearate

C. Boric acid

D. Guar gum

E. Aspartame

10. Choose the correct answers regarding wet granulation

A. It is a process that involves the use of a liquid binder to lightly agglomerate the powder mixture.

B. The granules are formed by binding the powders together with an adhesive

C. It is a process that creates granules by light compaction of the powder blend under low pressures

D. Binders used include aqueous preparations of natural gums such as acacia

E. Under-wetting will cause them to be too soft and friable

28. Exercising the profession of pharmacist in Romania (6)

Law no. 95/2006 regarding the reform in the health field, title XIV: Exercising the profession of pharmacist. Organization and functioning of the Romanian College of Pharmacists, Official Gazette of Romania part I no. 372/2006.

1. *The governing bodies, at national level, of the Romanian College of Pharmacists are:
   A. National General Body; National Council; Executive Office; President
   B. The President
   C. National General Body
   D. Executive Office and the President
   E. National Council and the President
   (*art. 596)*

2. *The National General Body has the following capacity, except:
   A. approves the budget of incomes and expenses and the execution of the one for the expired financial year;
   B. elects, among its members, the commission of censors;
   C. adopts the Statute of the Romanian College of pharmacists;
   D. adopts the Pharmacist's Code of Ethics;
   E. elaborates the Pharmacist's Code of ethics.
   (*art. 598, 604*)

3. *According to the Law no. 95/2006 regarding the reform in the field of Health, the exercise of the profession of pharmacist is incompatible with, except:

A. the profession of doctor;

B. any occupation that is likely to undermine the dignity of the profession of pharmacist or good morals, according to the Code of Ethics of Pharmacist;

C. inadequate physical health for the practice of pharmacist;

D. mental health condition not suitable for the practice of pharmacist;

E. Faculty of Pharmacy Assistant Professor Profession.

(*art. 563*)

4. *In the case of the incompatibility situation, according to Law no. 95/2006 regarding the reform in the field of Health, in how many days the pharmacist is obliged to announce the college whose member is:

A. one week;

B. two weeks;

C. 10 days;

D. 20 days;

E. 30 days.

(*art. 563-2*)

5. The attributions of the National Council of the Romanian College of Pharmacists are the following:

A. elaborates the Statute of the Romanian College of Pharmacists, as well as the projects for its modification;

B. elaborates the Pharmacist's Code of Ethics, as well as its modification projects;

C. adopts the Pharmacist's Code of Ethics;

D. collaborates with the Ministry of Public Health at elaboration of topics, methodologies, competitions and exams for pharmacists;

E. adopts the Statute of the Romanian College of Pharmacists.

(*art. 604*)

6. The Council of Territorial Colleges has a number of:

A. 7 members, for up to 100 registered pharmacists;

B. 11 members, for a number of 101 to 500 registered pharmacists;

C. 13 members, for a number of 501 to 1000 registered pharmacists;

D. all registered pharmacists in that Territorial College;

E. 19 members, for more than 1000 registered pharmacists.

(*art. 592*)

7. Duties of the President of the Romanian College of Pharmacists are the following:

A. represents the Romanian College of Pharmacists in relations with natural/physical and juridical persons in the country and abroad;

B. concludes contracts and conventions on behalf of the Romanian College of Pharmacists, with the approval of the Executive Office;

C. approve the amount of the monthly allowance of the members of the Executive Office, as well as the members of the offices of the councils of the territorial colleges;

D. employs specialized and administrative staff;
E. convenes and leads the meetings of the General Body, of the National Council.
(*art. 609, 611*)

8. The following statements regarding the Disciplinary Committee are true:

A. Within each territorial college, a Disciplinary Commission is organized and functioning, consisting of 3 members, independent of the management of the college, which judges the disciplinary deviations committed by the pharmacists included in that college;

B. The members of the Disciplinary Commissions at the territorial college level are elected by the county general body, respectively by the Bucharest, and the members of the Superior Disciplinary Commission will be elected by the National General Body;

C. Within each territorial college, the Superior Disciplinary Commission is organized and functioning;

D. The members of the Disciplinary Committees will be elected from the pharmacists over 7 years old in the profession and who have not had disciplinary deviations in the last 5 years;

E. The members of the disciplinary committees will be elected from the pharmacists over 5 years old in the profession and who have not had disciplinary deviations in the last 3 years.

(*art. 615, 616*)

9. The disciplinary sanctions are:
A. reprimand;
B. warning;
C. blam vote;
D. suspension of membership of the Romanian College of Pharmacists for a fixed period, from one month to one year;
E. suspension of membership of the Romanian College of Pharmacists for two years.
(*art. 618*)

10. The following statements regarding the commissions discipline are false:

A. The position of member of the disciplinary committee is incompatible with any other function within the Romanian College of Pharmacists;

B. The term of the mandate of the members of the Disciplinary Committees is 4 years;

C. The position of member of the Discipline Committee is compatible with another function within the Romanian College of Pharmacists;

D. The term of the mandate of the members of the Disciplinary Committees is 5 years;

E. The quality of member in the Disciplinary Committees ceases in the case of death, resignation, loss of membership of the Romanian College of Pharmacists or by the appointment of another representative in the case of members appointed by the Ministry of Public Health or the public health authority.

(*art. 616*)

29. Pharmaceutical deontology

Decision of the College of Pharmacists of Romania no. 2/2009 regarding the approval of the Statute of the College of Pharmacists of Romania and of the Pharmacist's Code of Ethics, the Official Gazette of Romania part I no. 490/2009. (7).

1. * The Pharmacist's Deontological Code has the main purpose, except:
   A. protecting the rights of patients;
   B. compliance with professional obligations by pharmacists;
   C. compliance of professional obligations by pharmacy assistants;
   D. defending the dignity of the pharmacist profession;
   E. defending the prestige of the pharmacist profession.
   (*art. 2*)

2. *In the exercise of the function the chief pharmacist has the following obligations, except:
   A. He/she ensures that the equipment, the premises and the utilities at the workplace are maintained to the accepted standards for carrying out professional activities in good conditions;
   B. He/she ensures that all the professional activities carried out under his/her control, as well as those carried out by him personally, are subject to professional liability insurance;
   C. He/she does not have the duty to notify the College on the basis of which it carries out its activity any change of professional interest regarding the staff members in its subordinate or its position;
   D. He/she must accept, as far as possible, students to complete the internship in the unit they lead;
   E. He/she must respect the professional independence of the subordinate pharmacists. (*art. 12)*

3. *Patient information may be disclosed in the following cases,
   except: A. when the patient has given his written consent;
   B. when the patient has given his oral consent;
   C. when the patient's caregiver/tutor has consented in writing, whether the patient's age or his condition health does not allow this;
   D. when necessary to prevent major damage or endanger the health of the patient, third party or the general public;
   E. establishing the guilt in the case of crimes, at the request of the court. (*art. 17*)

4. Regarding emergency pharmaceutical services, the following statements are
   true: A. In order to ensure continuous assistance with medicines for a population,
   pharmacists must provide, under the law or not, emergency pharmaceutical services;
   B. the pharmacist's decision to provide emergency pharmaceutical services will be set to be provided for the disease for which the medicine is recommended, the therapeutic group for drug care, the adverse effects and contraindications;

C. depending on the severity of the presented situation, the pharmacist will try to contact the patient's doctor or another doctor;
D. the doses will be delivered for a maximum of 24 hours, regardless of the days on which the emergency pharmaceutical services are provided;
E. any such intervention will be accompanied by the pharmacist's recommendation that the patient should contact the doctor immediately.
(*art. 31*)

5. Regarding emergency pharmaceutical services, the following statements are true:
A. the doses delivered may be for a maximum of 24 hours, on working days, and for a maximum of 72 hours, for weekends and legal holidays;
B. psychotropic and narcotic drugs are not subject to emergency pharmaceutical services;
C. narcotic drugs may also be issued in cases of addiction;
D. medicines for children cannot be issued in case of emergency pharmaceutical services, the doctor's opinion being obligatory;
E. In the case of children, the delivery of a drug will be accompanied by the recommendation to parents to consult the family doctor as soon as possible or to call the emergency service.
(*art. 31-2*)

6. *As a public and professional authority, the College of Romanian Pharmacists performs the attributions provided by the law and its statute, in the following main fields of activity, except:
A. professional;
B. ethical and deontological;
C. professional jurisdiction and litigation;
D. administrative and organizational;
E. commercial.
(*art. 3*)

7. The National General Body has the following tasks:
A. adopts the Statute of the Romanian College of Pharmacists;
B. elaborates the Pharmacist's Code of Ethics;
C. elaborates the Statute of the Romanian College of Pharmacists;
D. approves the modification of the Pharmacist's Code of Ethics;
E. adopts statements that reflect the position of the Romanian College of Pharmacists regarding issues of general interest for the profession of pharmacist or the status of pharmacist in society.
(*Statute - art. 26*)

8. The following specialized commissions operate within the National Council:
A. Economic-social and health insurance Commission;
B. Commission on professional ethics and professional ethics;
C. Pharmacovigilance Commission;
D. Commission for accreditations and endorsements;

E. Superior Disciplinary Commission.
(*Statute - art.*)

9. The main purpose of the Pharmacist's Deontological Code is:
   A. protecting the rights of patients;
   B. compliance with professional obligations by pharmacists;
   C. defending the dignity and prestige of the pharmacy assistant profession;
   D. defending the dignity and prestige of the pharmacist profession;
   E. compliance with professional obligations by pharmacy assistants.
   (*art. 2*)

10. The pharmacist, during the exercise of the professional act, is obliged to respect the following rules:
   A. the pharmacist can never refuse to provide services to a patient;
   B. to ensure that his/her services were perceived and understood correctly by the patient, encouraging him to participate actively in the success of the treatment;
   C. to accept those positions for which he/she has the competence and availability to successfully fulfil the professional duties;
   D. to criticize or condemn the personal or religious beliefs of the patient who ask for his/her services;
   E. to provide services equally for all patients, without discrimination, in the order of their request, except in emergency situations.

30. Aplicațiile spectrofotometriei IR în controlul medicamentelor (8, vol. 2, pag. 353-376; 4, FR X pag. 1038-1039; 5, FE, capitolul 2.2.24 pag.1-7).

Infrared spectrophotometric applications in drug identification and dosing

Single choice

***1. Which of the following methods of analysis can give spectra considered as a fingerprint of the molecule?**

A. Spectrometry UV

B. Spectrometry in VIS

C. Fluorescence spectrometry

D. Mass spectrometry

E. IR spectrometry

***2. Which of the following molecules can be absorbed in IR?**

A. chlorine molecule

B. oxygen molecule

C. hydrogen molecule

D. carbon dioxide molecule

E. nitrogen molecule

***3. Which of the following statements are not true regarding the solvents used in infrared spectrometry?**

A. They must be completely transparent

B. Water can be used

C. Carbon tetrachloride can be used

D. Carbon sulfide can be used

E. They must be anhydrous

***4. The source of IR radiation is?**

A. Argon lamp

B. Xenon lamp

C. Nernst lamp

D. Hydrogen lamp

E. White light

***5. IR radiations produces the following transitions:**

A. Electronic

B. Rotating only

C. Rotating and electronic

D. Rotating and vibrating

E. Vibrating and electronic

Multiple choices

1. **Which of the following statements regarding IR radiations are correct?**

   A. They have relatively long wavelengths and small energies

   B. Produce electronic transitions

   C. Produce only vibrating transitions

   D. Produce vibrating transitions

   E. Produce rotating transitions

2. **The IR spectral range is between:**

   A. 200-400 nm

   B. 200-600 nm

   C. 400-800 nm

   D. 750-1000 nm

   E. 0,75-1,00 μm

3. **IR radiations:**

   A. They have long wavelengths

   B. They have short wavelengths

   C. Involves lower energies

   D. Can produce electronic transitions

   E. Can produce vibrating transitions

4. **Which of the following molecules can absorb in IR?**

   A. Oxygen

   B. Nitrogen

C. Carbon dioxide

D. Chlorethene

E. Chlorine

5. Which of the following solvents can be used to obtain IR spectra?

A. Lead acetate

B. Nujol

C. Carbon tetrachloride

D. Carbon sulfide

E. Silver nitrate

6. Generally , for obtaining IR spectra is used a spectrometer with:

A. A beam

B. Two bundles

C. Three bundles

D. Four bundles

E. Five bundles

7. For trace the IR gases spectra , sometimes can be used a vector gas that can be:

A. Water vapors

B. Neon

C. Carbon dioxide

D. Argon

E. Nitric oxide

8. Quantitative determinations in IR are based on the measurement of the following values:

A. Incident radiation energy

B. Radiation frequency variation

C. Variation of radiation intensity

D. Energy of transmitted radiation

E. Energy absorbed

9. In IR spectrometry for structural analysis the region used is:

A. Far IR

B. Near IR

C. Medium IR

D. 0,75-2,5 μm

E. 2,5-50 μm

10. IR spectrometry is used for quantitative determinations of:

A. semi-synthetic penicillins

B. the degree of impurity of an active polymorph with an inactive one

C. simvastatin

D. nicotinic acid

E. ascorbic acid

11. Solids substances subjected to analysis by IR spectrometry can be prepared:

A. In solution

B. In suspension

C. In emulsion

D. In gaseous state

E. In melt

12. The intensity of radiation in IR spectrometry with Fourier transformation depends on:

A. Temperature

B. pH

C. concentration

D. wavelength

E. pressure

13. Light sources in FTIR can be:

A. Silicon carbide bar

B. Thick filament

C. Deuterium lamp

D. Hollow rod made of a mixture of zirconium oxides and lanthanides

E. Hydrogen lamp

14. Which of the following elements is part of an IR spectrophotometer?

A. Monochromator

B. Quartz tanks

C. Radiation source

D. Thermal detector

E. Refractometric detector

15. Absorption bands in IR:

A. Are characteristic of each substance

B. Can be used to identify drug substances

C. Can be used only for dosing drug substances

D. Can be used also for identify and dosing drug substances

E. They only allow the identification of general structures that have the same type of bonds in the molecule

31. Aplicațiile metodelor cromatografice în controlul medicamentelor (8, vol. 2, pag. 65-85; pag.173-226; 4, FR X pag. 1048-1049; 5, FE, capitolul 2.2.26 pag. 1-2, 2.2.27 pag. 1-2, 2.2.28 pag.1-2, 2.2.29 pag. 1-3).

Applications of chromatographic methods in drug control

Single choice

***1. In gas chromatography is used like carriers (mobile phase) ?**

A. CO2

B. H2 and Ar

C. O2

D. NO

E. Organic solvents

***2. The most used stationary liquid phases in gas chromatography :**

A. Chromosorb

B. Dextran gels

C. Molecular sieves

D. Glycol polyethers

E. Alumina

***3. The quantitative parameter of a gas chromatography separation is:**

A. Retention time

B. Chromatographic peak area

C. Distribution coefficient

D. Delay factor

E. Retention volume

***4. Separation , identification and dosing of tetracycline is possible using:**

A. Gas chromatography

B. Volumetric methods of analysis

C. High performance liquid chromatography

D. Flat chromatography

E. Refractometric methods

***5. Separation processes in column chromatography is made in:**

A. Injector

B. Detector

C. Chromatographic column

D. Reducer

E. Recorder

Multiple choices

1. To determine the concentration of compounds separated by gas chromatography can be used:

A. The width of the peak at the base

B. The detector dependent factor

C. Analyte concentration

D. Area normalization method

E. Calibration curve method

2. In reverse liquid chromatography the stationary phase can be:

A. Ion exchange resin

B. Nonpolar

C. Polar

D. Silica gel grafted with C18

E. Silica gel grafted with amino groups

3. The stationary phases in gas chromatography :

A. Are porous substrates

B. Liquids composed of compounds with high volatility

C. Does not show thermal stability

D. Must be soluble in a volatile solvent

E. Must interact with the mobile gasouse phase

4. The most used detectors in HPLC are:

A. UV detector

B. Conductivity detector

C. Amperometric detector

D. Refractometric detector

E. Electrochemical detector

5. Agarose:

A. Belongs to the xerogel class

B. Belongs to the airgels class

C. Agarose gels are sensitive to temperatures above 30 degrees

D. Are obtained by extraction from algae

E. Is a nonionic substance

6. Retention sizes that characterize analyte retention in column chromatography are:

A. The height of the theoretical plate

B. Retention ratio

C. Retention volume

D. Column effectiveness

E. Capacity factor

7. The characteristic of the detectors used in chromatographic analysis are:

A. Resolution

B. Effectiveness

C. Linearity

D. Response time

E. Detection limit

8. The most used stationary phases in column adsorption chromatography are:

A. Silica gel

B. N-hexane

C. alumina

D. Polyethylene glycols

E. Acetonitrile

9. Gas chromatography includes as working techniques :

A. Gas-liquid chromatography

B. Affinity chromatography

C. Gas-solid chromatography

D. Ion exchange chromatography

E. Thin layer chromatography

10. Depending on the processes underlying the chromatographic separations are distinguished:

A. Adsorption chromatography

B. Distribution chromatography

C. By ion exchange

D. Flat chromatography

E. Of steric exclusion

11. In steric exclusion chromatography is used like gels :

A. Porous polymers

B. Agarose

C. Alumina

D. Polyacrylamide

E. Polystyrene

12. Ion exchange chromatography is used mostly for the separation of:

A. Alkaloids and aminoacids

B. Peptides and proteins

C. Non-ionizable drugs

D. Essential metal ions

E. Antibiotics

13. Detectors used in HPLC are:

A. Thermal conductivity

B. Fluorescence

C. Electrochemical

D. Flame ionization

E. UV with diode network

14. In paper chromatography for obtaining the hydrophobic stationary phases are used:

A. Arenas

B. Water

C. Liquid alkanes

D. Glycerin

E. Methanol

15. The most used stationary phases in CSS are:

A. Polystyrene

B. Alumina

C. Silica gel

D. Cellulose powder

E. Agar-agar

32. Relații structură chimică-acțiune farmacologică: simpatomimetice și simpatolitice (9, pag. 51- 53, 133-134), parasimpatomimetice și parasimpatolitice (9, pag. 185-186, 225-226);.

***1. In the case of sympathomimetic compounds, the substitution of the amino group with the tert-butyl radical determines the increase of the selectivity for the following receptor:**

A. alpha 1;

B. alpha 2;

C. beta 1;

D. beta 2;

E. beta 3.

(9, p. 51)

***2. In the case of beta antagonists, the intensification of the activity can be achieved by introducing between the aromatic nucleus and the beta-amino-alcohol chain of a group:**

A. methylene;

B. ethylene;

C. oxy-propylene;

D. oxyethylene;

E. oxy-methylene.

(9, p. 133)

***3. In the case of parasympathomimetic compounds, the chain linking the oxygen atom of the ester group to the cationic region must have an optimal length of:**

A. one carbon atom;

B. two carbon atoms;

C. three carbon atoms;

D. four carbon atoms;

E. five carbon atoms.

(9, p. 185)

4. For optimal activity, adrenergic receptor agonists should present in the structure:

A. an amino group;

B. a carboxyl group;

C. the chain linking the carboxyl group to the aromatic ring should have two carbon atoms;

D. the chain linking the amino group to the aromatic ring should have two carbon atoms;

E. the chain linking the carboxyl group to the aromatic ring should have three carbon atoms.

(9, p. 51)

5. Direct sympathomimetics derived from imidazoline, with increased selectivity for alpha receptors, have in the structure an imidazoline residue bound to a substituted aromatic nucleus by an X unit, which may be a group:

A. carbonyl;

B. methylidene;

C. methylene;

D. ether;

E. amino.

(9, p. 53)

6. In the case of sympatholytics derived from aryl-oxy-propanol-amine, for optimal activity on beta receptors, the amino group should be substituted, the most favorable substitutes being the radicals:

A. methyl;

B. ethyl;

C. isopropyl;

D. n-butyl;

E. tert-butyl.

(9, p. 134)

7. In the case of parasympathomimetic compounds, the chain that binds to the cationic region has the following structural characteristics:

A. it must contain not more than 5 carbon atoms;

B. the carbon atoms are linked together by double bonds;

C. it may contain ester or keto groups;

D. it may be an aliphatic chain;

E. it may be an aromatic chain.

(9, p. 185)

8. In parasympathomimetic compounds, the increase in duration of action that occurs with the branching of the pentaatomic chain by the introduction of methyl radicals in the beta position (eg. methacholine) is due to:

A. a steric hindrance with protection of the cationic region;

B. a steric hindrance protecting the ester group;

C. increased affinity for the metabolic enzyme;

D. increased selectivity for muscarinic receptors;

E. increased selectivity for alpha receptors.

(9, p. 185)

9. Quaternary ammonium compounds with anticholinergic activity have the following characteristics:

A. they have a high lipophilia;

B. they have a lower lipophilia;

C. they easily cross the blood-brain barrier;

D. they cross the blood-brain barrier less;

E. they are inactive on the CNS.

(9, p. 225)

10. In the structure of a parasympatholytic compound, the main binding site to the cholinergic receptor is:

A. the region of the nitrogen atom;

B. the cationic center;

C. the anionic center;

D. the region of the phosphorus atom;

E. the region of the sulfur atom.

(9, p. 226)

33. Toxicitatea medicamentelor utilizate abuziv: benzodiazepine, opioide (2, pag. 771-772, pag. 775-777).

BENZODIAZEPINES

***1. Regarding withdrawal syndrome after benzodiazepines use are false:**

A. It does not resemble with alcohol withdrawal

B. Flu-like symptoms occur

C. It is manifested by memory disorders

D. It is manifested by delirium

E. Manifested by cardiovascular collapse

Pag: 771

***2. In benzodiazepine withdrawal, the following shall be used:**

A. Methadone 20-80 mg orally daily

B. Lorazepam 2 mg 2-3 times / day without gradual increase in doses

C. Lorazepam 2 mg 4-4 times / day with gradual increase in doses

D. Pentobarbital tolerance test

E. None of the above

Pag: 777

3. Manifestations of benzodiazepine poisoning are:

A. Drowsiness

B. Insomnia

C. Coordination disorders

D. Hypertension

E. Confusion

Pag: 771

4. The following are correct in relation to flunitrazepam:

A. It is administered only intravenously

B. Also called "rape drug"

C. Do not combine with other drugs or alcohol to reduce inhibitions

D. It is generally given orally

E. All previous statements

Pag: 771

5. The following are false in relation to withdrawal from benzodiazepines:

A. For those with a short duration of action, it starts within 12-24 hours from the last dose

B. For those with a long duration of action, it starts within 12-24 hours from the last dose

C. With diazepam, withdrawal may be delayed for up to 7 days after the last administration

D. The signs and symptoms are similar to alcohol withdrawal

E. There are no convulsions, muscle aches, anxiety and agitation due to symptoms

Pag: 771

OPIOIDS:

***1. In opioid intoxication:**

A. It is recommended to support vital functions

B. Naloxone is not recommended for awakening of unconscious patients with respiratory depression

C. Flumazenil is recommended

D. Lorazepam injection is recommended

E. Only counseling is recommended

Pag: 775

2. Symptoms and signs of opioid poisoning include:

A. Euphoria

B. Attention disorders

C. Meiosis

D. Mydriasis

E. Apathy

Pag: 772

3. Which of the following statements are false:

A. Heroin is administered only iv

B. Fentanyl is a natural opioid with a long duration of action

C. Fentanyl is 50-100 times more potent than morphine

D. Acute dextromethorphan overdoses are treated with naloxone

E. Among the complications of heroin use are anaphylactic reactions to impurities

Pag: 772

4. Regarding opioid withdrawal, the following are true:

A. For heroin is reached within 100 hours of discontinuation and can last up to 1 month

B. For heroin, a maximum is reached in 36-72 hours after the interruption

C. Methadone withdrawal reaches its peak at 72 h

D. Drug therapy for opioid withdrawal includes methadone

E. Methadone is not indicated for the treatment of withdrawal

Pag: 776

5. In opioid withdrawal, the following may be administered:

A. Methadone

B. Buprenorphine

C. Naloxone

D. Lorazepam

E. Flunitrazepam

Pag: 776-777

34. Toxicitatea compușilor naturali și de sinteză utilizați abuziv: alcool, nicotină, cocaină, marijuana, canabinoizi sintetici, catinone sintetice, heroină, LSD, metamfetamină, ecstasy (2, pag. 770-783).

ALCOHOL

***1. Among the signs and symptoms of alcohol intoxication are not found:**

A. Euphoria

B. Respiratory depression

C. Hypothermia

D. Ataxia

E. Lack of coordination

Pag: 770

2. Which of the following statements is correct?

A. At alcohol levels of 0.07-0.09% there is a loss of consciousness

B. At 0.02-0.03% alcohol levels, serious motor disorders appear

C. Alcohol levels of 0.25% cause dysphoria with nausea and vomiting

D. Alcohol levels of 0.3% cause loss of consciousness

E. Alcohol levels above 0.4% do not produce any major effect, only mild euphoria

Pag: 771

3. Alcohol withdrawal includes:

A. History of discontinuation of prolonged alcohol consumption

B. History of reduction of prolonged consumption and in large quantities of alcohol

C. Presence of a symptom of alcohol withdrawal

D. The presence of at least 2 symptoms of alcohol withdrawal

E. None of the above statements

Pag: 770

4. The following are false in relation to the toxicokinetics of alcohol:

A. Alcohol absorption begins in the stomach 1 hour after ingestion

B. It is metabolized by alcohol dehydrogenase to acetaldehyde

C. Catalase is not involved in metabolism

D. The microsomal alcohol-oxygenase system is also involved in metabolism

E. Maximum concentrations are obtained 30-90 minutes after the end of the last dose of alcohol

Pag: 770

5. Which of the following signs and symptoms are encountered in alcohol withdrawal?

A. Tachycardia

B. Hallucinations

C. Delirium

D. Convulsions

E. None of the above

Pag: 770

NICOTINE

***1. The following statements are false:**

A. Nicotine produces dose-dependent effects

B. Nicotine does not act on lymph node cholinergic receptors

C. Anxiety can occur when nicotine is stopped abruptly

D. Symptoms of nicotine withdrawal include irritability

E. Nicotine produces peripheral vasoconstriction

Pag: 773

2. Regarding nicotine are correct:

A. It is a nicotinic receptor agonist

B. The effects are dose dependent

C. High doses improve cognitive function

D. Low doses stimulate the center of the "reward" in the brain

E. Abrupt discontinuation does not cause withdrawal symptoms

Pag:773

3. Nicotine replacement therapy includes:

A. Nicotine in the form of gum

B. Sustained release bupropion

C. Flumazenil

D. Clonidine

E. Nicotine patches

Pag:780

COCAINE

***1. In relation to the toxicokinetics of cocaine are false:**

A. Smoked base cocaine is absorbed late

B. The "high" state produced by smoking cocaine lasts 5-10 minutes

C. The half-life is one hour

D. In the presence of alcohol it is metabolized to cocaethylene

E. Cocaine hydrochloride is inhaled or injected

Pag: 772

2. The following statements regarding cocaine are correct:

A. It is the drug with the strongest behavioral reinforcement

B. The "high" state produced by inhalation lasts up to 24 hours

C. Smoked base cocaine is almost instantly absorbed

D. It blocks the reuptake of catecholamine neurotransmitters

E. All of the above

Pag: 772

3. Signs and symptoms of cocaine poisoning include:

A. Agitation

B. Meiosis

C. Arrhythmias

D. Euphoria

E. Convulsions

Pag: 772

4. Regarding cocaine withdrawal, the following are true:

A. Start one week after stopping consumption

B. It takes a few days

C. Includes fatigue

D. Includes depression

E. Includes an intense desire to relive the effects of the drug

Pag: 772

5. The treatment for cocaine poisoning is:

A. Monitoring cardiac function

B. Naloxone

C. Haloperidol

D. Lorazepam

E. Flumazenil

Pag: 775

MARIJUANA

***1. The following statements are false:**

A. Cannabis use affects the ability to drive

B. Cannabis use is not associated with an increased risk of car accidents

C. Xerostomia, hunger and tremor may occur after marijuana use

D. Sedation and difficulties in performing complex tasks may occur after marijuana use

E. Hashish is the dry resin of the top of the plant

Pag: 774

2. The following are true about marijuana:

A. It is the most commonly used illicit drug

B. THC is the main psychoactive component

C. Hashish is the least potent product

D. The effect occurs 4 hours after use

E. It is not addictive

Pag: 774

3. The effects of marijuana use include:

A. Initially increase in heart rate

B. It subsequently produces euphoria

C. It cannot produce endocrine effects

D. May produce neurotoxic effects

E. None of the above

Pag: 774

4. Regarding the withdrawal from the sudden cessation of marijuana use, the following are true:

A. Irritability and anger may occur

B. Increased appetite may occur

C. Weight loss may occur

D. Depressive mood may occur

E. All of the above

Pag: 774

5. In acute marijuana poisoning, the following shall be used:

A. Therapeutic counseling

B. Supporting vital functions

C. Naloxone

D. Lorazepam and / or haloperidol

E. All of the above

Pag: 775

SYNTHETIC CANABINOIDS

***1. The following statements are false about synthetic cannabinoids:**

A. They are cannabinoid receptor agonists

B. They do not produce effects similar to the effects of marijuana

C. They also produce sympathomimetic effects

D. They are also called synthetic marijuana

E. They are found in the form of inert material from dried plants sprayed with these compounds

Pag: 774

2. Symptoms of synthetic cannabinoid intoxication include:

A. Agitation

B. Hypertension

C. Nausea

D. Muscle spasms

E. None of the above

Pag: 774

SYNTHETIC CATHIONES

***1. The following statements are correct in relation to the toxicity of synthetic cations**

A. They are natural drugs

B. They have sympatholytic effects

C. They are not addictive

D. They are CNS depressants

E. May cause liver failure

Pag: 773

2. In relation to the toxicity of synthetic cations are true:

A. They are also called bath salts

B. They belong to the category of natural drugs

C. They have sympathomimetic action

D. They are CNS stimulants

E. May cause esophagitis, gastritis, keratosis oral lesions

Pag: 773

3. Symptoms of synthetic cation poisoning are:

A. CNS stimulating effects

B. Tachycardia

C. Paranoid psychosis

D. Headache

E. None of the above

Pag: 773

LSD

1. LSD intoxication does not include:

A. Miosis

B. Palpitations

C. Weakness and drowsiness

D. Blurred vision

E. Depersonalization

Pag: 774

2. The forms of marketing of LSD are:

A. Ampoules for administration i.m.

B. Tablets

C. Squares of decorated paper

D. Capsules

E. Liquid

Pag: 774

3. Which of the following statements are true about LSD:

A. May have agonist effects on cannabinoid receptors

B. It can be both an agonist and an antagonist of serotonergic receptors

C. It produces withdrawal syndrome

D. May produce flashbacks

E. May cause psychiatric signs and symptoms

Pag: 774

METAMPHETAMINE

***1. The forms of methamphetamine administration are:**

A. Exclusive oral

B. Exclusive rectal

C. Exclusive intranasal

D. Exclusive i.v.

E. Oral, rectal, intranasal, smoked, i.v

2. The following statements are correct in relation to the effects of methamphetamine:

A. The systemic effects are similar to cocaine

B. Inhalation produces an intense state of bliss

C. Methamphetamine has a shorter duration of action than cocaine

D. Intoxication is manifested by intensified physical activity

E. Paranoia can occur in intoxication

Pag: 773

3. Withdrawal of methamphetamine may include:

A. Delirium

B. Depression

C. Cognitive disorders

D. Sleep disorders

E. All of the above

Pag: 773

ECSTASY

***1. Which of the following statements are false:**

A. Ecstasy is 3,4-methylenedioxy-methamphetamine

B. Ecstasy can be given orally, by injection or inhaler

C. The effects of ecstasy after oral administration last 10 minutes

D. Ecstasy is a CNS stimulant

E. Ecstasy is neurotoxic in humans

Pag: 773

2. Symptoms of ecstasy use include:

A. Euphoria

B. Memory disorders

C. Paranoid ideation

D. Depresses the CNS

E. Sweating

Pag: 773

3. The effects of ecstasy administration are:

A. Increased heart rate

B. Lowering blood pressure

C. Neurotoxicity in humans

D. Respiratory depression

E. Increased blood pressure

Pag:773

35. Produse vegetale (10) cu: acizi fenilacrilici și depside: Cynarae folium (pag. 141-145), Echinaceae radix/herba (pag. 145-148); flavano-lignani: Silybi mariani fructus (pag. 260-265); antociani: Myrtilli fructus (pag. 269-274); proantocianidine: Vaccinii macrocarpi fructus (pag. 274-276).

Herbal products [10] with: phenylacrylic acids and depsides: *Cynarae folium* (pp. 141–145), *Echinaceae radix/herba* (pp. 145–148); flavano-lignanes: *Silybi mariani fructus* (pp. 260–265); anthocyanins: *Myrtilli fructus* (pp. 269–274); proanthocyanidins: *Vaccinii macrocarpi fructus* (pp. 274–276).

References

[10] Stănescu Ursula (editor), Hăncianu Monica, Gîrd Cerasela Elena. Farmacognozie. Produse vegetale cu substanţe bioactive. Ed. Polirom, Iaşi, 2020.

***1. The sesquiterpene lactones in the composition of the product *Cynarae folium* are responsible for the following effect:**

A. hypocholesterolemic

B. antioxidant

C. aperitif, bitter-tonic

D. hepatoprotective

E. hypolipidemic

***2. To obtain the medicinal product *Echinaceae herba,* the aerial part is harvested from:**

A. *Echinacea pallida*

B. *Echium vulgare*

C. *Echinacea angustifolia*

D. *Equisetum arvense*

E. *Echinacea purpurea*

***3. As such or in the form of a 10% decoction, *Myrtilli fructus* is recommended in:**

A. acute, short-term constipation

B. mild to moderate depressive episodes

C. rebellious constipation, with spasms and flatulence

D. nonspecific acute diarrhea, including in young children

E. head trauma with circulatory failure

4. The administration of standardized extracts of *Cynarae folium* is contraindicated in:

A. bile duct obstruction (cholelithiasis)

B. anorexia

C. pregnancy and lactation

D. conditions caused by reduced bile secretion

E. hypersensitivity to *Asteraceae*

5. When applied topically, but also in case of internal administration, the preparations from *Echinaceae radix et herba* induce the following effects:

A. antiatherosclerotic

B. anti-inflammatory

C. antimicrobial

D. immunomodulatory

E. hypocholesterolemic

6. *Echinaceae radix et herba* extracts are used topically for the treatment of:

A. secondarily infected dermatoses

B. hard to heal wounds

C. recurrent infections of the upper respiratory tract

D. herpes simplex

E. recurrent infections of the lower urinary tract

7. *Silybi mariani fructus* probable mechanisms for the hepatoregenerative effect is based on stimulating:

A. the rate of nuclear DNA synthesis

B. protein synthesis

C. the rate of ribosomal RNA synthesis

D. RNA polymerase I

E. the rapid formation of ribosomes

8. Current therapeutic indications for silymarin include:

A. alcoholic and non-alcoholic steatohepatitis

B. acute myeloid leukemia

C. Hodgkin's disease

D. latent liver diseases

E. liver dysfunctions of different etiologies

9. Due to its tannin content, the medicinal product *Myrtilli folium* has the following actions:

A. antimicrobial

B. antidiarrheal

C. astringent

D. antitumoral

E. hypolipidemic

10. Proanthocyanidins from *Vaccinii macrocarpi fructus* alleviate periodontal disease by:

A. conformational changes at the surface of the uropathogen

B. decreasing the activity of bacterial enzymes

C. reducing the formation of bacterial biofilm on the surface of the teeth/gums

D. inhibition of the adhesion of the pathogen *Helicobacter pylori* to the gastric mucosa

E. blocking the internalization of the urinary pathogen

36. Produse vegetale (10) cu: derivați antrachinonici: Frangulae cortex (pag. 352-354), Sennae folium/fructus (pag. 356-358), Aloe resina (pag. 361-363), Hyperici herba (pag. 364-368); alcaloizi: Vincae minoris herba (pag. 388-390), Catharanthi rosei herba/radix (pag. 390-392).

Herbal products [10] with: anthraquinone derivatives: *Frangulae cortex* (pp. 352–354), *Sennae folium/fructus* (pp. 356–358), *Aloe resina* (pp. 361–363), *Hyperici herba* (pp. 364–368); alkaloids: *Vincae minoris herba* (pp. 388–390), *Catharanthi rosei herba/radix* (pp. 390–392).

References

[10] Stănescu Ursula (editor), Hăncianu Monica, Gîrd Cerasela Elena. Farmacognozie. Produse vegetale cu substanţe bioactive. Ed. Polirom, Iaşi, 2020.

***1. Products based on sennosides are indicated in:**

A. chronic constipation

B. diarrhea of infectious etiology

C. acute constipation

D. mild to moderate depressive episodes

E. intestinal obstruction

***2. The medicinal product *Vincae minoris herba* is a source for the industrial extraction of:**

A. eburnamine

B. vincamine

C. vinpocetine

D. apovincamine

E. vincaminine

***3. For the cytostatic effect, vinblastine and vincristine are administered as:**

A. perfusion solution

B. cream

C. ointment

D. eye drops

E. nasal drops

4. *Frangulae cortex* products should not be used in the case of:

A. rebellious constipation, with spasms and flatulence

B. pregnancy and lactation

C. abdominal pain of unknown cause

D. children under 12 years of age

E. acute, short-term constipation

5. The European Pharmacopoeia recognizes the following medicinal products derived from *Cassia* species:

A. *Sabalis serrulatae fructus*

B. *Silybi mariani fructus*

C. Tinnevelly *Sennae fructus*

D. *Sennae folium* (senna leaves)

E. Alexandria *Sennae fructus*

6. Indicate the actions for the *Aloe resina* extracts:

A. choleretic

B. antiulcerogenic

C. laxative

D. insecticide

E. anti-absorbent

7. When applied topically, especially in the form of an oily macerate, *Hyperici herba* has the following action:

A. antidiarrheal

B. anti-inflammatory

C. antidepressant

D. choleretic

E. wound healing

8. Internally, the extractive preparations of *Hyperici herba* are recommended in:

A. peripheral vascular insufficiency

B. diabetic microangiopathy

C. psychovegetative disorders

D. state of restlessness

E. mild to moderate depressive episodes

9. Vincamine presents a complex action:

A. coronary dilator

B. antihypertensive

C. vasodilator

D. antidiarrheal

E. antidiuretic

10. At high doses, vinblastine and vincristine cause serious disorders:

A. digestive

B. renal

C. osteoarticular

D. hematological

E. neurological