

CONCLUDING LESSON

DRUGS ACTING ON ORGANS AND SYSTEMS OF BODY

1. To prepare the next questions:

2. Antitussive drugs: classification on the mechanism of action.
3. Expectorants: definition, classification (on the mechanism of action), application.
4. Directions of pharmacotherapy of patients with a syndrome of bronchial obstruction: a choice of preparations for treatment of bronchial asthma and chronic obstructive pulmonary disease.
5. The asthmatic status (definition, directions of pharmacotherapy).
6. Principles of pharmacotherapy of pulmonary edema in cardiologic practice.
7. Bases of pathogenetic therapy of an arterial hypertension: chains of pathogenesis of hypertension and main directions of drug treatment.
8. Classification of hypotensive drugs that alter sympathetic nervous system function (to specify pharmacological groups and its main representatives), main pharmacokinetic and pharmacodynamic properties (including the mechanism of action and side effects).
9. Hypotensive drugs that alter sodium and water balance (to specify pharmacological groups and its main representatives), main pharmacokinetic and pharmacodynamic properties (including the mechanism of action and side effects).
10. Hypotensive drugs with direct vasodilator action (to specify pharmacological groups and its main representatives), main pharmacokinetic and pharmacodynamic properties (including the mechanism of action and side effects).
11. Inhibitors of renin-angiotensin system as hypotensive drugs (to specify pharmacological groups and its main representatives), main pharmacokinetic and pharmacodynamic properties (including the mechanism of action and side effects).
12. Management of hypertensive crisis (for emergency and urgent treatment).
13. Management of chronic and acute hypotensive states.
14. The drugs used at disturbances of appetite.
15. The drugs used for treatment of peptic ulcer disease (PUD). Principles of therapy, classification of preparations and the mechanism and actions.
16. The principles of treatment of acute and chronic pancreatitis, drugs and mechanisms of their action.
17. Drugs used in disturbances of bile secretion and treatment of gallstone colic.
18. Hepatoprotectors: definition and application.
19. Laxative drugs (definition, classification, the mechanism of action, the indication for use).
20. Drugs for treatment of diarrhea – representatives, mechanisms of action.
21. Emetic and antiemetic drugs (definition, classification, indications to use).
22. Classification of antiarrhythmic drugs for tachyarrhythmia treatment (classification of Vaughan-Williams, with the list of main drugs).

23. Main drugs for tachyarrhythmia treatment, their pharmacodynamic and pharmacokinetic properties.
24. The main drugs for the treatment of supraventricular and ventricular arrhythmias.
25. Drugs for treatment of bradyarrhythmias (names of drugs and mechanisms of their action).
26. Diuretic drugs, brief characterization of the main groups of diuretics by their mechanisms of action, efficacy, influence on electrolyte balance, adverse effects and application.
27. Classification of drugs acting on myometrium, possible application of groups.
28. Drugs for the treatment of angina pectoris (antianginal drugs): the main groups, their mechanisms of action in angina pectoris, side effects.
29. Treatment of uncomplicated myocardial infarction: the main groups of drugs, mechanisms of their beneficial effects in myocardial infarction.
30. Treatment of migraine: the main drugs for relieving and prevention of migraine attacks.
31. Drugs for the treatment of disturbances of peripheral and cerebral blood flow.
32. Hypolipidemic drugs: definition, the main representatives, mechanisms of their action.
33. The main approaches for the treatment of the congestive heart failure, main pharmacological groups and their representatives, mechanisms of their beneficial action.
34. Cardiac glycosides: definition, main drugs. Mechanism of action and main pharmacologic effects of the cardiac glycosides. Pharmacokinetic properties of the main cardiac glycosides.
35. Intoxication by cardiac glycosides: predisposing factors, symptoms, treatment.
36. Platelet aggregation inhibitors: definition, the main representatives, mechanisms of action, possible application, adverse effects.
37. Anticoagulant drugs: definition, classification, mechanisms of action, pharmacokinetic properties, possible application, adverse effects. Drugs used in overdosing of anticoagulants.
38. Thrombolytic (fibrinolytic) drugs: definition, the main representatives and their distinctive features, mechanisms of action, possible application.
39. Drugs for the treatment of bleeding disorders (hemostatic drugs): the main groups and their representatives, mechanisms of action, possible application, adverse effects.
40. Iron-deficient and B₁₂- (folate-) deficient anemias: the main causes, drugs for treatment, mechanisms of their action, principles of administration, adverse effects.
41. Hematopoietic growth factors – main preparations and their application.
42. Histamine: physiological role, main subtypes of histamine receptors, effects of their activation. Histamine antagonists: main subgroups, effects, application.

43. Serotonin (5-hydroxytryptamine): physiological role, main subtypes of serotonin receptors, effects of their application. Agonists and antagonists of serotonin: the main representatives, effects, application.
44. Eicosanoids: definition, the main pathways of biosynthesis. The main effects of prostanoids and leucotriens. Preparations of prostanoids and their application.
45. Eicosanoid antagonists. Non-steroidal anti-inflammatory drugs (cyclooxygenase inhibitors): classification, therapeutic and adverse effects, application. Steroidal anti-inflammatory drugs – mechanism of the influence on eicosanoids biosynthesis, application. Leucotriene antagonists and their applications.
46. Nitric oxide: biosynthesis, main effects. Nitric oxide donors, drugs which increase synthesis or potentiate the effects of nitric oxide: main representatives, application.
47. Angiotensin II: biosynthesis, main effects. Inhibitors of renin-angiotensin system: mechanisms of the action, application.
48. Hormones: definition, classification, their mechanism of action. Regulation of secretion of hormones, principle of the negative feedback.
49. Hypothalamic and pituitary hormones, their synthetic analogs and antagonists – effects and application. Effects and application of melatonin (hormone of pineal gland).
50. Thyroid hormones – effects and application. Antithyroid drugs – mechanism of action, application, adverse effects.
51. Calcitonin, parathyroid hormone, synthetic drugs influencing calcium balance – mechanisms of action, application.
52. Hormones of pancreatic gland and their effects. Diabetes mellitus – the main types, strategy of treatment. Insulin preparations – classification, distinctive features. Urgent situations in diabetes mellitus (ketoacidotic and hypoglycemic coma) and their treatment.
53. Oral antidiabetic (hypoglycemic) drugs: the main groups, mechanisms of action, adverse effects.
54. Estrogen hormones: natural hormones and their physiologic effects, synthetic analogs of estrogen hormones and their distinctive feature. Possible application of the estrogens, adverse effects.
55. The main physiologic effects of progesterone, synthetic analogs of progesterone and their distinctive features. Possible application of progestins, adverse effects.
56. Antagonists of estrogens and progesterone, their possible application.
57. Oral contraceptive drugs: the main groups, mechanisms of action, administration, adverse effects.
58. Androgen hormones: natural hormones and their physiologic effects, synthetic analogs of the androgens, its possible application, adverse effects.
59. Androgen antagonists and their application.
60. Glucocorticoids: natural hormones and their synthetic analogs, the main effects, comparison of natural and synthetic glucocorticoids, application and adverse effects.

61. Mineralocorticoids, their effects and application. Antagonists of glucocorticoids and mineralocorticoids, their application.
62. The main components of the immune system. The main types of disorders of the immune system. Classification of drugs acting on the immune system.
63. The main groups of drugs used in immediate-type allergic reactions, their mechanisms of action and application. Brief characterization of histamine H1-receptors antagonists (classification, pharmacokinetic and pharmacodynamic differences, adverse effects). Treatment of anaphylactic shock.
64. Immunodepressants: the main representatives, mechanisms of action, application, adverse effects.
65. *Drugs used in immune deficiency: the main representatives, mechanisms of action, application.

2. To prescribe and to indicate possible application for the next drugs:

1. Dextromethorphan (in syrup “Tussin Plus”);
2. Guaifenesin (in syrup “Tussin”);
3. Salbutamol (aerosol);
4. Cromolin-sodium: in capsules;
5. Beclomethasone (aerosol);
6. Zafirlukast: in tablets;
7. Tablets “Theophedrin”;
8. Ipratropium (Atrovent) (aerosol).
9. Metoprolol in tablets;
10. Clonidine in tablets;
11. Reserpine in tablets;
12. Prazosin in tablets;
13. Fenoldopam in ampoules;
14. Verapamil in tablets;
15. Hydrochlorthiazide in tablets;
16. Enalapril in tablets;
17. Losartan in tablets;
18. Midodrine in tablets;

19. Quinidine in tablets;
20. Procainamide in ampoules;
21. Lidocaine in ampoules;
22. Propafenone in tablets;
23. Esmolol in ampoules;
24. Amiodaron in tablets;
25. Sotalol in tablets;
26. Verapamil in ampoules;
27. Atropine [sulfate] in ampoules;
28. Isoprenaline [isoproterenol] in tablets,
29. Digoxin in tablets;
30. Sibutramin in tablets;
31. Cyproheptadine in tablets;
32. Almagel;
33. Ranitidine in tablets;
34. Omeprazole in tablets;
35. Sucralfat in tablets;
36. Tablets "Mezym";
37. Aprotinin in ampoules;
38. Tablets "Allochol",
39. Drotaverine (No -Spa) in tablets;
40. Caps. "Essenciale";
41. Bisacodyl in tablets;
42. Loperamide in tablets;
43. Apomorphine hydrochloride in ampoules;
44. Metoclopramide in tablets;
45. Spironolacton in tablets;
46. Furosemide in ampoules;

47. Oxytocin in ampoules;
48. Ergonovine in tablets;
49. Nitroglycerine as sublingual tablets;
50. Oral sustained-release tablets of nitroglycerine;
51. Atorvastatin in tablets;
52. Amlodipine in tablets;
53. Aspirin in tablets as an antiplatelet drug;
54. Clopidogrel in tablets;
55. Heparin in vials;
56. Streptokinase in vials;
57. Ferrous sulfate in tablets;
58. Cyanocobalamine in ampoules;
59. Filgrastim in ampoules;
60. Warfarin in tablets
61. Loratadine in tablets;
62. Sumatriptan in tablets;
63. Ondansetron in tablets;
64. Dinoprostone in suppositories;
65. Sildenafil in tablets;
66. Goserelin in vials;
67. Depot preparation of Octreotide (Sandostatin Depot) in vials;
68. Somatropin in vials;
69. Bromocriptine in tablets;
70. Desmopressin in tablets;
71. Melatonin in tablets;
72. Levothyroxine in tablets;
73. Methimazole in tablets;
74. Calcitonin in vials;
75. Alendronate in tablets;
76. Short-acting insulin preparation (Humulin Regular) in vials ;
77. Long-acting insulin preparation (Suspension of Insulin ultralente in vials;
78. Glimepiride in tablets;
79. Metformin in tablets;
80. Conjugated estrogens (Premarin) in tablets;

81. Contraceptive tablets “Minisiston”;
82. Clomifen citrate in tablets;
83. Tamoxifen in tablets;
84. Nandrolone decanoate in vials;
85. Flutamide in tablets;
86. Prednisolone in tablets;
87. Prednisolone in ointment for topical use (on the skin).
88. Epinephrine in ampoules;
89. Azathioprine in tablets;
90. Cyclosporine in capsules;
91. Tacrolimus in capsules;
92. Sirolimus in tablets;
93. Basiliximab in vials;
94. Levamisole in tablets;
95. Ribomunyl in tablets;
96. Interferon-alpha-2-b in vials

3. To indicate the main representatives of the next pharmacologic groups:

1. Antitussive drugs and expectorants
2. Preparations for treatment of bronchial asthma
3. Hypotensive (antihypertensive) drugs
4. Drugs used at disturbances of appetite and hepatoprotectors.
5. The drugs used for treatment of peptic ulcer disease (PUD).
6. The drugs used at insufficient and excessive secretory function of pancreas.
7. Diarrhea treatment and drugs used in disturbances of bile secretion.
8. Laxative drugs.
9. Emetic and antiemetic drugs.
10. Antiarrhythmic drugs.
11. Drugs for treatment of congestive heart failure (CHF).
12. Antianginal drugs.
13. Drugs for treatment of peripheral and cerebral disturbances of circulation.
Migraine treatment.
14. Antiatherosclerotic drugs.
15. Diuretic drugs.
16. Drugs influencing on uterus.
17. Platelet aggregation inhibitors

18. Anticoagulants.
19. The drugs promoting a stop of bleedings and the drugs influencing on fibrinolysis
20. Drugs for treatment of anemia and leucopenia.
21. Histamine antagonists;
22. Serotonin agonists and antagonists;
23. Prostanoids preparations and eicosanoid antagonists;
24. Inhibitors of renin-angiotensin system;
25. Drugs which increase effects of nitric oxide;
26. Hypothalamic and pituitary hormones, their synthetic analogs and antagonists.
27. Thyroid hormones and antithyroid drugs.
28. Calcitonin, parathyroid hormone and synthetic drugs influencing calcium balance.
29. Drugs for the treatment of diabetes mellitus.
30. The drugs used in immediate-type allergic reactions.
31. Immunodepressants and immunomodulators.