

**TASK FOR SUBMODULE CONTROL № 3**  
**Drugs affecting CNS and GIT.**

**List of drugs**

- |                                  |                                |
|----------------------------------|--------------------------------|
| 1. Almagel                       | 20. Maalox                     |
| 2. Amitriptyline                 | 21. Magnesium sulfate          |
| 3. Bisacodil                     | 22. Nitrazepam                 |
| 4. Bismuth subcitrate (De-nol)   | 23. Omeprazol (Omez)           |
| 5. Caffeine sodium benzoate      | 24. Pancreatinum               |
| 6. Carbamazepine                 | 25. Pantocrine                 |
| 7. Chlordiazepoxide (Chlozepide) | 26. Panzynom-forte             |
| 8. Chlorpromazine (Aminazine)    | 27. Phenazepam                 |
| 9. Corvalol                      | 28. Phenobarbital              |
| 10. Diazepam                     | 29. Pirenzepine (Gastrozepine) |
| 11. Doxylamine                   | 30. Pyracetam                  |
| 12. Droperidol                   | 31. Ranitidine                 |
| 13. Essential                    | 32. Sibutramin (Meridia)       |
| 14. Famotidine (Quamatel)        | 33. Sulfocamphocain            |
| 15. Fluoxetine                   | 34. Tropisetron (Navoban)      |
| 16. Ginseng root tincture        | 35. Ursodeoxycholic acid       |
| 17. Levodopa                     | 36. Valproic acid              |
| 18. Levomepromazine              | 37. Zopiclon                   |
| 19. Loperamide (Imodium)         |                                |

**Give the classifications, nomenclature, mechanism of action, pharmacological effects, indications, side effects, contraindications of:**

neuroleptics, tranquilizers, anxiolytics, hypnotics, anticonvulsants, antiparkinsonics, nootropics, psychomotor stimulants, antidepressants, analeptics? drugs affecting gastro-intestinal tract (laxatives, drugs inhibiting diarrhea, hepatoprotectors, antiulcer drugs, emetic and antiemetic drugs, drugs affecting appetite).

## *Medicines suppressing and stimulating the central nervous system*

### 1. Diazepam

Tests
<p>1. To the patient who is suffering of a neurosis with anxiety and fear a doctor prescribed diazepam. What pharmacological effect of preparation allows to use it for treatment of this disease?</p> <p><b>A anxiolytic</b>            B antiarrhythmic            C antiinflammatory            D hypotensive            E antianginal</p>
<p>2. To the patient with a neurosis a tranquilizer was prescribed, which is derivative of benzodiazepines. Name this preparation.</p> <p><b>A Diazepam</b>            B Atropine sulfate            C Pyroxicam            D Paracetamol            E Cyclodolol</p>
<p>3. Woman asked to doctor with high irritability, restlessness sensibility. Patient was prescribed medicine from tranquil2asix22ine2c</p> <p><b>A Diazepam</b>            B Caffeine            C Aminazine            D Amitriptyline            E Tramadol</p>
<p>4. Due to what pharmacological effect is diazepam used to treat neurosis?</p> <p><b>a) anxiolytic effect</b>            b) analgesic effect            c) diuretic effect            d) antipyretic effect            e) antidepressant effect</p>
<p>5. Fear, psychic tension made it possible to select medicine which reduces these symptoms in patient who has neurosis.</p> <p><b>a) diazepam</b>            b) lithium carbonate            c) sydnocarb            d) nootropil            e) caffeine</p>
<p>6. A patient of 30 has somnopathy and disequilibrium psychoemotional sphere was prescribed diazepam. What is the cause of psychosedative effect of the medicine?</p> <p><b>a) activation of GABA's system</b>            b) limbic system inhibition            c) reticular formation inhibition            d) reduction number of noradrenaline in the CNS            e) opioid receptor inhibition</p>
<p>7. A patient suffering from neurosis accompanied by anxiety and fear was prescribed diazepam. What pharmacological effect makes it possible to apply the drug for this disease treatment?</p> <p><b>a). * Anxiolytic</b>            b). Hypotensive            c). Antiarrhythmic            d). Antianginal            e). Anti-inflammatory</p>

<p>8. A 30-year-old patient with a sleep disorder and psychoemotional disbalance had been administered diazepam. What is the mechanism of its psychosedative action?</p> <p>a) <b>activation of GABAergic system</b></p> <p>b) inhibition of limbic system</p> <p>c) inhibition of reticular formation</p> <p>d) reduction of noradrenaline amount in the CNS</p> <p>e) inhibition of opioid receptors</p>
<p>73. What group of drugs is characterized by development of drug addiction as a side effect?</p> <p>A. Diuretics</p> <p>B. Cholinergic antagonists</p> <p>C. Emetics</p> <p>D. <b>Psychosedatives</b></p> <p>E. Adrenergic drugs</p>

## 2. Droperidol

Tests
<p>1. A doctor-anaesthetist should perform an operation with using neuroleptanalgesia. What drug combinations should be used in this case?</p> <p>A <b>Fentanil with droperidol</b></p> <p>B Droperidolum with prednisolone</p> <p>C Fentanil with diazepam</p> <p>D Diazepam with aminazine</p> <p>E Promedol with amitriptilin</p>
<p>2. A patient is in special care ward because of myocardial infarction. Acute pain syndrome makes the doctor to use neuroleptanalgesia. What neuroleptic is used in this case of anaesthesia?</p> <p>a) <b>droperidol</b></p> <p>b) corlicon</p> <p>c) lozartan</p> <p>d) tramadol</p> <p>e) amitriptyline</p>
<p>3. An anaesthesiologist has to perform an operation under neuroleptanalgesia. Which of the following drug combinations should be used in this case?</p> <p>A. Diazepam with aminazine</p> <p>B. Fentanyl with diazepam</p> <p>C. Droperidol with prednisolone</p> <p>D. <b>Fentanyl with droperidol</b></p> <p>E. Promedol with amitriptillin</p>
<p>4. Neuroleptanalgesia has been applied in the case of cardiac infarction. What neuroleptic is the most often applied along with fentanyl?</p> <p>A. Perphenazine (Aethaperazinum)</p> <p>B. Clozapine</p> <p>C. Levomepromazine</p> <p>D. <b>Droperidol</b></p> <p>E. Sulpiride</p>

## 3. Nitrazepam

Tests
<p>1. A woman suffering on a neurosis sleeps badly. What preparation is better to use for treatment of insomnia?</p> <p>A <b>Nitrazepamum</b></p> <p>B Phenobarbital</p> <p>C Sodium pentobarbital</p> <p>D Bromisovalum</p>

E Tincture of valerian
2. A man of 55 years old complains of insomnia, excitement, restless. What drug should be prescribed in this case? <b>A Nitrazepam</b> B Aminazine C Triftazine D Droperidol E Amitriptilin
3. A woman after the carried stress sleeps badly. What hypnotic preparation is better to prescribe for treatment of insomnia? <b>A Nitrazepam</b> B Phenobarbital C Chloralhydrate D Aminazine E Barbitol
4. Choose a sleeping draught for a patient who has sleep disturbance caused by neurosis – like state, high petulance. <b>a) Nitrazepam</b> b) Phenobarbital c) Zopiclon d) Metaqvalon e) Zolpidem
5. A woman suffering from neurosis has disturbed sleep. What drug is optimal for insomnia treatment? A. Bromisoval B. Phenobarbital <b>C. Nitrazepam</b> D. Aethaminalum-natrium (Pentobarbital) E. Valerian tincture

#### 4. Phenazepam

Tests
1. A patient who has been taking phenazepam for a month came to a pharmacy. He insisted on buying another two packs of this drug. According to the patient, he feels unwell without phenazepam. What is the mechanism of the developed side effect? <b>a)* Addiction (Drug dependence)</b> b) Absorption process reduction c) Idiosyncrasy d) Cumulation e) Aftereffect syndrom

#### 5. Phenobarbital

Tests
1. A patient suffering from epilepsy has taken Phenobarbital for a long time and developed drug tolerance. What is the mechanism of this phenomenon development? <b>a)*Accelaration of biotransformation</b> b) Substances accumulation in the body c) Absorption process reduction d) Inhibition of biotransformation e) Receptor's sensitivity enhancement
2. A patient who has taken phenobarbital for a long time was prescribed diclofenac sodium. However the anti-inflammatory effect of diclofenac appeared to be less than expected due to the pharmacokinetic interaction of these drugs. Such interaction might be the result of the following

processes: A. Change of receptor sensibility B. Delayed drug metabolism in liver <b>C. Accelerated drug metabolism in liver</b> D. Reduced protein concentration in plasma E. Increased drug dosage
3. Certain drugs can stimulate liver to synthesize enzyme systems taking part in drugs and toxins metabolism. What compound stimulates drug metabolism in liver 5asix5mes. <b>A. Phenobarbital</b> B. Heparin C. Aspirin D. Menadione sodium bisulfite E. Sulfanilamide
4. Due to prolonged taking of phenobarbital the epileptic patient has developed tolerance for this drug. What is this phenomenon based on? <b>A. Biotransformation acceleration</b> B. Absorption process weakening C. Increase of receptor sensitivity D. Biotransformation suppression E. Substance accumulation in body

#### 6. Sodium valproate

Tests
1. A child who has epilepsy takes sodium valproate. What mechanism of action has this medicine? <b>a) GABA accumulation</b> b) blockade of benzodiazepine receptors c) blockade of $\text{Ca}^{2+}$ canals d) blockade of $\text{K}^{+}$ canals e) reduction activity of GABA
2. A woman, who during the 5th-10th weeks of her pregnancy had been taking sodium valproate for treatment of epilepsy, gave birth to a child with pathology of the vertebral column (split spine). What side effect of the drug caused such malformation? A. Sensitizing B. Fetotoxic C. Mutagenic D. Embryotoxic <b>E. Teratogenic</b>

#### 7. Levodopa

Tests
1. A patient with Parkinson's disease was prescribed preparation affecting the dopaminergic system. Name this preparation: <b>A Levodopa</b> B Zopiclon C Droperidol D Aminazine E Lorazepam
2. To a patient with parkinsonism for the removal of muscular rigidity the dopaminergic drug was prescribed. Name this preparation. <b>A Levodopa</b> B Aminazine C Paracetamol

D Scopalamine hydrobromide
E Atropine sulfate
3. What preparation should be prescribed to treat Parkinson's disease?
A <b>Levodopa</b>
B Nitrazepam
C Aminazine
D Proserin
E Morphine
4. The patient with parkinsonism has been prescribed a drug – dopamine precursor - to relieve muscular rigidity. Name this drug.
A. <b>Levodopa</b>
B. Aminazine
C. Paracetamol
D. Scopalamine hydrobromide
E. Atropine sulphate

### 8. Aminazine (Chlorpromazine)

Tests
1. For a woman of 58 years old, that is on treatment in a psychiatric department after the injection of the prescribed preparation a blood pressure decreased very much. Which preparation may cause this reaction?
A <b>Aminazine</b>
B Caffeine- Sodium benzoate
C Imizinum
D Amitriptilin
E Adrenaline hydrochloride
2. To the patient with a psychosis, it was prescribed neuroleptic with a psychosedative effect. What preparation is it?
A <b>Aminazine</b>
B Diazepam
C Caffeine Sodium benzoate
D Nitrazepam
E Aethymizol
3. To stop the delirium and hallucinations in a schizophrenic patient a doctor used aminazine. What is the mechanism of antipsychotic action of this medicine?
a) <b>inhibition of dopaminergic processes in the CNS</b>
b) stimulation of adrenergic and dopamine processes in CNS
c) stimulation of cholinergic processes in CNS
d) blockade of cholinergic processes in CNS
e) inhibition of MAO
4. A patient who has schizophrenia is prescribed neuroleptic. Which of medicines listed belongs to this group?
a) <b>aminazine</b>
b) celecoxib
c) propranolol
d) promedol
e) pyracetam
5. You are the pharmacist taking an intership. When taking a test choose from pharmacological effect listed that allows to use aminazine to treat psychosis.
a) <b>antipsychotic</b>
b) hypothermic
c) antiinflammatory
d) antiemetic

e) spasmolytic
6. A patient that has described an antipsychotic agent. What is the name for this medicine? <b>a) aminazin</b> b) diazepam c) ciclodol d) caffeine e) phenobarbital
7. A patient with schizophrenia has been administered a neuroleptic. Which of the listed drugs fall into this group? <b>a) Aminazine</b> b) Piracetam c) Propranolol d) Celecoxib e) Morphine

### 9. Caffeine sodium benzoate

Tests
1. A diagnosis is a migraine. Doctor prescribed preparation from the group of purines. What preparation was prescribed to a patient? <b>A Caffeine-benzoate Sodium</b> B Phenazepamum C Theophyllum D Pentocxyphyllin E Dimedrol
2. What reasonable route of administration for sodium caffeine benzoate should one choose to treat migraine? Select from the listed below. <b>a) peroral</b> b) intra-arterial c) inhalation d) transdermal e) rectal

### 10. Amitriptyline

Tests
1. A patient with depression has been administered a drug from the group of tricyclic antidepressants. Specify this drug: <b>A. Amitriptyline</b> B. Phenazepam C. Caffeine D. Amlonum E. Droperidol
2. Antidepressants can increase the concentration of catecholamines in the synaptic cleft. What is the mechanism of action of these drugs? <b>A. Inhibition of monoamine oxidase</b> B. Activation of monoamine oxidase C. Inhibition of xanthine oxidase D. Activation of acetylcholinesterase E. Inhibition of acetylcholinesterase
3. Inhibitors of one of the amine metabolism enzymes are used to treat depression. What enzyme inhibition has such an effect? <b>A. Flavin adenine dinucleotide (FAD)-containing monoamine oxidase (MAO)</b> B. Acetylcholinesterase

- C. Formylkynureninase (Arylformamidase)
- D. Kynurenine 3-hydroxylase
- E. Lactate dehydrogenase

### 11. Pyracetam

#### Tests

1. After a craniocerebral trauma a patient was administered pyracetam. This drug related to the following pharmacological group:
- a). \* **nootropic agent**
  - b). tranquilizers
  - c). nonnarcotic (nonopioid) analgetic
  - d). anesthetic agent
  - e). neuroleptic

### Medicines affecting the gastro-intestinal tract

### 12. Famotidin

#### Tests

1. A patient who concerning ulcerous illness a doctor appointed **famotidin** appealed chemist's. Explain, what mechanism is underlain in 8asix88ine this preparation'
- A'Blockade of H<sub>2</sub>-histamins receptors**
- B Blockade of H<sub>1</sub>-histamins receptors
  - C Blockade of M-cholinoreceptors
  - D Oppression of activity of N+K+ATP-ase
  - E Blockade of cholinoreceptors of likable neuroganglions
2. A pharmacist advised a patient antiulcerous preparation which blocks the histamine receptors of stomach mucous membrane. Name this drug.
- A **Famotidin**
  - B Omeprazol
  - C Almagel
  - D Atropine sulfate
  - E Pirenzepin
3. For treatment of peptic ulcer Famotidine was prescribed. Find the mechanism of action of preparation.
- A **Blockade of H<sub>2</sub>- histamine receptors**
  - B Blockade of H<sub>2</sub>-histamine receptors
  - C Stimulation of α- adrenoreceptors
  - D Blockade of β- adrenoreceptors
  - E Stimulation of M-cholinoreceptors
4. A patient suffering from ulcer disease was prescribed famotidine. What is the mechanism of its action?
- A. **Block of H<sub>2</sub>-histamine receptors**
  - B. Block of cholinoreceptors of sympathetic ganglions
  - C. Block of muscarinic cholinoreceptors
  - D. Inblbition of adenosine triphosphatase activity
  - E. Block of H<sub>1</sub>-histamine receptors

### 13. Ranitidine

#### Tests

1. A patient suffering from peptic ulcer was administered ranitidine. Gastric juice acidity has reduced considerably. What mechanism underlies the action of this drug?
- a). \* H<sub>2</sub> –histamine receptors blockade
  - b). M-cholinergic receptors blockade
  - c). H<sub>1</sub> –histamine receptors blockade
  - d).H,K-ATPase activity inhibition



e). Autonomic ganglion H-cholinergic receptors blockade

#### 14. Omeprazole

##### Tests

1. A patient suffering from stomach ulcer was prescribed an antiulcer drug that also reduces secretion of hydrochloric acid and inhibits *Chelicobacter pylori*. What drug is it?

- a). **\*Omeprazole**
- b). Almagel
- c). Maalox
- d). Famotidine
- e). Gastrocepine

1. A patient with gastric ulcer has been administered omeprazole. What is its mechanism of action?

- A. **Inhibition of  $H^+, K^+$ -ATPase**
- B. Blockade of histamine  $H_2$ -receptors
- C. **\*HCl neutralization**
- D. Blockade of M-cholinergic receptors
- E. Stimulation of mucus production

3. A 45-year-old patient with a gastric ulcer needs the reduction of HCl secretion. Which drug provides this effect due to inhibition of the proton pump?

- A. **Omeprazole**
- B. Atropine
- C. Quamatel
- D. Benzo hexonium
- E. Proglumide

#### 15. Bismuth subcitrate

##### Tests

1. A patient who has been undergoing combined drug therapy for peptic ulcer presents with black feces. Specify a drug that might have caused such change:

- a). **\* Bismuth subcitrate**
- b). Metronidazole
- c). Actovegin
- d). Ranitidine
- e). Omeprazole

#### 16. Almagel

##### Tests

1. A 54-year-old patient who has been suffering from hyperacidic gastritis for several years was prescribed almagel. What pharmacotherapeutical complications on the part of digestive organs may be expected in the first place?

- a). **\* Constipation**
- b). Emesis
- c). Nausea
- d). Diarrhea
- e). Anorexia

2. A patient suffering from stomach ulcer was prescribed almagel. Which of its pharmacological properties is intended for treatment of this pathology?

- A **HCl neutralization**
- B Local anaesthetization
- C Blocking the  $H_2$ -histamine receptors
- D Blocking the muscarinic cholinoreceptors
- E Anti-inflammatory action

## 17. Bisacodyl

### Tests

1. A doctor prescribed **bisacodyl** to a patient with a chronic constipation. In 3 weeks of treatment a patient paid a regard to diminishing purgative effect. With what side effect is it related?

**A Adaptation (tolerance)**

B Predilection

C Sensitizing

D Cumulation

E Dysbacteriosis

2. A patient bought at a drugstore a medicine to treat a habitual constipation. This agent reflexory stimulates intestinal peristalsis. Find this medicine.

**a) bisacodyl**

b) calcium chloride

c) cyanocobalamin

d) heparin

e) furosemide

3. An elderly man who has chronic obstipation was prescribed laxative agent which has an effect upon large intestine.

**a) bisacodyl**

b) allohol

c) smecta

d) maalox

e) cholenzim

4. An elderly patient has constipation caused by hypotonia of colon. What drug should be administered to the patient?

**A. Novocaine amide**

**B. Bisacodyl**

**C. Atropine sulfate**

**D. Sodium sulfate**

**E. Castor oil**

5. A patient with chronic constipation has been prescribed bisacodyl. After 3 weeks of treatment, the patient noticed a reduction of laxative effect. This is caused by the development of the following sideeffect:

**A. Habituation (Tolerance)**

B. Dependence

C. Sensibilization

D. Cumulation

E. Dysbacteriosis

6. The elderly patient suffers from constipation caused by large intestine hypotonia. What drug should be prescribed?

**A. Bisacodyl**

B. Sodium sulfate

C. Castor oil

D. Atropine sulphate

E. Procainamide

## 18. Pancreatinum

### Tests

1. A patient has chronic pancreatitis with apparent presentations of pancreatic exocrine hypofunction. Which of the following drugs would be the most appropriate in this case?
- \* Pancreatinum
  - Drotaverine
  - Omeprazole
  - Acidin pepsinum
  - De-Nol

### 19. Ursodeoxycholic acid

#### Tests

1. A patient with cholelithiasis was prescribed the following drug for the purpose of cholesterol gallstone dissolution:
- \* **Ursodeoxycholic acid**
  - Citric acid
  - Gamma-amino-butyric acid
  - Acetylsalicylic acid
  - Mefenamic acid
2. A patient with cholelithiasis should be administered the following drug for the dissolution of cholesterol gallstones:
- Acetylsalicylic acid
  - Citric acid
  - Mefenamic acid
  - \* **Ursodeoxycholic acid**
  - Gamma-aminobutyric acid
4. Name the psychostimulant with analeptical action, which is a purine derivative:
- Tramadol
  - Sodium bromide
  - Sulpiride
  - \* **Caffeine and sodium benzoate**
  - Medazepam
3. After ischemic stroke the patient was prescribed a drug to improve his intellectual functioning and memory. What drug would he obtain in the pharmacy?
- \* **Piracetam**
  - Diphenin (Phenytoin)
  - Metoclopramide
  - Tabex (Cytisine)
  -
4. A 28-year-old man with peptic ulcer of the stomach was prescribed a drug that inhibits gastric juice secretion. Specify this drug:
- Lidocaine
  - Duphalac (Lactulose)
  - Fenofibrate
  - \* **Omeprazole**
  - Ethacrynic acid
2. A patient came to the pharmacy to obtain an antidiarrheal agent. What drug would be recommended by the dispensing chemist?
- \* **Loperamide**
  - Picolax (Sodium picosulfate)
  - Anesthesin (Benzocaine)
  - Dicaine (Tetracaine)

E. Ranitidine

2. A patient came to the pharmacy to obtain a drug that contains pancreatic enzymes and can be taken for chronic pancreatitis. What drug would be recommended by the dispensing chemist?

A. Pirenzepine

**B. Pancreatine**

C. Triamcinolone

D. Omeprazole

E. Gordox (Aprotinin)

1. Select the hepatoprotective drugs from the list below:

A. Festal. Panzinorm (Pancreatin)

**B. Essentiale (Phospholipides), Thiotriazoline**

C. Allochol. Cholenzym

D. Oxaphenamide (Osalmid). Nicodin

E. No-Spa (drotaverine), papaverine hydrochloride