**PSYCHOTROPICS (part II)**

**II.** **Psychoanaleptics: Antidepressants, psychostimulants, nootropes,**

**general tonizers, adaptogens, analeptics**

**A. Actuality.** Psychoanaleptic remedies represent various drug groups with a broad spectrum of pharmacodynamic effects (timoleptic, thymoretic, regenerative brain metabolism, endocrine system functions, easier and more appropriate adaptation of the body to harmful factors).

**B. Self-training questions:**

1. Antidepressants. Classification. Pharmacokinetics. Mechanism and spectrum of action. Indications, contraindications. Adverse reactions. Clinical picture and treatment of acute poisoning with antidepressants.
2. Psychostimulants. Classification. Mechanism and spectrum of pharmacological action. Indications, contraindications. Adverse reactions. Pharmacokinetics. Clinical picture and treatment of acute poisoning with psychostimulants.
3. Nootropic drugs. Classification. Mechanism of action. Effects. Indications. Side effects. Pharmacokinetics.
4. General tonizers and adaptogens. Classification. Mechanism of action. Effects. Indications. Contraindications. Side effects. Pharmacokinetics.
5. Medullary and bulb analeptics. Classification. Characteristic of groups.
6. Pharmacodynamics and pharmacokinetics features of psychoanaleptic drugs in children.
7. **Independent work**(is done in written form while preparing for the lesson)

**1)** **Brief characteristics of compulsory drugs:**

**Down.** Drug name. 1. Imipramine. 2. Amitriptyline. 3. Phenelzine. 4. Pirlindole. 5. Moclobemide. 6. Caffeine. 7. Piracetam. 8. Hopantenic acid. 9. Ginseng. 10. Pantocrin. 11. Pyritinol. 12. Maprotiline. 13. Nikethamide. 14. Fluoxetine. 15. Methylphenidate.

**Across:** 1. Medicinal form. 2. Ways of administration. 3.Doses. 4. Mechanism of action. 5. Indications. 6. Contraindications. 7. Side effects.

**2)   Questions on medical prescriptions**

**To prescribe the following drugs in all the possible medicinal forms**: 1. Imipramine. 2. Amitriptyline. 3. Phenelzine. 4. Pirlindole. 5. Moclobemide. 6. Caffeine. 7. Piracetam. 8. Hopantenic acid. 9. Ginseng. 10. Pantocrin. 11. Pyritinol. 12. Maprotiline. 13. Nikethamide. 14. Fluoxetine. 15. Methylphenidate.

**Drugs used in (for):** depressive states, nocturnal enuresis, chronic arterial hypotension, asthenia, mental exhaustion, oligophrenia, acute cerebral disorders, alcoholism, migraine, to increase work capacity, chronic cerebrovascular dysfunction, mental retardation in children, consequences of traumatic brain injury.

**3) Tests** (Guideline for Laboratory work in Pharmacology).

**4) Clinical case** (Guideline for Laboratory work in Pharmacology).

**5) Virtual situations** (Guideline for Laboratory work in Pharmacology).

**6) Virtual didactic film**

**7) Tables**

*Table 1*

**Spectrum of psychotropic activity of antidepressants**

|  |  |  |  |
| --- | --- | --- | --- |
| Components of the psychotropic action | Sedative antidepressant effect | Balanced antidepressant effect | Antidepressant with psychostimulant effect |
| Nialamide |  |  |  |
| Moclobemide |  |  |  |
| Amitriptyline |  |  |  |
| Imipramine |  |  |  |
| Fluoxetine |  |  |  |
| Maprotiline |  |  |  |
| Mianserin |  |  |  |

*Note: The presence of the effect is marked with the "+".*

*Table 2*

**Adverse reactions of antidepressants**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Effects | Atropine-like | H1 – blocking reactions | α-blocking reactions | Liver toxicity | "tyramine syndrom" | Serotonin syndrome | Others |
| Nialamide |  |  |  |  |  |  |  |
| Moclobemide |  |  |  |  |  |  |  |
| Amitriptyline |  |  |  |  |  |  |  |
| Fluoxetine |  |  |  |  |  |  |  |
| Mirtazapine |  |  |  |  |  |  |  |

*Note: The presence of the effect is marked with the "+".*

*Table 3*

**Comparative characteristic of nootropic drugs and psychostimulants**

|  |  |  |
| --- | --- | --- |
| Parameters | Psychostimulant | Nootropic drug |
| It changes the bioelectric activity of the brain |  |  |
| It accelerates thinking processes |  |  |
| It improves thinking processes (memorizing, studying) |  |  |
| It increases physical activity and work performance |  |  |
| It reduces the need for sleep |  |  |
| Drug addiction |  |  |

*Note: The presence of the effect is marked with the "+".*

*Table N.4*

**Indications for administration of analeptics**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Indications | Nikethamide | Caffeine sodium benzoate | Bemegride | Strychnine nitrate | Cytisine |
| Cardiogenic shock |  |  |  |  |  |
| Collapse |  |  |  |  |  |
| CO poisoning |  |  |  |  |  |
| Newborn asphyxia |  |  |  |  |  |
| Paresis and paralysis |  |  |  |  |  |
| Barbiturate poisoning |  |  |  |  |  |

*Note: The existence of the indication is marked with the "+".*

**9) Clinical case**

A treatment was performed on a patient with asthenic-depressive syndrome accompanied by motor inhibition. As a result of the treatment, the patient mood was improved, the motor inhibition has decreased.

**Determine the group and possible preparations that could be indicated.**

**Which effects was responsible for the treatment effectiveness?**