

Theme of the lesson: PATHOPHYSIOLOGY OF NERVOUS SYSTEM. CAUSES AND FEATURES OF DEVELOPMENT OF PATHOLOGICAL PROCESSES IN NERVOUS SYSTEM. PAIN

Aim: to get acquainted with modern pathophysiological conceptions about nervous system, with causes and features of pathological processes development. To get familiar with modern definitions of “pain”.

Main relevant questions of the lesson:

1. General pathophysiology of nervous system.
2. Causes of pathophysiological processes in nervous system development.
3. Features of pathophysiological processes in nervous system development.
4. Pain. General characteristics, definitions. Source and mechanisms of pathological pains.

Literature:

1. General and clinical pathophysiology/ Gozhenko A.I. et al. – Odessa National Medical University. – 2001. – P. 211-222
2. Pathophysiology/ Gozhenko A.I., Gurkalova I.P. - Odessa National Medical University. – 2003. – P. 334-343

CONTROL QUESTIONS

№	Instructions to the execution of the task	Answers of the students with additions at the lessons
1.	Syndrome of denervation- is	
2.	Type of cacesthesia- a, b, c	
3.	Deafferentation- is	
4.	Spinal shock- is	

5.	Pain- is	
6.	Nociceptive system- is	

Task 1. Fill the table “Etiological factors”

exogenous	endogenous
1.	1.
2.	2.

Task 2. Sketch the scheme of entering of pathological agents in nervous system

Effect of pathogen factor → _____ → _____ hyperfunction of
 → _____ → _____ structures, that supports homeostasis of nervous system.

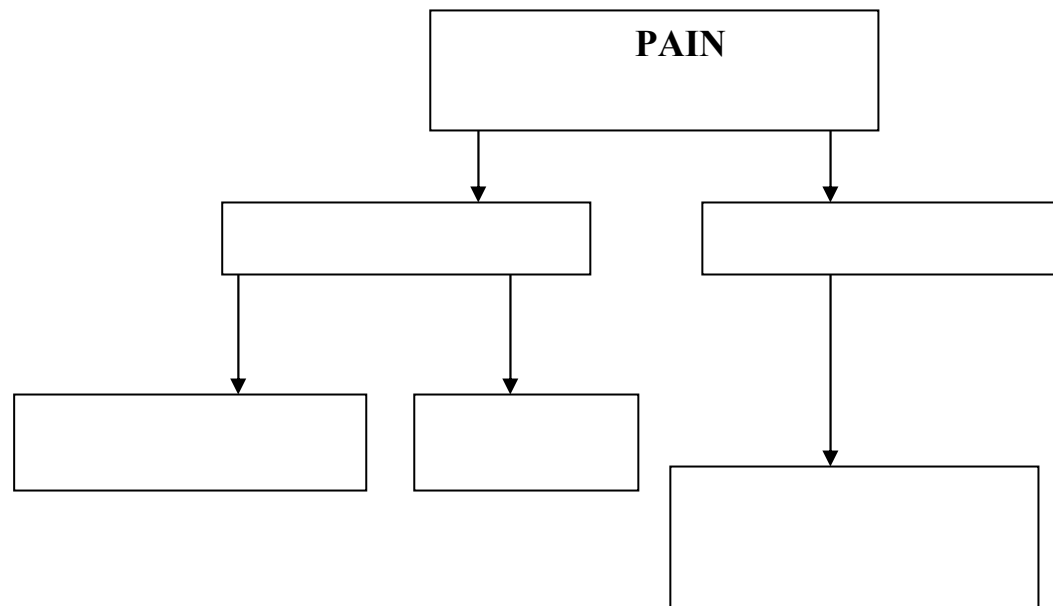
Task 3. For what toxin is character the neural way of entering in CNS?

Task 4. Show the cause of fallout and weakening in neural systeme?

Task 5. Classificate disorders in neural system activity

1. _____
2. _____
3. _____
4. _____

Task 6. Fill the scheme



Task 7. Fill the table with pain classification

Peripheral origin	Central origin

Task 8. What types of somatovisceral sensivity do you know?

1. _____
2. _____
3. _____

Task 9. When appears Brown-Séquard's syndrome?

Task 10. Give the comparative characteristic of early and tardy pain

Early pain	Tardy pain

Task 11.

Solve the tests for selfcontrol.

1. Rescuers have found a man during the extraction from under the fragments of houses after the earthquake. He cried loud, had a pale face, convulsions. His pulse was tense and frequent. Breath is short and frequent (I stage of traumatic shock). What system activated in such case?

- A. sympathetic
- B. parasympathetic
- C. limbic
- D. pyramidal
- E. extrapyramidal

2. A man was delivered to reanimation after the road accident. Doctor marked the spinal shock. A patient has all symptoms except:

- A. tachycardia
- B. decrease of arterial pressure
- C. Disorder of thermoregulation
- D. perspiration
- E. reflector acts of defecation and urination

3. A young woman came to doctor with arrhythmia, shortage of air, sense of pulsation in body, wave of fever, stabbing [piercing] pains in heart that appear in the rest period, bad appetite, emotional instability, long termed of depression. She told doctor that she has phobias, memory impairment, and attention collapses. What pathology has a woman?

- A. obsessive-compulsive neurosis
- B. stenocardia
- C. CHD
- D. thyrotoxicosis
- E. morbus hypertonicus

4. A 14 -year -old girl complains of headache, fatigability, cardialgias, irritation, memory impairment, degradation, tachycardia, hyperemia, polyuria. Functional probes showed lability of arterial pressure. On clinical examination was detected obesity, vasoneurosis. From anamnesis: girl's mother suffers from morbus hypertonicus. What can you suppose?

- A. hypertonic type of vasoneurosis
- B. arterial vasoneurosis
- C. hypotonic type of vasoneurosis

- D. mixed type of vasoneurosis
- E. hyperthyroidism

5. From orphanage was delivered a 8 year old boy to be examined in clinic. He suffers of headache with pressing character, mainly in parietoccipital region. A boy is hot-tempered, in poor physical condition and absend-minded. Arterial pressure is 85/45 millimeters of mercury column, pale skin, red diffuse dermographism, bradycardia, vegetative tonus with parasympathetic direction. From anamnesis: boy's parents suffer from chronic alcoholism. What pathology has a boy?

- A. hypotonic type of vasoneurosis
- B. arterial vasoneurosis
- C. hypertonic type of vasoneurosis
- D. mixed type of vasoneurosis
- E. hyperthyroidism

6. To reanimation was delivered a driver after road accident. He has slow reaction on questions, indifferent to everything, pale, shallow breath; arterial pressure is 75/50 millimeters

of mercury. Name the main link of disease pathogenesis.

- A. Inhibition of CNS
- B. stimulation of CNS
- C. blood loss
- D. toxemia
- E. redistribution of blood

B. obsessive-compulsive neurosis

- C. phobias
- D. neurasthenia
- E. psychasthenia

7. A patient after amputation of lower limbs has phantom limb pain.

What mechanism is important in phantom pains treatment?

- A. deafferentation of central part of nociceptive system
- B. increase of c- fibers excitability
- C. disorder of effective mechanism of portal control
- D. decrease of functional activity of ventroposterolateralis nucleus neurons of thalamus.
- E. decrease of antinociceptive system

8. A patient complains of quick fatigability, detracting, memory impairment, and high irritability. This condition developed after conflict with boss. What type of disorders compares with such behavioral response?

- A. maladaptive behavioral response

For notes
