

Topic of the lesson: **FUNCTIONAL INSUFFICIENCY OF LIVER.**

Aim: To be able to make pathophysiologic analysis of etiology and pathogenesis of main pathophysiologic syndromes, which develop by liver diseases.

Main questions to the topic:

1. Hepatic insufficiency. Causes of its appearing and characteristics of metabolic- functional disturbances by it.
2. Etiology and pathogenesis of portal hypertension.
3. Hepatic coma: types, causes of appearing? Mechanisms of development, principles of therapia (treatment).

Literature:

1. General and clinical pathophysiology / Gozhenko A.I. etal. – Odessa National Medical University. – 2002. – P. 179-184
2. Pathophysiology / Gozhenko A.I., Gurkalova I.P. – Odessa National Medical University.– 2005. – P. 248-255

CONTROL QUESTIONS

<u>№ №</u>	<u>Instructions to the execution of the task</u>	<u>Answers of the students with complements at the lessons</u>
1	Which factors may cause liver injury? – a, b, c, d, e, f, g, h, i	
2	What is a hepatic insufficiency?	

3	What is a classification of hepatic insufficiency? – a, b, c, d	
4	By disturbances of which hepatic functions may be its insufficiency indicated? – a, b, c, d	
5	Which disturbances of carbohydrates metabolism may appear at hepatic injuries? – a, b	
6	Which disturbances of lipids metabolism may appear at hepatic injuries? – a, b, c, d	
7	Which disturbances of proteins metabolism may appear at hepatic injuries? – a, b, c	
8	What is the essence of hepatocerebral insufficiency syndrome?	

9	Hepatic coma is ...	
10	Which are the variants of hepatic coma? – a, b	
11	What is a pathogenesis of hepatic coma? – a, b, c, d	

TASK 1. Name the basic methods of hepatic functions in experiment.

- 1- _____
- 2- _____
- 3- _____
- 4- _____
- 5- _____

TASK 2. Why does an allergy is more likely to appear during the liver diseases?

TASK 3. Disturbance of urea synthesis in liver at its injury raises the blood concentration:

TASK 4. Indole and scatole, admitted by portal vein from intestine, are deactivated in the liver by:

TASK 5. Why is hepatic insufficiency concomitant with hemorrhagic syndrome?

TASK 6. Enumerate the main expressions of portal hypertension: 1- _____
2- _____
3- _____
4- _____
5- _____

TASK 7. How is the development of hepato-lineal syndrome explained on phone of portal hypertension? 1.- _____
2.- _____
3.- _____

TASK 8. Which factors have leading part in pathogenesis of ascites at portal hypertension?

- 1- _____
2. - _____
- 3- _____
- 4- _____
- 5- _____

TASK 9. How can be development of gynecomastia, atrophy of testicles, decreasing of sexual function at men with cirrhosis of liver?

TASK 10. Syndrome, which is caused by toxic injury of CNS with cerebrotoxicants, which store in blood at hepatic insufficiency, which is evident by loss of consciousness, areflexia, convulsions, disturbances of blood circulation and respiration is named:

TASK 11. More often causes of hepatic coma may be:

- 1- _____
- 2- _____
- 3- _____
- 4- _____

TASK 12. Which substances cerebrotoxicants cause injury of CNS at hepatic coma?

- 1- _____
- 2- _____
- 3- _____
- 4- _____
- 5- _____
- 6- _____

TASK 13. Increasing of aldosterone in blood as a result of disturbance of its metabolism in liver is typically for hepatic coma that is escorted by high excretion from organism of _____ enforced transition to cells of Sodium and Hydrogen ions development of intracellular _____ and extracellular _____.

TASK 11.*To solve the tests of self-control*

1. Male 48 years old is complaining on general weakness quickly fatigue, itching, weight loss, increasing of abdomen size. Abuses with alcohol. On skin of neck and face are telangiectasia, erythema of palms, icteric sclera. Xanthoma. Liver is increased, thick, sensitive at palpitation. Spleen is palpitated. Which pathologic process is more probably at the patient?
- A. Disturbance of blood circulation at liver
 - B. Hepatosis
 - C. Hepatitis
 - D. Cholestasis
 - E. Cirrhosis of liver
2. At teenager of 15 years old was diagnosis of virus hepatitis. Detection of which index is necessary to make for verification of acute injury of hepatocytes?

- A. Content of free and bonded bilirubin in serum
 - B. Activity of aminotransferases (ALT and AST) in blood patient?
 - C. Erythrocyte sedimentation rate (ESR)
 - D. Rate of cholesterol in plasma
 - E. Content of protein fractions of blood serum
3. Patient has drowsiness, confusion of consciousness, lethargy reactions on strong stimulants. Paler, dry skin, apparent edema. Muscular fibrillatory twitching. Mydriasis. Cheyne-Stokes respiration with ammonia odor. At auscultation of heart – pericardial murmur. Which type of coma is developed at the patient?
- A. Apoplectic complex
 - B. Ketoacidotic
 - C. Hyperosmolar
 - D. Renal

E. Hepatic

4. At blood analysis of patient are detected Nitrogen and urea. Part of urea in residual Nitrogen is much lowed. For disease of which organ is this analysis typical?
- A. Kidneys
 - B. Heart
 - C. Intestine
 - D. Liver
 - E. Stomach
5. At the patient is diagnosed ascites. There are no edemas of other body parts. There are large vessels of cyanosis color on the abdomen. Which pathology is at the patient?
- A. Portal hypertension
 - B. Renal hypertension
 - C. Chronic insufficiency of blood circulation
 - D. Essential hypertension
 - E. Hypertension of small circle of blood circulation
6. At the patient with cirrhosis of liver have appeared arterial

hypertension, muscular fatigue, and periodic convulsions. In blood – increased amount of Sodium and decreased amount of Potassium. Which type of endocrine disturbances is in the base of this symptom signs?

- A. Hypoaldosteronism
- B. Secondary aldosteronism
- C. Hypopituitarism
- D. Primary aldosteronism
- E. Hyperpituitarism

7. Patient with chronic hepatitis is complaining on increased sensitivity to barbiturates, which earlier were tolerated without symptoms of intoxication. On disturbances of which hepatic function does it more probably depend?

- A. Hemopoietic
- B. Phagocyte
- C. Metabolic
- D. Synthesis of biliary
- E. Hemodynamic

8. Patient is complaining on dyspeptic disorders, melena

hemorrhoidal bleeding. At the investigation was evident dilation of veins wall on the front wall of abdomen with increasing of its sizes. Which pathology of GIT may be evident in such way?

- A. Portal hypertension
- B. Enteritis
- C. Colitis
- D. Ulcer disease
- E. Intestinal autointoxication

9. At the patient 38 years old, which had hepatitis C and is continuing to consume an alcohol, were developed signs of cirrhosis of liver with ascites and edemas on lower limbs. Which disturbances of blood content took a great place in development of edemas?

- A. Hypoalbuminemia
- B. Hypocholesterinemia
- C. Hypoglycemia
- D. Hypoglobulinemia
- E. Hypopotassiemia

10. At the patient's urine is increased amount of indole, decreased – of indican. It says about disturbance of:

- A. Filtrate function of kidneys
- B. Reabsorbial function of kidneys
- C. Protein synthesis function of liver
- D. Disintoxic function of liver
- E. Secretory function of pancreatic gland

For notes
