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**ТИББИЁТДА ЯНГИ КУН  
НОВЫЙ ДЕНЬ В МЕДИЦИНЕ  
NEW DAY IN MEDICINE**

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## PATHOGENETIC ASPECTS OF THE DEVELOPMENT OF CPT-ASSOCIATED ANEMIA IN PATIENTS WITH CHRONIC HEPATITIS C

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✓ *Resume*

*Chronic hepatitis C (CHC) is one of the most common human infectious diseases. The development of severe hematological syndromes in patients during combined antiviral therapy (CPT) for CHC is a very urgent problem. Among the most dangerous complications in this case, one can especially single out CPT-associated anemia.*

*Key words: Chronic hepatitis C, combined antiviral therapy, CBT-associated anemia.*

## ПАТОГЕНЕТИЧЕСКИЕ АСПЕКТЫ РАЗВИТИЯ КПТ-АССОЦИИРОВАННОЙ АНЕМИИ У БОЛЬНЫХ ХРОНИЧЕСКИМ ГЕПАТИТОМ С

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✓ *Резюме*

*Хронический гепатит С (ХГС) является одним из наиболее распространенных инфекционных заболеваний человека. Развитие у пациентов тяжелых гематологических синдромов при проведении комбинированной противовирусной терапии (КПТ) ХГС представляет собой весьма актуальную проблему. Среди наиболее опасных осложнений в данном случае особо можно выделить КПТ-ассоциированную анемию.*

*Ключевые слова: Хронический гепатит С, комбинированная противовирусная терапия, КПТ ассоциированная анемия.*

## SURUNKALI GEPATIT C BILAN OG'RIGAN BEMORLARDA KVQT BILAN BOG'LIQ ANEMIYA RIVOJLANISHINING PATOGENETIK JIHLARI

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✓ *Rezyume*

*Surunkali gepatit C (SGC) insonning eng keng tarqalgan yuqumli kasalliklaridan biridir. Kombinatsiyalangan antiviral terapiya (KVQT) SGC paytida bemorlarda og'ir gematologik sindromlarning rivojlanishi juda dolzarb muammo hisoblanadi. Bu holda eng xavfli asoratlar orasida KVQT bilan bog'liq anemiyani alohida ta'kidlash mumkin.*

*Kalit so'zlar: surunkali gepatit C, kombinatsiyalangan antiviral terapiya, CBT bilan bog'liq anemiya.*

## Relevance

**Purpose of the study:** to study the main aspects of the pathogenesis of CPT-associated anemia in patients with chronic hepatitis C.

## Material and methods.

The study included 114 CHC patients who had indications for CBT. 50.8% of patients received ribavirin in combination with cycloferon, and 49.2% in combination with roferon - "short" INF- $\alpha$ .

Determination of the content of erythrocytes in the blood and the concentration of hemoglobin (Hb) was carried out by the method of automatic hematological analysis. Serum concentration of endogenous erythropoietin (EPO) was studied by automatic chemiluminescent immunoassay.

## Results and discussion

Completely completed the course of CBT 81 patients with CHC. Sustained virological response (SVR) was achieved in 77 patients. Among those receiving cycloferon, the SVR rate was 54.4%; receiving "short" INF- $\alpha$  - 81.6%. In 4 patients, therapy was canceled after 8 weeks of treatment due to the development of severe hematological complications of CBT. In 28 patients with CHC, the absence of an early virological response was recorded, in 4 of them, the development of severe complications from the blood system was observed in parallel. According to the classification of the European Society of Medical Oncology, mild (Hb 10.0-11.9 g / dl), moderate (Hb 8.0-9.9 g / dl) and severe (Hb < 8.0 g / dl) degrees of anemia are distinguished. . In our case, the development of CPT associated anemia was noted in 36.8% of patients, while mild degree was noted in 12.3%; moderate - in 19.3% and severe - in 5.2% of cases. All patients, depending on the minimum concentration of Hb (Hbmin), recorded for the entire period of CPT, were divided into three groups. Group 1 (n=70) included those whose Hbmin remained within the acceptable range. Group 2 (n=14) consisted of patients with mild CBT-associated anemia. Group 3 (n=28) included patients with moderate and severe CBT-associated anemia. At the start of CPT, the average EPO level in the 1st group was  $7.3 \pm 1.2$  mU/ml, in the 2nd group -  $12.4 \pm 2.1$  mU/ml, and in the 3rd group -  $30.8 \pm 5.3$  honey/ml. After the end of therapy, its level increased in all groups. However, the severity of the identified changes was ambiguous. So, in the 1st group, the average EPO level increased from the initial one by 7.7; in the 2nd - in 4.3; and in the 3rd - only 1.9 times. recorded for the entire period of CPT were divided into three groups. Group 1 (n=70) included those whose Hbmin remained within the acceptable range. Group 2 (n=14) consisted of patients with mild CBT-associated anemia. Group 3 (n=28) included patients with moderate and severe CBT-associated anemia. At the start of CPT, the average EPO level in the 1st group was  $7.3 \pm 1.2$  mU/ml, in the 2nd group -  $12.4 \pm 2.1$  mU/ml, and in the 3rd group -  $30.8 \pm 5.3$  honey/ml. After the end of therapy, its level increased in all groups. However, the severity of the identified changes was ambiguous. So, in the 1st group, the average EPO level increased from the initial one by 7.7; in the 2nd - in 4.3; and in the 3rd - only 1.9 times. Group 2 (n=14) consisted of patients with mild CBT-associated anemia. Group 3 (n=28) included patients with moderate and severe CBT-associated anemia. At the start of CPT, the average EPO level in the 1st group was  $7.3 \pm 1.2$  mU/ml, in the 2nd group -  $12.4 \pm 2.1$  mU/ml, and in the 3rd group -  $30.8 \pm 5.3$  honey/ml. After the end of therapy, its level increased in all groups. However, the severity of the identified changes was ambiguous. So, in the 1st group, the average EPO level increased from the initial one by 7.7; in the 2nd - in 4.3; and

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### Findings

A decrease in the peripheral blood of CHC patients in the partial pressure of O<sub>2</sub> leads to a compensatory increase in the production of endogenous EPO. Under conditions of increased load on the erythron system due to the intake of antiviral drugs, the above mechanism of erythropoiesis regulation becomes insufficiently effective, which may be one of the key points in the pathogenesis of CBT-associated anemia.

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