MODERN ASPECTS OF CHF AND COPD CONCURRENT COURSE

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The problem of multi-and comorbidity currently remains important for medical science and practice. The growth of the multiplicity of diseases with age reflects, above all, the involutionary processes, and the concept of comorbidity captures the possibility of their conjugation. Of particular importance, this problem takes on a combination of diseases of great socio-economic importance and distribution, which include chronic gastritis type B (CHB) and iron deficiency anemia (IDA).

HBV and IDA can be considered as diseases that are consistently combined with each other not only because of their prevalence, but also as a result of the generality of many pathogenetic mechanisms [1, 2]. Under conditions of sideropenia and anemic hypoxia, tissue respiration is impaired, and consequently, atrophy of the gastric mucosa progresses, and gastric secretion decreases, which, in turn, inhibits iron absorption and increases iron deficiency. A kind of "vicious circle" is formed, when one pathological process aggravates another, which, in turn, leads to the further progression of the first [3, 4]. This necessitates an increase in the efficiency of diagnosis and the formation of treatment regimens for patients with chronic hepatitis B combined with IDA based on a study of the general pathogenesis of these diseases.

The purpose of this study is to develop and test pathogenetically substantiated therapy of patients with chronic hepatitis B combined with IDA on the basis of an in-depth study of the general pathogenesis.

Materials and research methods. A total of 104 patients with chronic hepatitis B were combined with IDA who were treated in the Department of Liver and Gastrointestinal Diseases of the Institute of Therapy named after LT Malaya AMS of Ukraine. Among the surveyed were 45 men (43.7%) and 59 women (56.3%), aged 17 to 52 years, the average age of the surveyed was (41.2 ± 3.6) years. The disease duration ranged from 6 months to 15 years. All patients had IDA mild (hemoglobin level was not less than 90 g / l).

Criteria for exclusion from the survey were 2 groups. The first group includes conditions that could affect the level of AA in the gastric juice, the second group consisted of states, the presence of which could affect the indicators of iron metabolism.

All women were examined by a gynecologist. To exclude pregnancy and the presence of gynecological diseases, an ultrasound of the pelvic organs was performed. The study did not include patients with comorbidities that would cause the patient to stop participating in it. To determine the effect of combined pathology on the clinical signs of diseases, groups with isolated course of CHB and IDA were identified. 30 people had CHB and 30 patients with IDA. Patients of all groups were completely randomized by age, sex, and duration of the disease. All surveyed gave informed written consent to participate in the study.

The control results of the indicators that were studied were obtained during the examination of 30 practically healthy individuals of similar age and sex who were not infected with H. pylori.

The diagnosis of CHB was established on the basis of complaints from patients, data from anamnesis and laboratory and instrumental examination (video endoscopic examination with biopsy in the antrum and fundus of the stomach (endoscopic system "Olympus" V-70, Japan)). The presence of H. pylori was confirmed by three methods: a histological study of the biopsy specimen of the coolant, an enzyme immunoassay test Hexagon H. pylori test (HUMAN, Germany) and a urease rapid test of biopsy specimens (URE-HP test, PLIVA-LachemaDiagnostica, Czech Republic). The study of the acid-forming function of the stomach was performed using intragastric basal pH-metry (EB-74 ionometers, Belarus).

The diagnosis of IDA was established on the basis of anamnesis, clinical manifestations and was confirmed by laboratory data in accordance with WHO recommendations.

All examined were given a complete blood test on a MS-4 hematology analyzer (manufactured by MELET SCHLOESING laboratories, France) with the determination of hemoglobin, hematocrit and red cell indices.

For the purpose of studying the metabolism of iron, we determined: serum ferritin by the ELISA method using the reagent kit CJSC ALKOR BIO, Russia on the HUMAREADER immunoassay analyzer (Germany); serum iron and total serum iron binding ability by the colorimetric method using the reagent kit of the NPO Philist Diagnostics (Ukraine), also calculated the transferrin saturation coefficient with iron.

The level of AA was determined by direct titrimetric method using a solution of 2'6 '- dichlorophenolindophenol (Tilmans dye). The principle of the method is based on the ability of AK to quantitatively reduce the oxidized dye Tilmans to a colorless leuco form.

Blood for research was taken from patients in the morning, on an empty stomach from the cubital vein, be sure to 10 hours.

Statistical processing was performed using the computer program "SPSS 13", the results were considered reliable if p <0.05.

The results of the study.

When examining patients with CHB in combination with IDA, it was found that the majority of patients 66 (63.5%) were aged from 21 to 44 years. The results showed that the history of the history was from 6 months to 15 years, but in most cases 62 patients (59.6%) had a history of the disease more than 10 years, while 10 patients (9.6%) had CHB diagnosed for the first time.

Among the clinical manifestations of CHB in patients with IDA, pain syndrome prevailed, observed in 14.4% of cases (15 patients). Most often (in 67.2%) the pain was of a sticking character and was localized in the epigastric region. Irradiation of pain patients did not notice. A significant part of the patients - 87 people (83.7%) noted a violation of the chair. The most common manifestation of intestinal dyspepsia in 61 patients (70.1%) were constipation. Asteno-neurotic syndrome occurred in 93 people (89.4%) and was manifested by fatigue, decreased performance and emotional lability.

When examining patients with CHB in combination with IDA, attention was paid to the symptoms of iron deficiency. All surveyed were asked to fill out a specially designed questionnaire containing complaints typical of iron deficiency. Symptoms of iron deficiency were divided into two groups: sideropenia symptoms and anemia symptoms. The overall frequency of sideropenia symptoms in patients with a combined course of chronic hepatitis B and IDA did not exceed 9.2%. Among them, the most frequent were brittleness, cross-striated nails and a bluish tinge of sclera. Among the symptoms of anemia, much more frequently were observed: weakness and loss of appetite.

A visual study of the coolant for comorbidity was characterized by more frequent detection of gastroesophageal reflux in 86 (82.7%) cases compared with 15 (50%) cases in patients with isolated CHB.

In the study of biopsy specimens, the Sydney System was used to establish a microscopic diagnosis. The generalized result showed that among patients with isolated CHB, there were predominant individuals with mild inflammation (14 - 46.7%) and weak atrophy of the coolant (18 people - 60.0%). Whereas, in patients with comorbidity, moderate inflammation of the coolant was observed in 49 people (47.1%) and moderate atrophy of the coolant in 65 people (62.5%).

In patients with comorbidity, individuals with a pronounced seeding rate of H. pylori coolant were prevalent (52–50%), whereas in the group of patients with isolated CHB, with moderate (23–76.7%). In the study of acidity in the stomach, it was found that patients with a combined pathology more often than in groups of patients with an isolated course of CHB and IDA, there was a hypoacid state in 53 people (51.0%). This, in our opinion, may be the result of more rapid progression in sideropenia and anemic hypoxia pathological changes in the form of atrophy of the coolant caused by its colonization of H. pylori.

n the study of the concentration of AA in the gastric juice in patients with a combination of CHB and IDA, its reliable (p <0.05) decrease was determined in comparison with this indicator of patients with an isolated course and healthy individuals. Thus, in patients with chronic hepatitis B, the level of AA in the gastric juice was (20.1 ± 1.1) mg / ml, in patients with IDA - (18.5 ± 1.2) mg / ml, and in patients with a combined course of these diseases - (7 4 ± 0,8) mg / ml. While the level of AK in the control group was (19.2 ± 0.9) mg / ml. In patients with a combined course of CHB and IDA, we analyzed the possibility of the dependence of the severity of violations of the antioxidant properties of gastric juice on the sex and age of patients, the duration of the disease, the degree of colonization of HJ pylori, the pH of the gastric environment and the degree of atrophy of the coolant. Analysis of the data showed that the severity of violations does not depend on the age (p> 0.05) and gender (p> 0.05) of patients and significantly changes with an increase in the duration of the disease. Gastroesophageal and duodeno-gastric refluxes and the presence of a hiatus hernia did not affect the AK level. It was determined that in individuals with a pronounced degree of H. pylori coolant infection, the AK level was significantly (p <0.05) lower than with weak (3.1 ± 0.2) mg / ml and (9.3 ± 0.9 ) mg / ml, respectively. When conducting a correlation analysis, an inverse correlation was established between the level of AA in gastric juice and the degree of colonization of the coolant of H. pylori (r = -0.63) (p <0.05). When determining the effect of the morpho-functional state of the coolant on the level of AA in the gastric juice, a negative correlation was established between the concentration of AA in the gastric juice, the degree of coolant infiltration by polymorphonuclear leukocytes (r = -0.68) (p <0.05) and the degree of inflammation in Coolant (r = -0.563, p = 0.021). Regarding the effect of the severity of atrophic processes in the coolant on the level of AK, the level of AK was significantly (p <0.05) lower than the level of AK in patients with severe atrophy of coolant compared with patients with mild and moderately marked atrophy of coolant ((2.1 ± 0.4) mg / ml, (9.6 ± 1.0) mg / ml and (8.7 ± 0.8) mg / ml, respectively). Patients with a pH of gastric contents> 4 had significantly (p <0.05) AK levels lower than patients with pH <4 ((6.1 ± 0.7) mg / ml and (12.0 ± 0.9) mg / ml, respectively). The pH limit was set at 4, since at higher pH values, AK is oxidized to a biologically inactive dehydroascorbate form.

A negative correlation was established between the degree of contamination of H. pylori coolant and serum ferritin (r = -0.50) (p <0.05), serum iron (r = -0.56) (p <0.05) and hemoglobin (r = -0.52) (p <0.05).

In our opinion, a decrease in the level of AA in the gastric juice in patients with chronic hepatitis B combined with IDA may indicate the pathogenetic role of exhaustion of the antioxidant potential of gastric juice in the occurrence of iron deficiency, as evidenced by the following data. First, the direct correlation between the level of AA in the gastric juice and the level of the main indicators of the body's iron supply (serum ferritin, serum iron and total serum iron-binding capacity). Secondly, the negative correlation between the level of AK and the degree of colonization of the coolant by polymorphonuclear leukocytes and the severity of inflammation in the coolant, and also significantly lower the level of AK in individuals with severe atrophy of the coolant compared with patients with mild and moderate atrophy of the coolant. Perhaps the mechanism that explains this fact may be a decrease in the active transport of AK from blood serum to gastric juice in terms of gastritis caused by H.pylori. On the other hand, a decrease in the level of AK can be both a consequence of its increased oxidation, and a consequence of a decrease in the bioavailability of AK under the direct influence of the bacterium H.pylori (in humans, the need for AK is satisfied only by the alimentary path). In addition to the indirect effect of the bacterium H.pylori on iron metabolism due to a decrease in the AK level of gastric juice, the presence and direct influence of the bacterium on iron metabolism can be assumed, which can be indicated by the negative correlation link between the digestive fluids of H.pylori and the level of iron metabolism. Thus, H. pylori infection can increase the body's need for iron, since the proportion of nutritional iron is spent on "meeting" the needs of the infection itself.

Thus, the study showed that, firstly, the combination of CHB and IDA leads to a mutually aggravating course, and, second, it demonstrated the possible pathogenetic role of reducing AK levels in gastric juice in the occurrence of iron deficiency in patients with CHB associated with H .pylori.

In order to correct the revealed violations, all patients were divided into two groups: the first (main - 46 patients) and the second (comparisons - 58 patients). The first group consisted of patients with a diagnosis of chronic hepatitis B, in which in the process of additional research established IDA. The second group included patients with a diagnosis of IDA of unclear genesis and those in whom HBV was detected without exacerbation after conducting a video endoscopy with a coolant biopsy. Both groups did not differ among themselves in basic iron metabolism. In assessing the effectiveness of therapy, the timing of the disappearance of the main clinical symptoms and the data on iron metabolism were taken into account. Laboratory studies were conducted at the end of the 3rd and 6th months of observation. In order to correct iron deficiency, patients of both groups received 80 mg of tardiferone per day before normalization of iron metabolism, further for 3 weeks. Patients of the first group additionally received first-line anti-helicobacter therapy: rabeprazole 20 mg 2 times a day, amoxicillin 1000 mg 2 times a day, clarithromycin 500 mg 2 times a day.

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Analysis of clinical symptoms in patients with CHB in combination with IDA after treatment showed that a positive clinical effect in the main group of patients was achieved in 96.0% of cases, in the comparison group - 84.2%, respectively. Manifestations of astheno-neurotic syndrome were observed in patients of both groups both before and after treatment, but the positive dynamics of these manifestations in the main group was noted 13.9 ± 0.8 days earlier. The purpose of the proposed therapy had a positive effect on the main indicators of iron metabolism. After 3 months, compared with pretreatment rates (p <0.05), the level of hemoglobin and serum iron increased significantly, as in patients of the first group to (120.3 ± 5.5) g / l and (20.4 ± 1, 5) μmol / l, respectively, and in patients of the second group to (119.3 ± 5.9) g / l and (21.4 ± 1.3) μmol / l. However, it should be noted that significant changes in serum ferritin levels as in patients of the first and second groups were not observed. Thus, iron entered the body completely to replenish the transport and hemoglobin iron pool, as evidenced by an increase in hemoglobin and serum iron, therefore, no iron was reported in the depot, which explains the lack of a significant increase in serum ferritin, an indicator reflecting reserves iron in the body.

Regarding the level of AA in the gastric juice, in patients of the first group it significantly (p <0.05) increased compared with the pre-treatment index and amounted to (16.7 ± 1.4) mg / ml. It should be noted separately that in patients in whom eradication therapy was unsuccessful (6 people - 13%), the level of AA in the gastric juice did not significantly change (p> 0.05). In patients of the second group, the AK level remained at the same level as before the treatment. This circumstance, in our opinion, can be considered an additional confirmation of the negative effect of H.pylori on the AK level in gastric juice.

At the end of the sixth month of the study, the level of AA in the gastric juice in patients of the first group did not significantly differ (p> 0.05) in the healthy individuals (19.6 ± 1.2) mg / ml and (19.2 ± 0.9) mg / ml, respectively) and was significantly higher than before treatment. Thus, it can be assumed that successful eradication therapy contributes to an increase in the level of AA in the gastric juice. The level of hemoglobin and serum iron, both in the main group and in the comparison group, after 6 months did not significantly differ from those of healthy individuals. The serum ferritin level in patients of the first group significantly (p <0.05) increased and amounted to (97.8 ± 10.4) µg / l compared to (45.8 ± 7.3) µg / l before treatment. In patients of the second group, there was no significant increase in serum ferritin level (p> 0.05). In our opinion, this can be explained by the pathogenetic effect of H. pylori therapy on the cause of iron deficiency in the examined individuals, which may be H. pylori. Probable mechanisms of action can be both mediated through a decrease in the level of AA in the gastric juice, or directly. Thus, the prescribed treatment with the inclusion of eradication therapy allows for the correction of the identified changes.

findings

1. For patients with chronic hepatitis B combined with IDA, a significant decrease in the level of AA in the gastric juice is characteristic compared with patients with an isolated one. In patients with a history of the disease for more than 10 years, the level of AK is significantly lower compared with those with a history of the disease 1-5 and 5-10 years. 2. In patients with CHB in combination with IDA, a direct correlation was established between the AK level of gastric juice and the main indicators of iron metabolism and serum ferritin. 3. The criterion that will allow predicting the development of iron deficiency in people with chronic hepatitis B may be a decrease in the level of AK in the gastric juice and a history of the disease for more than 10 years. 4. Conducting eradication therapy in the complex therapy of CHB and IDA enhances the results of therapeutic interventions, and the correlations found between the indicators allow using them as diagnostic criteria and assessing the quality of therapy.

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