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CHARACTERISTICS OF CLINICAL AND PSYCHOPATHOLOGICAL INDICES IN ALCOHOL DEPENDENCE IN PERSONS WITH CONSTANT TYPE OF ALCOHOL ABUSE IN COMPLIANCE WITH BIOLOGICAL RHYTHMS

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Among the current issues of modern addiction medicine is the problem of studying the psychopathological manifestations of mental and behavioral disorders due to alcohol consumption, their pathogenetic mechanisms and consideration of these factors in the development of therapeutic methods. As a result of psycho-emotional study, taking into account the biorhythm status, it was noted that in persons of evening type prevailed the high level of state and trait anxiety in comparison with morning and undifferentiated type ($p<0.01$), severe depression was more common compared to the morning type ($p<0.05$), anxious and dysthymic type of accentuation was prevailed, personality profile showed more pronounced social maladjustment compared to the morning and undifferentiated type of working capacity. The obtained results expand the possibilities of optimizing the complex therapy of this cohort of patients.

Key words: alcohol dependence, constant type of alcohol abuse, biorhythm status, state anxiety, trait anxiety, depression, individual psychological features.

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Irreversible medical-biological, social-economic, demographic, legal consequences of alcoholism of the population of Ukraine at the present stage gives every reason to put alcohol dependence on a par with other most dangerous medical and social problems that pose a real threat to the health of the nation. According to the WHO, the global average alcohol consumption is 6.1 liters per person per year, and in Ukraine this index is one of the highest in the world (15.6 liters per person per year). The annual mortality rate from alcohol-related consequences is about 40,000 people [11].

According to the statistics of the Ministry of Health of Ukraine, the number of patients in medical care dispensaries of Ukraine currently reaches 1 million people, and occupies one of the first places in the structure of emergency care disorders caused by alcohol dependence [5]. A significant increase in the number of alcohol consumers among the population, especially among young people [3], inevitably provokes a sharp increase in physical and mental morbidity, trauma, suicide attempts, aggressive behavior and criminal activity [9, 10].

Alcohol abuse is considered to be one of the main factors of the demographic and social crisis in Ukraine and as a national danger at the level of the individual, family, society [2, 4]. In recent years, under conditions of military and political instability in the east of the country, there has been a sharp increase in drug and mental diseases as a social response to long-term traumatic stress. Recent medical and social studies have revealed a strong correlation between the level of stress in society and the level of problems associated with alcohol [1].

At the same time, the clinical pathologic response of modern forms of alcohol dependence causes a significant complication of the clinical evidence. The appearance in the clinical evidence of heavy drinking practices indicates the special severity and malignancy of the addiction syndrome. Couping of heavy drinking practices is one of the most difficult problems of modern addiction medicine, which requires the implementation of individualized and differentiated treatment and rehabilitation programs [8, 12].

The study of clinical and psychopathological features of heavy drinking practices of alcohol dependence, taking into account biological rhythms, expands the possibilities in understanding the complex pathogenetic mechanisms that lead to the emergence of these conditions [13, 14, 15]. Performing biorhythm studies in patients with alcohol dependence is important for adequate selection and use of methods of therapy and psychological prophylaxis in order to achieve proper quality of remission [6, 7].

The purpose of the study was to investigate the clinical and individual psychological characteristics of patients with alcohol dependence with a constant type of alcohol abuse, considering the biorhythm status.

Materials and methods. We observed 226 patients with alcohol dependence, including 157 men and 69 women aged 19 to 63 years. Nosological diagnosis was based on the criteria of ICD-10 (1998) and

corresponded to the headings of mental and behavioral disorders due to alcohol consumption – F10.2-F10.4. Patients had a constant type of alcohol abuse with daily or almost daily heavy drinking on the background of which there were periods of increased alcohol abuse in maximum doses.

The examination was performed using clinical-psychopathological, clinical-anamnestic, biorhythm, psychopathological and statistical methods and was performed after the course of detoxification therapy. The main examination methods were clinical and psychopathological ones to assess the condition of patients, determine the features of the clinical evidence and the pathological process course, and clinical and anamnestic method, which included a retrospective analysis of clinical manifestations, study of anamnesis and medical history, as well as objective information obtained from relatives of patients, with a retrospective assessment of the period preceding the patient's request for medical assistance. Anamnestic data allowed to determine the duration of the disease, the type of alcohol abuse, the stage and nature of the dependence. A comprehensive psychodiagnostic study was performed using the Östberg's questionnaire (adapted by S. I. Stepanova, 1986) to determine the biorhythm type, K. Leonhard, H. Schmieschek questionnaire (according to D. Ia. Raigorodsky, 1998) to study the types of character accentuation, the "Minimult" method (adapted by V. P. Zaitsev, V. N. Koziulia, 1981) – a reduced multifactorial questionnaire to study the personality profile. Psycho-emotional studies have been performed using the Spielberger-Khanin scale (1976) to assess anxiety and the Montgomery-Asberg scale (MADRS, 1979) to assess depression. Methods of statistical processing of study results were carried out with calculations of mean value (*M*), standard deviation (σ). Student's T-test was used to compare the mean values of the normally distributed trait in the groups, and χ^2 Pearson's test was used to study the relationships between the indices.

Taking into account the assessment of biorhythm type on the Östberg's scale, three clinical groups were formed, representative by age and sex: Group 1 included 100 (44.2%) patients of morning working capacity (more than 77 scores), Group 2 – 70 (31.0%) persons of undifferentiated type (58-76 scores), Group 3 – 56 (24.8%) persons of the evening type (less than 57 scores).

Results of the study and their discussion. Analysis of the distribution of state anxiety (SA) and trait anxiety (TA) indices on the Spielberger-Khanin scale in all patients showed that high level (≥46 scores) of SA was observed in 102 (45.1%) patients, medium level (31-45 scores) – in 91 (40.3%), low level (≤30 scores) – in 33 (14, 6%). High levels of TA were observed in 93 (41.1%) patients, medium – in 122 (53.9%) and low – in 11 (4.9%).

Table 1 shows the distribution of the state and trait anxiety levels depending on the biorhythm type. It was found that in Group 3 respondents predominated (73.21±5.92%), which score of SA was high compared to Group 1 (30.0±4.58%, $\chi2=27.033$, $p <0.001$) and Group 2 (44.29±5.94%, $\chi2=10.631$, $p = 0.002$). High levels of TA also dominated among patients of Group 3 (75.0±5.79%) in contrast to Group 1 (23.0±4.21%, $\chi^2 = 39.936$) and Group 2 (40.0±5.86%, $\chi^2 = 15.435$), $p <0.001$. Average SA values were significantly more often observed in Group 1 than in Group 3 – 52.2±5.0% and 23.21±5.64%, respectively, $\chi2=9.314$, $p=0.003$. Among patients in Group 3 there were no respondents with low SA, while 18.0±3.84% of patients in Group 1 and 21.43±4.90% in Group 2 had low SA ($p <0.001$).

Table 1

Distribution of state and trait anxiety levels on the Spielberger-Khanin scale depending on biorhythm type

Anxiety levels		Group 1 n (%)	Group 2 n (%)	Group 3 n (%)	Total n (%)
State anxiety (SA)	more than 45 scores	30 (30%)	31 (44%)	41 (73%)	102 (45.1%)
	31-45 scores	52 (52%)	24 (34%)	15 (23%)	91 (40.3%)
	up to 30 scores	18 (18%)	15 (21%)	-	33 (14.6%)
Trait anxiety (TA)	more than 45 scores	23 (23%)	28 (40%)	42 (75%)	93 (41.1%)
	31-45 scores	71 (71%)	37 (53%)	14 (25%)	122 (53.9%)
	up to 30 scores	6 (6%)	5 (7%)	-	11 (4.9%)
Total		100	70	56	226

The distribution of SA and TA, taking into account the individual chronotype revealed statistically significant differences in SA in patients of Group 1 compared with Group 3 (43.9±1.7 and 51.7±1.5, $p <0.001$), TA – in Groups 1 and 2 in comparison with Group 3 (39.3±1.9 and 37.4±1.4, respectively, and 46.9±1.5, $p = 0.002$). At the same time, in persons of morning type of working capacity the combination of average and high values of SA with high indices of TA was noted rather less often, than at persons of evening and undifferentiated type.

The Montgomery-Asberg scale revealed the presence of depressive symptoms in 139 (61.5%) patients, of whom 36 (15.9%) had mild depression (16-25 scores), 89 (39.4%) – moderate (26-30 scores), 14 (6.2%) – severe (> 30 scores). The analysis revealed that 89 people (39.4%) had a moderate level of

depression with an average indice of 28.1±0.7. The distribution of the depressive symptoms severity on the MADRS scale in patients depending on the biorhythm type is shown in fig. 1.

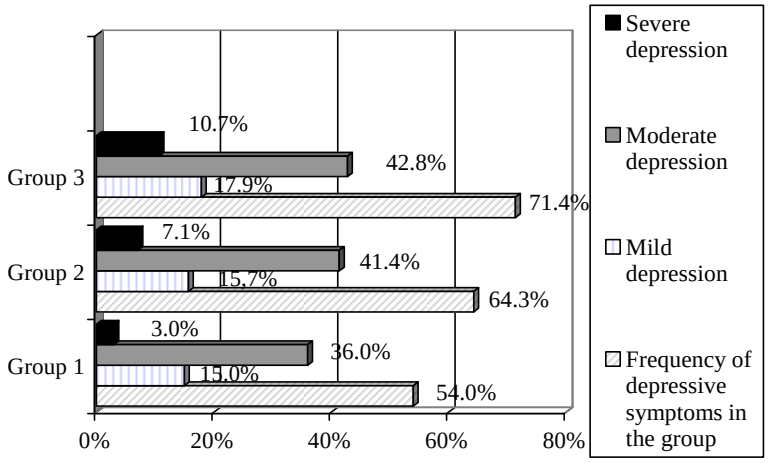

Fig. 1. Distribution of the depressive symptoms severity on the MADRS scale depending on the biorhythm type.

Comparison of the depression severity depending on the biorhythm status showed that in Group 3 compared with Group 1 were more frequent manifestations of depression (71.4±6.04% and 54.0±4.98%, respectively), $\chi2$=4.553, p=0.033, and severe depression was more common (10.71±4.13% and 3.0±1.71%), $\chi2$=3.930, p=0.048. Analysis of the depression distribution on the MADRS scale depending on the individual chronotype did not reveal statistically significant differences between the groups.

According to the Leonhard-Schmieschek questionnaire, 106 patients had a combination of two types of accentuations (46.9%), signs of one isolated accentuation were found in 57 (25.2%) people, less often there was a combination of three – in 52 people (23.9%) or even four accentuations – in 11 (4.9%) people. In patients of Group 1, a pronounced accentuation was pedantic (42.0±4.94%), and emotionally labile type (30.0±4.58%), in Group 2, emotionally labile type (40.0±5.86%) and dysthymic (30.0±5.48%) variants prevailed, Group 3 was dominated by dysthymic (53.57±6.66%) and anxious (32.14±6.24%) types of character accentuations with a minimum amount of pedantic (7.14±3.44%) and emotionally labile (16.07±4.91%), which is shown in Table 2.

Table 2

Distribution of character accentuations according to the Leonhard-Schmieschek questionnaire (over 18 scores) depending on the biorhythm type

Type of accentuation	Group 1 n (%)	Group 2 n (%)	Group 3 n (%)	Total n (%)
Pedantic	42 (42%)	10 (14%)	4 (7%)	56 (24.7%)
Anxious	5 (5%)	19 (27%)	18 (32%)	42 (18.6%)
Dysthymic	26 (26%)	21 (30%)	30 (53%)	77 (34.1%)
Emotionally labile	30 (30%)	28 (40%)	9 (16%)	67 (29.6%)

It was found that the morning type was dominated by pedantic (χ^2 = 20.977, p <0.001) and emotionally labile (χ^2 = 3.927, p = 0,048) type of accentuation, in persons of undifferentiated type in comparison with morning – anxious (χ^2=16.651, p<0.001), and compared to the evening – emotionally labile type of accentuation (χ^2=8.588, p=0.004), in the evening type – anxiety type of accentuation compared to the morning (χ^2=21.040, p<0.001) and dysthymic compared to the morning (χ^2=11.222, p<0.001) and undifferentiated type of working capacity (χ^2=7.175, p=0.008).

According to the "Minimult" method, it was determined that this cohort of patients had a predominant personality profile with an increased and high level of results on the 2nd, 3rd, 7th and 8th scales with the code 273 (8). At the same time the high level of indices on the 2nd scale, combined with a significant increase in the 3rd, which is in a subordinate position to the 2nd scale, as well as increased 7th and 8th scales with a reduced 9th, indicates severe emotional discomfort, which is reflected in a constant feeling of tension, low mood with self-doubt, low self-esteem, low motivation to succeed and adaptation problems of a chronic nature. This type of profile reflects the properties of the hypostenic type of response and indicates a neurotic variant of maladaptation and decompensation of person towards increased inhibitory reactions.

In general, the indices on the scale F (reliability) were at the level of 65-75T, which reflected a high level of emotional stress and the need for help, and combined with moderately reduced indicators on the scale K (correction) in the range of 50-60T, which was associated with decreased self-control and showed a tendency to exaggerate rather than underestimate the degree of interpersonal conflict and the symptoms severity. There was an increase in the scale L (lie) in the range of 60-69T, which indicated a lack of self-understanding and low adaptive capacity. 23 people (10.2%) had an unreliable profile. According to the main scales, patients had a borderline profile with the highest scores up to 70-75T and other scales not

lower than 55T scores, in which the peaks reflected the accentuated features; wide range profile, in which, along with most scales that are on the same level, one, two or more were located much higher than others (15-20 T and above) with a different number of contrasting "peaks" and a profile with a rise on one or two distant scales, and on the other – the rise is less pronounced or absent, reflecting the maladaptation of the individual.

The personality profile of patients considering the biorhythm type is shown in fig. 2. In Group 1 with the profile code 23 (6), the combination of the profile peak on the 2nd and 6th scales reflects the presence of disharmony, as it reveals the coexistence of depressive tendencies and affective rigidity, which leads to a feeling of rupture of interpersonal ties and is accompanied by anxiety and depressive reactions. Disharmony is also indicated by the simultaneous desire to focus on external evaluation with the displacement of negative signals from others and a sense of hostility (a combination of scales 3 and 6). The combination of peaks on the 2nd, 3rd and 6th scales in this group of patients shows that they feel alienated, misunderstood and not involved in the social environment, and therefore prone to self-blame. Due to dissatisfaction and vulnerability, the perception of the social situation is a source of tension, prolonged negative emotions, depression, decreased activity (lowering the profile of the scale 9). In the morning type of working capacity there was also a decrease in the profile on a 4 scale, which indicates a high tendency to maintain permanent attitudes, interests and goals.

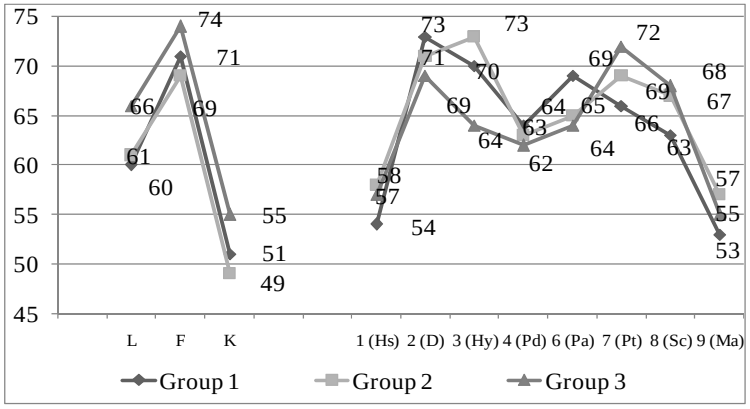

Fig. 2. The personality profile of patients according to the "Minimult" method considering the biorhythm type.

Profile code 32 (7) in patients of Group 2 had similarities with the profile code of respondents of Group 1, however, they had less affective rigidity and more prevalent anxiety. The combination of peaks on the 3rd and 2nd scales shows that demonstrative behavior and sense of insufficient attention and understanding from others are combined with negative emotions, which is a disharmonious manifestation of personality and leads to a violation of social adaptation. The combination of the peaks of the 2nd and 7th scales indicates that the gloomy color of the situation and the feeling of failure are combined with a decrease in productivity, initiative and a sense of depression. The need for attention, recognition, and reduced social spontaneity lead to painful responses to negative signals from others (a combination of scales 3 and 7). The obtained profile also indicates the internal tension and pessimistic assessment of the future.

The personality profile in Group 3 was mostly highly distributed, with a profile code of 72 (8). The state of maladaptation, reflected in the profile by increasing the 7th scale, is characterized by sleep disorders, anxiety, a sense of confusion and nervousness. The combination of high 2nd, 7th and 8th scales with relatively low 9th characterizes the profile of the psychasthenic type. At the same time, the rise on the 2nd and 8th scales indicates a feeling of lack of communication with the environment, unsatisfied need for contact, which is expressed by increasing anxiety or depression. In general, the increase in the 2nd, 7th, 8th scales indicates that the tendency to focus on internal criteria and communication difficulties is combined with severe anxiety, which makes it difficult to realistically assess the situation with a sense of alienation and misunderstanding. Such feelings lead to depressive tendencies, often combined with irritability and anxiety or a feeling of increased fatigue and apathy.

The most significant differences in personality profiles were observed in persons of morning and evening types. There was a tendency to increase indicators on the 7th (72.3±2.1 and 66.5±1.9, p=0.042) and 8th scales, and a decrease on the 3rd (64.9±1.7 and 70.2±2.0, p=0.045) and 6th scales in Group 3 compared with Group 1, which indicated a more pronounced social maladaptation in the evening type. The personality profile in Group 2 occupied an intermediate position, approaching the indices in patients of Group 1, thus the difference of indices on the 3rd scale was statistically significant in comparison with Group 3 (73.1±2.4 and 64.9±1.7, respectively, p=0.006).

In scientific studies of recent years there have been reported a propensity of evening-type individuals to depression and destructive behavioral patterns, including the use of psychoactive substances [15]. In persons with evening desynchrony, there are changes in brain function associated with reward, which correlates with higher levels of alcohol consumption and symptoms of alcohol dependence [14].

Conclusion

Thus, the results of the study allowed to distinguish the features of affective and personal manifestations in persons with a constant type of alcohol abuse in alcohol dependence, considering the biorhythm status. When analyzing the features of the affective sphere, taking into account the individual chronotype, it was noted that the evening type was dominated by high levels of SA and TA ($p < 0.01$), more common severe depression ($p < 0.05$), anxious and dysthymic type of accentuation were prevailed, the personality profile testified to more pronounced social maladaptation in comparison with the morning and undifferentiated type of working capacity. Affective disorders and individual psychological features of patients with heavy drinking states in disorders associated with alcohol consumption, depending on the individual chronotype, allowed to make an informed decision on the choice of methods and targets of psychotherapeutic influence in the creation of comprehensive personalized programs of treatment and rehabilitation measures.

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Реферати

ХАРАКТЕРИСТИКА КЛІНІЧНИХ ТА ПАТОПСИХОЛОГІЧНИХ ПОКАЗНИКІВ ПРИ АЛКОГОЛЬНІЙ ЗАЛЕЖНОСТІ У ОСІБ З ПОСТІЙНИМ ТИПОМ ЗЛОВЖИВАННЯ АЛКОГОЛЕМ З УРАХУВАННЯМ БІОЛОГІЧНИХ РИТМІВ

Животовська Л.В., Пайда Ю.Ю., Борисенко В.В., Боднар Л.А., Макаренко Н.А.

Серед актуальних питань сучасної наркології залишається проблема вивчення психопатологічних проявів психічних і поведінкових розладів внаслідок вживання алкоголю, їх патогенетичних механізмів і врахування цих факторів в розробці терапевтичних методів впливу. В результаті дослідження психо-емоційної сфери з урахуванням біоритмологічного статусу відзначено, що у осіб вечірнього типу переважав високий рівень реактивної та особистісної тривожності в порівнянні з ранковим і недиференційованим типом ($p<0,01$), частіше зустрічалася важка депресія порівняно з ранковим типом ($p<0,05$), переважали тривожний і дистимічний тип акцентуації, профіль особистості свідчив про більш виражену соціальну дезадаптацію порівняно з ранковим та недиференційованим типом працездатності. Отримані результати розширюють

ХАРАКТЕРИСТИКА КЛИНИЧЕСКИХ И ПАТОПСИХОЛОГИЧЕСКИХ ПОКАЗАТЕЛЕЙ ПРИ АЛКОГОЛЬНОЙ ЗАВИСИМОСТИ У ЛИЦ С ПОСТОЯННЫМ ТИПОМ ЗЛОУПОТРЕБЛЕНИЯ АЛКОГОЛЕМ С УЧЕТОМ БИОЛОГИЧЕСКИХ РИТМОВ

Животовская Л.В., Пайда Ю.Ю., Борисенко В.В., Боднар Л.А., Макаренко Н.А.

Среди актуальных вопросов современной наркологии остается проблема изучения психопатологических проявлений психических и поведенческих расстройств вследствие употребления алкоголя, их патогенетических механизмов и учета этих факторов в разработке терапевтических методов воздействия. В результате исследования психо-эмоциональной сферы с учетом биоритмологичного статуса отмечено, что у лиц вечернего типа преобладал высокий уровень реактивной и личностной тревожности по сравнению с утренним и недифференцированным типом ($p<0,01$), чаще встречалась тяжелая депрессия по сравнению с утренним типом ($p<0,05$), преобладали тревожный и дистимичный тип акцентуации, профиль личности свидетельствовал о более выраженной социальной дезадаптацию по сравнению с утренним и недифференцированным типом работоспособности. Полученные результаты расширяют возможности

можливості оптимізації комплексної терапії даної когорти пацієнтів.

Ключові слова: алкогольна залежність, постійний тип зловживання алкоголем, біоритмологічний статус, реактивна тривога, особистісна тривожність, депресія, індивідуально-психологічні особливості.

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оптимизации комплексной терапии данной когорты пациентов.

Ключевые слова: алкогольная зависимость, постоянный тип злоупотребления алкоголем, биоритмологический статус, реактивная тревога, личностная тревожность, депрессия, индивидуально-психологические особенности.

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CHANGES IN EFFORT TOLERANCE INDICES IN PATIENTS WITH CHRONIC HEART FAILURE AND LATENT IRON DEFICIENCY ON THE BACKGROUND OF THE ORAL FERROTHERAPY

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It is known that iron deficiency (ID) in the case of chronic heart failure (CHF), regardless of the presence of anemia, contributes to the development of the skeletal muscle dysfunction, which results in a reduction of effort tolerance (ET) in patients. The objective of the study was to assess the changes in effort tolerance indices in patients with chronic heart failure, with reduced left ventricular ejection fraction and concomitant latent iron deficiency, on the background of a standard treatment combined with long-term oral ferrotherapy. The data obtained showed that the conducted additional oral ferrotherapy is accompanied by a substantial improvement in effort tolerance indices in patients with CHF as compared to the standard therapy alone. This demonstrates the feasibility of a latent ID 6-month oral ferrocorrection to treat CHF with reduced LV EF in order to improve the patients' condition and working capacity.

Key words: chronic heart failure, latent iron deficiency, oral ferrotherapy

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In recent years, researchers have focused on the comorbidity of chronic heart failure (CHF). This is due to the fact that despite the use of modern treatment methods, the mortality of such patients reaches 30-60% within 3-5 years [14, 15]. Besides, the patients with CHF have a significantly lower quality of life, caused primarily by impairment of their physical activity [5], which, in turn, leads to significant medical, social, and economic challenges [2, 13]. In this regard, the issue of improving their physical condition, quality of life and prognosis remains relevant and can be addressed by improving the comorbidity diagnostics and treatment [2].

In previous years, researchers have focused more on the combination of CHF with a common manifest iron deficiency (ID), i.e. iron deficiency anemia (IDA), whereas the latent ID, even in the absence of anemia, is recorded in 45.6% of patients with CHF [10]. An important clinical aspect is that ID is significantly common among patients with cardiovascular morbidity, having nonspecific symptoms, and can be diagnosed only by determining the biochemical parameters of iron metabolism. Further, it is known that ID is a factor of unfavorable prognosis, impairment of physical activity and quality of life, as well as contributes to an increased number of hospitalizations [8].

ET decrease in these patients is due to the skeletal muscles disorders. In the human body, part of the iron is represented in the protein form – myoglobin, which is used to accumulate oxygen in the muscles. ATP in the muscles is formed by oxidative phosphorylation, which constantly requires a significant amount of oxygen. Accordingly, myoglobin provides oxygen redundancy and provides the ability of the muscles to contract for a long time. Lack of iron leads to the defects in the formation of iron-containing enzymes, which in turn is the cause of muscle hypotrophy and dysfunction, which is of clinical significance, especially in patients with latent iron metabolism disorders [6, 11].

The medicated correction of ID in the case of CHF brings positive changes in patients' condition. However, it has its own peculiarities. In previous studies, the benefits of intravenous administration over oral administration of iron have been demonstrated [9, 3]. However, these studies were conducted in patients with both absolute and functional ID, when known to activate proinflammatory cytokines in the case of functional ID worsen oral iron absorption. The question is whether positive changes in patients' condition with CHF and absolute ID with oral iron formulation will be obtained. Besides, a position of ferrocorrection and its duration in patients with latent ID remains ambiguous. In view of disadvantages of oral ferrocorrection, i.e. slow absorption in the gastrointestinal tract and its decreased level upon a slightest