УДК 616.24-002.5-092-085-036.8 DOI: http://doi.org/10.30978/TB2021-1-15


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Dynamics of life quality in patients with pulmonary tuberculosis against the background of the appointment of an essential amino acids complex

Objective — to investigate the dynamics of life quality in patients with pulmonary tuberculosis against the background of the appointment of an essential amino acids complex.

Materials and methods. The study included 100 patients with pulmonary tuberculosis who received treatment and diagnosis in accordance with the WHO recommendations and current state protocols. The patients were divided into 3 groups: group 1 (n = 50) did not receive additional complex of amino acids in pathogenetic therapy; group 2 (n = 25) received a complex of amino acids in tablet form for 30 days; group 3 (n = 25) received injectable amino acids complex for 10 days and then was transferred to tablet form for 20 days. At the beginning of treatment, after 30 days and after 60 days, the patients were interviewed using the SF-36 questionnaire. Also, the patients were measured the level of Human-beta-defensine-1 in the blood plasma by ELISA at the beginning of treatment.

Results and discussion. After 30 doses of anti-tuberculosis treatment, better quality of life parameters were observed in groups 2 and 3 than in group 1. Thus, the PF in group 1 was 54.73 ± 2.99, in group 2 — 80.87 ± 2.82, in group 3 — 66. 4.23; RP was in group 1 — 20.27 ± 3.47, in group 2 — 81.52 ± 3.92, in group 3 — 55.00 ± 7.07; GH was 16.68 ± 1.79 in group 1, 45.48 ± 3.09 in group 2, 34.04 ± 3.35 in group 3; VT was in group 1 — 13.38 ± 1.55, in group 2 — 45.87 ± 2.86, in group 3 — 33.60 ± 3.68; SF was 43.45 ± 2.39 in group 1, 69.02 ± 2.06 in group 2, and 60.50 ± 3.53 in group 3; RE was in group 1 — 27.03 ± 4.80, in group 2 — 95.65 ± 3.18, in group 3 — 73.33 ± 7.69; MH was in group 1 — 39.22 ± 1.36, in group 2 — 60.00 ± 2.12, in group 3 — 56.00 ± 2.71, $p < 0.05$. This ratio between the groups remained at 60 doses of chemotherapy: PF was 62.17 ± 3.47 in group 1, 82.95 ± 2.39 in group 2, and 76.52 ± 3.42 in group 3; RP in group 1 was 28.33 ± 4.90, in group 2 — 90.91 ± 3.09, in group 3 — 66.30 ± 7.14; GH was 22.97 ± 2.13 in group 1, 52.63 ± 3.14 in group 2, 46.78 ± 4.22 in group 3; VT was 19.33 ± 1.91 in group 1, 50.68 ± 2.72 in group 2, and 40.87 ± 3.98 in group 3; SF was 50.67 ± 2.31 in group 1, 75.00 ± 2.18 in group 2, and 68.48 ± 3.84 in group 3; RE was 36.67 ± 6.26 in group 1, 98.49 ± 1.52 in group 2, 82.61 ± 6.91 in group 3; MH was 42.73 ± 1.62 in group 1, 63.82 ± 2.01 in group 2, 59.83 ± 2.75 in group 3, $p < 0.05$.

Conclusions. The appointment of a complex of amino acids as an additional pathogenetic therapy in patients with pulmonary tuberculosis improves the quality of life, and the appointment of an injectable form of amino acids accelerates patients' adaptation and increases adherence to treatment, which is one of the key factors in the effectiveness of therapy.

Key words

Tuberculosis, quality of life, essential amino acids.

Tuberculosis (TB) is a widespread disease in the world and in Ukraine, and therefore the search for new strategies for its prevention and treatment does not lose its relevance. Among the key parameters influencing the development of treatment and prevention strategies in phthisiology is the patient's quality of life.

Life quality is defined as a patient's perception of physical and mental health and includes many subsections such as physical, psychological, economic,

spiritual and social well-being [18]. In other words, these are all objective disorders of the patient's condition caused by the course of the disease, side effects of treatment, stigmatizing factors, etc., which are subjectively assessed through the patient's perception and can later be interpreted to correct treatment tactics in a particular patient or in the general population.

There are different scales for assessing the quality of life. One of the most commonly used is the SF-36 scale («36-Item Short Form Health Survey questionnaire»), which assesses 8 main parameters of patient's quality of life: physical functioning (PF), role-physical functioning (RP), bodily pain (BP), general health (GH), vitality (VT), social functioning (SF), emotional-role functioning (RE), and mental health (MH) [10].

Like any chronic disease, tuberculosis reduces the quality of life, on average by 23—54 %, depending on many factors, which is confirmed by a number of studies [2, 4, 15]. A special role in the decrease of the life quality of tuberculosis patients is played by the side effects of anti-tuberculosis drugs, in particular their hepatotoxicity, as one of the most common side effects observed according to various sources in 2—28 % of cases [6, 8, 12]. Even minor symptoms such as fatigue, decreased physical activity, anxiety, decreased working capacity, as well as psychological reactions, such as worries about the prognosis of the disease, can significantly reduce the quality of life, physical, psychological, role, emotional functioning of the patient [3, 13].

A decrease in the quality of life of patients automatically leads to a decrease in their adherence to treatment, which reduces the effectiveness of anti-tuberculosis therapy [5].

Therefore, the search for pathogenetic treatment that can reduce the severity of local and general intoxication in tuberculosis patients is an urgent issue, since it will improve the quality of life and thereby improve patient's adherence to treatment.

Objective — to investigate the dynamics of life quality in patients with pulmonary tuberculosis against the background of the appointment of an essential amino acids complex.

Materials and methods

The study included 100 patients with pulmonary tuberculosis. Patients were diagnosed, treated and monitored according to WHO recommendations and current state protocols. The patients were divided in to groups: group 1 (n = 50) did not receive the complex pf amino acids as additional pathogenetic treatment; group 2 (n = 25) received amino acids in tablets for 30 days; group 3 (n = 25) received injectable amino acids for 10 days and amino acids in tablets for 20 days. Injectable drug included amino acids in following dosage: isoleucine — 4,4 mg, valine — 4,9 mg, leucine — 9,8 mg, lysine hydrochloride — 11,5 mg, methionine — 5,7 mg, threonine — 4,3 mg, tryptophan — 1,44 mg, phenylalanine — 7,0 mg (№UA/5616/01/01 of 15.02.2017). The tablets contained: isoleucine — 50 mg, valine — 60 mg, leucine — 80 mg, lysine — 80 mg, methionine — 25 mg, threonine — 40 mg, tryptophan — 25 mg, phenylalanine — 40 mg (№ 05.03.02-04/49900 of 18.10.2006). At the beginning of treatment, after 30 days and after 60 days, the patients were interviewed using the SF-36 questionnaire. In addition to the standard examination protocol, which included the measurement of respiratory function parameters, clinical and biochemical blood tests, sputum bacterioscopy and culture, chest X-ray, the level of Human-beta-defnsine-1 (HBD-1) in the blood plasma was measured by the ELISA test. Statistical data processing was performed using the Statistica 8.0 software.

Results and discussion

We found that the life quality of patients with pulmonary tuberculosis depends on many factors, such as the severity of clinical symptoms and signs, the prevalence of tuberculosis lesions, the massiveness of bacterial excretion detected by sputum microscopy and culture, respiratory function, parameters of blood test and blood biochemistry, the level of HBD-1. The strength and direction of the obtained correlations are presented in Table 1 (correlations are given at $p < 0.05$).

After 30 doses of anti-TB treatment, there were better quality of life parameters in groups 2 and 3 than in group 1 (Fig. 1). Thus, PF in group 1 was 54.73 ± 2.99 (median 55.00), in group 2 — 80.87 ± 2.82 (median 85.00), in group 3 — 66.40 ± 4.23 (median 75.00); RP was in group 1 — 20.27 ± 3.47 (median 25.00), in group 2 — 81.52 ± ± 3.92 (median 75.0), in group 3 — 55.00 ± 7.07 (median 75.00); GH in group 1 was 16.68 ± 1.79 (median 15.00), in group 2 — 45.48 ± 3.09 (median 45.00), in group 3 — 34.04 ± 3.35 (median 35.00); VT was in group 1 — 13.38 ± 1.55 (median 10.00), in group 2 — 45.87 ± 2.86 (median 50.00), in group 3 — 33.60 ± 3.68 (median 35.00); SF was in group 1 — 43.45 ± 2.39 (median 50.00), in group 2 — 69.02 ± 2.06 (median 75.00), in group 3 — 60.50 ± 3.53 (median 75.00); RE was in group 1 — 27.03 ± 4.80 (median 33.33), in group 2 — 95.65 ± ± 3.18 (median 100.00), in group 3 — 73.33 ± 7.69 (median 100.00); MH was in group 1 — 39.22 ± 1.36 (median 40.00), in group 2 — 60.00 ± 2.12 (median 60.00), in group 3 — 56.00 ± 2.71 (median 60.00), $p < 0.05$.

Table 1. **Strength and direction of correlations between quality of life and clinical parameters**

Clinical parameter	Life quality							
	PF	RP	BP	GH	VT	SF	RE	MH
Severity of symptoms and signs	–0.55	–0.47	–0.53	–0.56	–0.35	–0.61	–0.47	–0.39
Size of tuberculosis lesions	–0.46	–0.26	–0.21	–0.42	–0.40	–0.45	–0.24	–0.28
Massiveness of bacterial excretion detected by sputum microscopy	–0.45	–0.45	–0.23	–0.47	–0.39	–0.52	–0.43	–0.40
Massiveness of bacterial excretion detected by sputum culture	–0.29	–0.26	—	–0.23	—	–0.34	–0.25	—
Spirometry								
FVC	+0.33	+0.32	—	+0.44	+0.27	+0.37	+0.34	+0.38
FEV1	+0.37	+0.26	—	+0.44	+0.24	+0.35	+0.26	+0.33
PEF	+0.40	—	—	+0.50	+0.46	+0.40	—	+0.39
MEF_{25}	+0.40	—	—	+0.51	+0.39	+0.40	—	+0.39
MEF_{50}	+0.39	+0.24	—	+0.45	+0.26	+0.36	—	+0.33
MEF_{75}	+0.28	—	—	+0.32	—	—	—	+0.29
$FEF_{0.2–1.2}$	+0.41	+0.33	—	+0.53	+0.51	+0.41	+0.24	+0.34
$FEF_{25–75}$	+0.38	+0.24	—	+0.43	+0.26	+0.34	—	+0.29
Blood test								
Hemoglobin	+0.49	+0.31	+0.26	+0.49	+0.41	+0.46	+0.28	+0.39
Red blood cells	+0.48	+0.33	+0.27	+0.49	+0.42	+0.45	+0.27	+0.41
White blood cells	–0.49	—	—	—	—	—	—	—
Stab neutrophils	–0.28	—	—	—	—	—	—	–0.23
Segmented neutrophils	—	–0.33	–0.35	–0.32	–0.30	–0.30	–0.21	–0.33
ESR	—	–0.36	–0.33	–0.52	–0.39	–0.53	–0.39	–0.31
Blood biochemistry								
Total protein	+0.31	+0.39	—	+0.29	+0.39	+0.29	+0.26	+0.39
Totalcholesterol	+0.40	+0.29	—	+0.33	+0.44	+0.36	+0.29	+0.35
Bilirubin	—	—	—	—	—	—	—	–0.26
ALT	–0.39	–0.46	—	–0.49	–0.42	–0.46	–0.56	–0.49
AST	–0.43	–0.50	–0.24	–0.45	–0.45	–0.51	–0.51	–0.43
ALP	–0.29	—	–0.44	—	—	–0.31	–0.24	—
HBD-1 at treatment onset	–0.43	–0.34	–0.23	–0.42	—	–0.42	–0.36	—

Note. FVC — forced vital capacity; FEV1 — forced expiratory volume in 1 second; PEF — peak expiratory flow; MEF — maximal exipiratory flow; FEF — forced expiratory flow; ESR — erythrocyte sedimentation rate; ALT — alanine aminotransferase; AST — aspartate aminotransferase; ALP — alkalinephosphatase.

That is, during treatment, the improvement in physical parameters, such as general health, physical functioning, is the most pronounced, and after this, mental indicators, such as mental health, emotional role functioning, improved.

This ratio between the groups remained at 60 doses of anti-TB (Fig. 2): PF in group 1 was 62.17 ± 3.47 (median 70.00), in group 2 it was 82.95 ± ± 2.39 (median 85.00), in group 3 — 76.52 ± 3.42 (median 85.00); RP was in group 1 — 28.33 ± 4.90 (median 25.00), in group 2 — 90.91 ± 3.09 (median 100.00), in group 3 — 66.30 ± 7.14 (median 75.00); GH was in group 1 — 22.97 ± 2.13 (median 25.00), in group 2 — 52.63 ± 3.14 (median 57.50), in group 3 — 46.78 ± 4.22 (median 50.00); VT was in group 1 — 19.33 ± 1.91 (median 20.00), in group 2 — 50.68 ± 2.72 (median 55.00), in group 3 — 40.87 ± 3.98 (median 50.00); SF was in group 1 — 50.67 ± 2.31 (median 50.00), in group 2 — 75.00 ± ± 2.18 (median 75.00), in group 3 — 68.48 ± 3.84 (median 75.00); RE in group 1 was 36.67 ± 6.26 (median 33.33), in group 2 — 98.49 ± 1.52 (median 100.00), in group 3 — 82.61 ± 6.91 (median — 100.00); MH in group 1 was 42.73 ± 1.62 (median 44.0), in group 2 — 63.82 ± 2.01 (median 64.00), in group 3 — 59.83 ± 2, 75 (median 64.00), $p < 0.05$.

Thus, although in group 1 the parameters of life quality improved by 60 doses, in groups 2 and 3 this improvement was more pronounced and persisted even after the withdrawal of the amino acid complex, which indicates a more stable positive effect on the subjective assessment of patient's condition.

Assessment of the life quality dynamics in group 1 showed relatively stable RP, BP, SF, RE, MH during

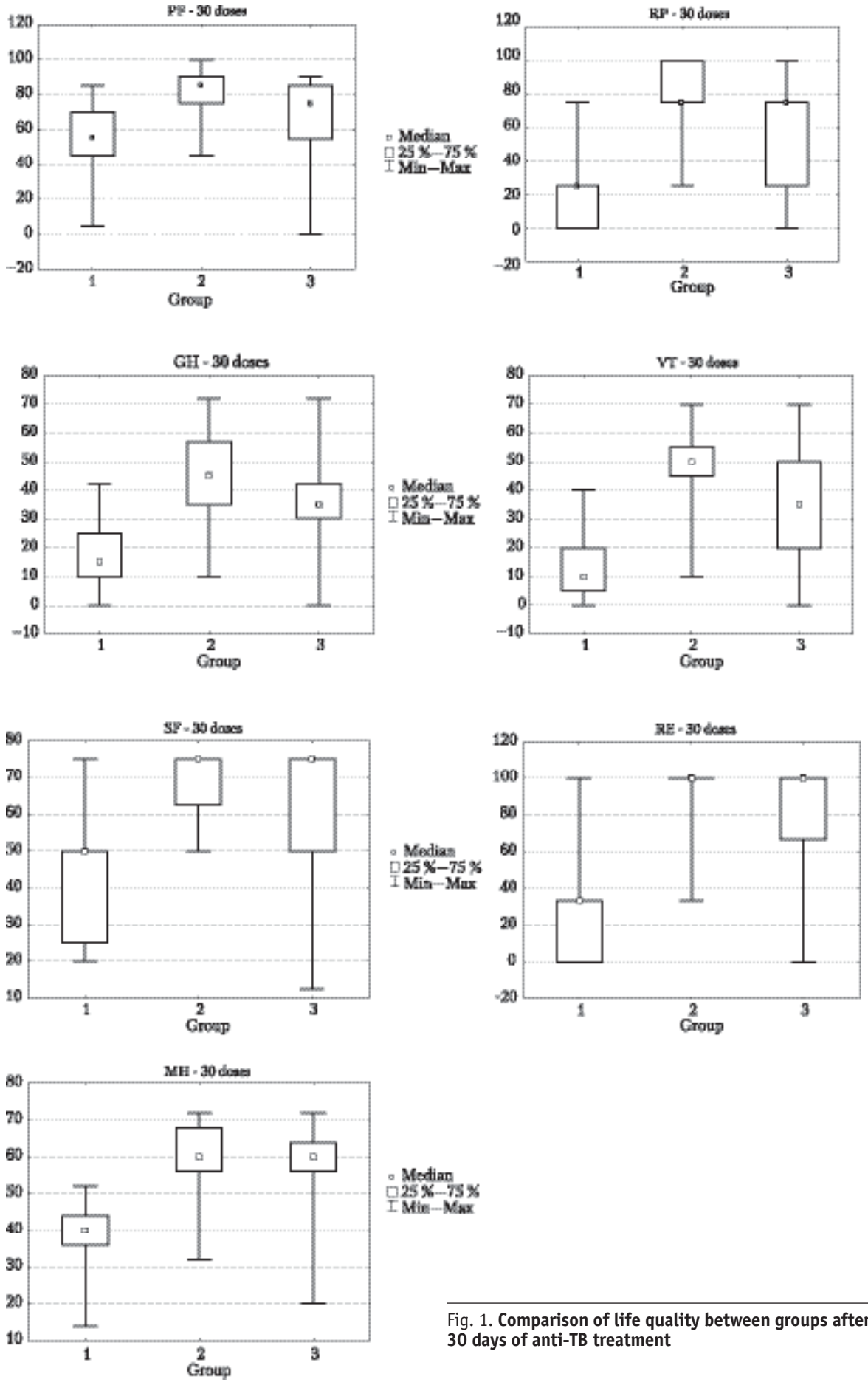

Fig. 1. **Comparison of life quality between groups after 30 days of anti-TB treatment**

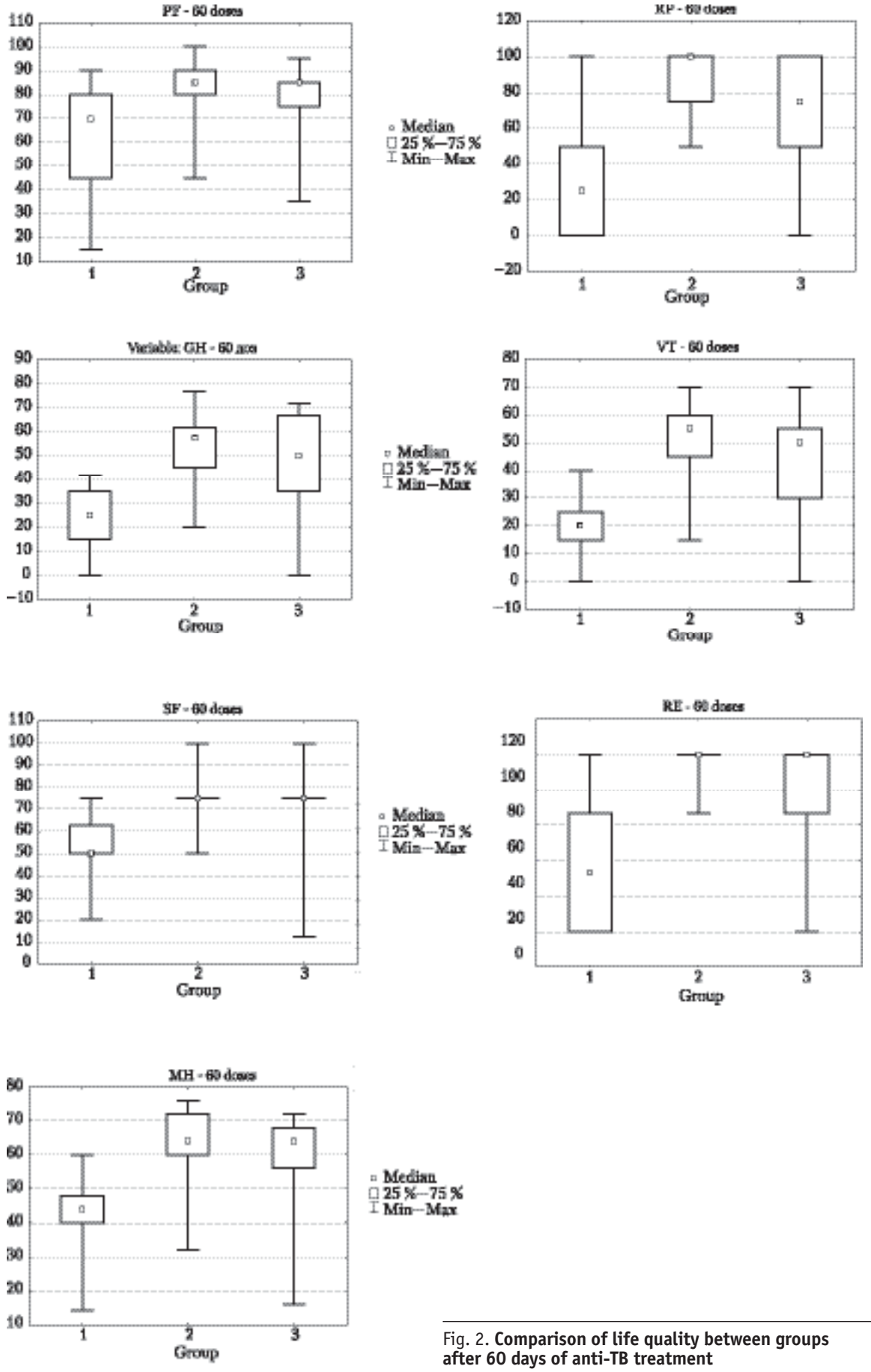

Fig. 2. **Comparison of life quality between groups after 60 days of anti-TB treatment**

60 days of therapy ($p > 0.05$) and the dynamics of PF, GH and VT with a slight decrease by 30 doses and an increase by 60 doses. So the PF at the beginning of treatment was 57.45 ± 3.32 (median 55.00), at 30 doses — 54.73 ± 2.99 (median 55.00), at 60 doses — 62.17 ± 3.47 (median 70.00); GH at the beginning of treatment was 19.69 ± 2.19 (median 20.00), after 30 doses — 16.68 ± 1.79 (median 15.00), after 60 doses — 22.97 ± 2.13 (median 25.00); VT was at the beginning of treatment — 21.94 ± 2.40 (median 20.00), after 30 days — 13.38 ± 1.55 (median 10.00), after 60 days — 19.33 ± 1.91 (median 20.00), $p < 0.05$.

The study of the life quality dynamics in group 2 showed its increase to 30 doses with further stable values to 60 doses. So the PF was at the beginning of treatment — 57.80 ± 3.83 (median 55.00), after 30 days — 80.87 ± 2.82 (median 85.00), after 60 days — 82.95 ± 2.39 (median 85.00); RP was at the beginning of treatment — 22.00 ± 6.51 (median 0), after 30 days — 81.52 ± 3.92 (median 75.00), after 60 days — 90.91 ± 3.09 (median 100.00); GH at the beginning of treatment was 20.48 ± 2.64 (median 20.00), after 30 days — 45.87 ± 2.86 (median 50.00), after 60 days — 52.63 ± 3.14 (median 57.50); VT was at the beginning of treatment — 12.00 ± 2.27 (median 10.00), after 30 days — 45.48 ± ± 3.09 (median 45.00), after 60 days — 50.68 ± ± 2.72 (median 55.00); SF was at the beginning of treatment — 51.50 ± 3.91 (median 50.00), after 30 days — 69.02 ± 2.06 (median 75.00), after 60 days — 75.00 ± 2.18 (median 75.00); RE was at the beginning of treatment — 35.99 ± 8.15 (median 33.33), after 30 days — 95.65 ± 3.18 (median 100.00), after 60 days — 98.49 ± 1.52 (median 100.00); MH was at the beginning of treatment — 38.24 ± 2.09 (median 36.00), after 30 days — 56.00 ± ± 2.71 (median 60.00), after 60 days — 59.83 ± 2.75 (median 64.00), $p < 0.05$.

The study of the life quality dynamics in group 3 showed its stable increase from 0 to 60 doses of antituberculosis therapy. PF was at the beginning of treatment — 32.60 ± 4.28 (median 35.00), after 30 days — 66.40 ± 4.23 (median 75.00), after 60 days — 76.52 ± 3.42 (median 85.00); RP was at the beginning of treatment — 6.00 ± 2.61 (median 0), after 30 days — 55.00 ± 7.07 (median 75.00), after 60 days — 66.30 ± 7.14 (median 75.00); GH at the beginning of treatment was 5.60 ± 1.79 (median 0), after 30 days — 34.04 ± 3.35 (median 35.00), after 60 days — 46.78 ± 3.98 (median 50.00); VT was at the beginning of treatment — 4.40 ± 1.24 (median 5.00), after 30 days — 33.60 ± 3.68 (median 35.00), after 60 days — 40.87 ± 3.98 (median 50.00); SF was at the beginning of treatment — 28.00 ± 3.33 (median 25.00), after 30 days — 60.50 ± 3.93 (median 75.00), after 60 days — 68.48 ± 3.84 (median 75.00); RE was at the beginning of treatment — 5.33 ± 2.49 (median 0), after 30 days — 73.33 ± 7.69 (median 100.0), after 60 days — 82.61 ± 6.91 (median 100.00); MH at the beginning of treatment was 28.32 ± 2.03 (median 24.00), after 30 days — 56.00 ± 2.71 (median 60.00), after 60 days — 59.83 ± ± 2.75 (median 64.00), $p < 0.05$.

The obtained dynamics of indicators shows that the quality of life improved in all 3 groups, however, in groups 2 and 3 the improvement was more pronounced and accelerated. It should be noted that when the injectable form of the amino acids complex was prescribed, the quality of life improved more significantly — despite the initially lower quality of life in group 3, these parameters quickly reach the level of group 2, which has the best quality of life, already by 60 doses.

The dynamics of quality of life in groups is shown in Fig. 3.

The study of correlations showed that violations of the life quality are associated with the severity of clinical symptoms and signs, the size of tuberculosis lesions and the massiveness of bacterial excretion. A decrease in the quality of life is caused by hypoxia due to impaired respiratory function (which is expressed in a relationships with spirometry parameters), anemia (which is expressed in a relationship with the level of hemoglobin and erythrocytes), intoxication (which is confirmed by a correlation with ESR, leukocytosis, the level of stab and segmented neutrophils), exhaustion (which is expressed in a relationship with the level of total blood protein and total cholesterol), liver dysfunction (which is evidenced by a correlation with the levels of bilirubin, ALT, AST and ALP). In addition, an increased concentration of HBD-1 in blood plasma at the beginning of treatment is a prognostically unfavorable sign [14], and also has negative correlation with life quality.

First of all, in patients with pulmonary tuberculosis, parameters of physical functioning and general health suffer, followed by violations of the emotional sphere and mental health. Together, these factors lead to impaired social functioning. The improvement of the quality of life in dynamics occurs in the same order — the physical parameters increase earlier and to a greater extent, and then, less pronounced, the mental ones increase.

The revealed differences in the dynamics of improving the life quality showed that in the group without additional pathogenetic treatment, the improvement in the quality of life is most slowly and not sharply expressed, while the addition of a complex of amino acids accelerates the improvement of these parameters, and the appointment of the inject-

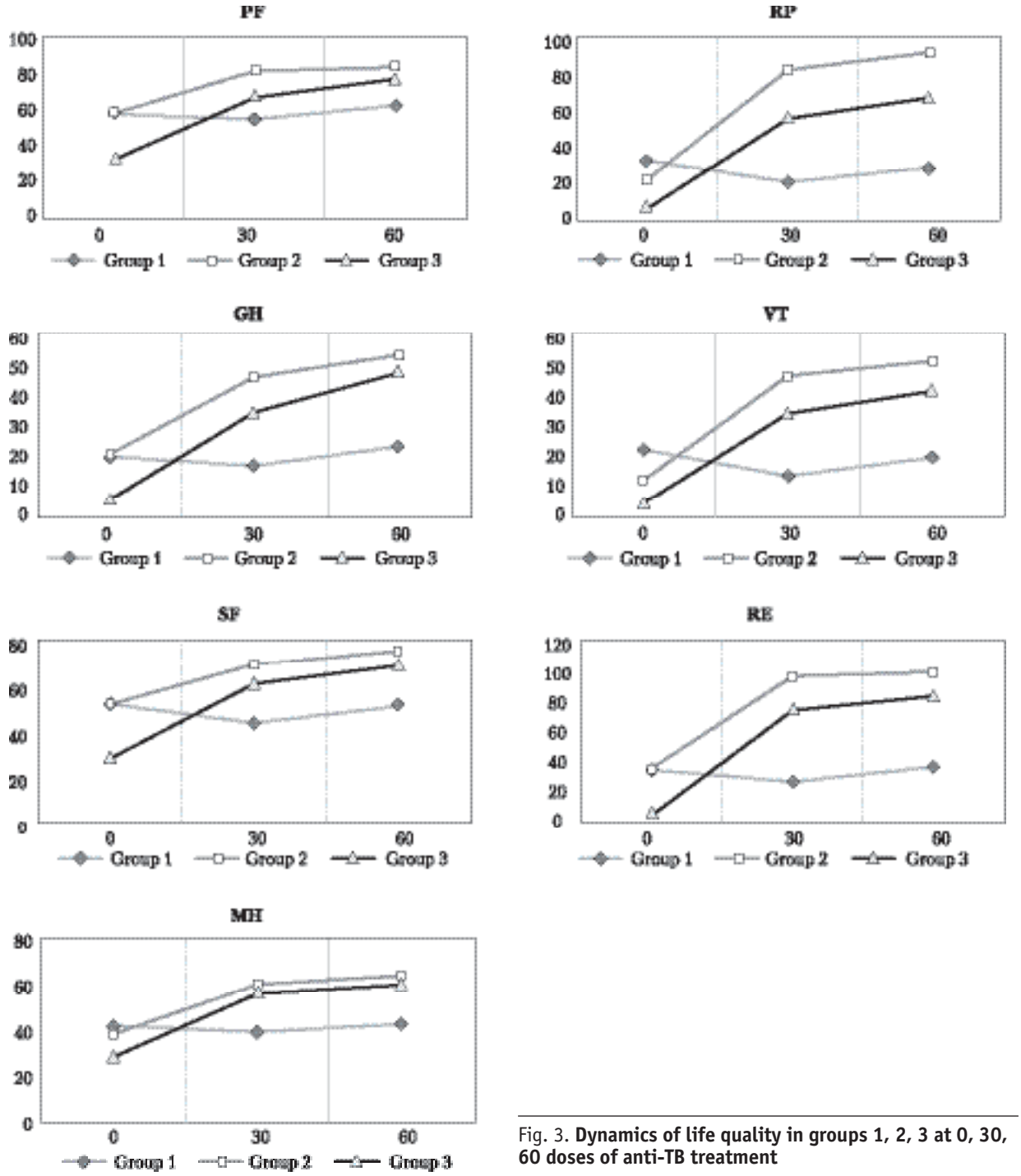

Fig. 3. **Dynamics of life quality in groups 1, 2, 3 at 0, 30, 60 doses of anti-TB treatment**

able form of amino acids can quickly improve the life quality parameters in patients who initially had lower parameters.

The appointment of a complex of amino acids as an additional pathogenetic therapy improves the quality of life. Despite the fact that anti-tuberculosis therapy, even without additional pathogenetic treatment, improves the quality of life by eliminating local and general toxicity symptoms, which has been described in many studies earlier [4, 9, 16], this dynamics for improvement is only seen by the end of the second month of treatment. At the same time, after taking 30 doses (half of the intensive phase of treatment in cases of drug susceptible TB), patients continue to experience physical and psychological limitations associated with both the disease itself and the side effects of anti-tuberculosis drugs, which worsens their quality of life and adherence to treatment.

The appointment of a complex of amino acids as an additional pathogenetic therapy allows to reduce the negative manifestations of the disease and treatment side-effects at to 30 doses, and the obtained

effect persists up to 60 doses even after the withdrawal of the complex of amino acids, which indicates a more stable positive effect on the subjective assessment of their condition by patients.

First of all, these amino acids are the basis for the construction of antimicrobial peptides, in particular HBD-1, involved in the anti-TB immune response [7, 20]. They are also directly involved in the proliferation and maturation of lymphocytes and dendritic cells [17]. Consequently, when using a complex of amino acids, the pool of active *M. tuberculosis* decreases more rapidly, which leads to a faster elimination of local and general toxicity symptoms and an improvement in the quality of life.

In addition, these amino acids facilitate protein-synthetic and detoxification functions of the liver, taking part in such processes as β-oxidation of fatty acids, biosynthesis of carnitine, transmethylation, transsulfurization, glycine synthesis, protein phosphorylation, synthesis of serotonin, melatonin, kynurenine, NAD, NADP and a number of others [1, 11, 19]. Thus, the use of amino acids helps to reduce the severity of cachexia, hepatotoxicity, intoxication, and also improves the quality of life.

Our results allow us to recommend to the patients with a more severe course of tuberculosis an injectable form of the complex of essential amino acids with the subsequent transition to a tablet form, since such a regimen of pathogenetic therapy by the 60thday of therapy allows to normalize the quality of life maximally.

Conclusions

The appointment of an amino acids complex as an additional pathogenetic therapy in patients with pulmonary tuberculosis can improve the patient's quality of life. The appointment of an injectable form of amino acids accelerates patient's adaptation and increases adherence to treatment, which is one of the key factors in the treatment effectiveness.

Конфлікту інтересів немає. **Участь авторів:** концепція і дизайн дослідження — О.С. Шевченко, О.О. Погорєлова; збір, обробка матеріалу, статистичне опрацювання даних — О.О. Погорєлова; написання тексту — О.С. Шевченко, О.О. Погорєлова; редагування тексту — О.С. Шевченко.

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Динаміка показників якості життя хворих на туберкульоз легень на тлі призначення комплексу незамінних амінокислот

Мета роботи — дослідити динаміку показників якості життя хворих на туберкульоз легень на тлі призначення комплексу незамінних амінокислот.

Матеріали та методи. У дослідження було залучено 100 хворих на туберкульоз легень, які отримували лікування й обстеження відповідно до рекомендацій ВООЗ і чинних державних протоколів. Хворих розділено на 3 групи: група 1 (n = 50) не отримувала додатково в патогенетичній терапії комплексу амінокислот; група 2 (n = 25) отримувала комплекс амінокислот у таблетованій формі протягом 30 днів; група 3 (n = 25) отримувала комплекс амінокислот в ін'єкційній формі протягом 10 днів, а потім була переведена на таблетовану форму на 20 днів. На початку лікування, через 30 днів і через 60 днів хворих було опитано за допомогою опитувальника SF-36. Також пацієнтам було виміряно рівень β-дефензину-1 у крові методом ІФА на початку лікування.

Результати та обговорення. Через 30 доз хіміотерапії відзначалися кращі параметри якості життя в групах 2 і 3, ніж у групі 1. Так, PF становило в групі 1 — 54,73 ± 2,99, в групі 2 — 80,87 ± 2,82, в групі 3 — 66,40 ± 4,23; RP становило в групі 1 — 20,27 ± 3,47, в групі 2 — 81,52 ± 3,92, в групі 3 — 55,00 ± 7,07; GH становило в групі 1 — 16,68 ± 1,79, в групі 2 — 45,48 ± 3,09, в групі 3 — 34,04 ± 3,35; VT становила в групі 1 — 13,38 ± 1,55, в групі 2 — 45,87 ± 2,86, в групі 3 — 33,60 ± 3,68; SF становило в групі 1 — 43,45 ± 2,39, в групі 2 — 69,02 ± 2,06, в групі 3 — 60,50 ± 3,53; RE становило в групі 1 — 27,03 ± 4,80, в групі 2 — 95,65 ± 3,18, в групі 3 — 73,33 ± 7,69; MH становило в групі 1 — 39,22 ± 1,36, в групі 2 — 60,00 ± 2,12, в групі 3 — 56,00 ± 2,71, $p < 0,05$. Зазначене співвідношення між групами зберігалося і на 60 дозах хіміотерапії: PF становило в групі 1 — 62,17 ± 3,47, в групі 2 — 82,95 ± 2,39, в групі 3 — 76,52 ± 3,42; RP становило в групі 1 — 28,33 ± 4,90, в групі 2 — 90,91 ± 3,09, в групі 3 — 66,30 ± 7,14; GH становило в групі 1 — 22,97 ± 2,13, в групі 2 — 52,63 ± 3,14, в групі 3 — 46,78 ± 4,22; VT становила в групі 1 — 19,33 ± 1,91, в групі 2 — 50,68 ± 2,72, в групі 3 — 40,87 ± 3,98; SF становило в групі 1 — 50,67 ± 2,31, в групі 2 — 75,00 ± 2,18, в групі 3 — 68,48 ± 3,84; RE становило в групі 1 — 36,67 ± 6,26, в групі 2 — 98,49 ± 1,52, в групі 3 — 82,61 ± 6,91; MH становило в групі 1 42,73 ± 1,62, в групі 2 — 63,82 ± 2,01, в групі 3 — 59,83 ± 2,75, $p < 0,05$.

Висновки. Призначення комплексу амінокислот як додаткової патогенетичної терапії у хворих на туберкульоз легень дає змогу підвищити якість життя пацієнтів, а призначення ін'єкційної форми амінокислот прискорює їхню адаптацію і підвищує прихильність до лікування, що є одним з ключових чинників ефективності терапії.

Ключові слова: туберкульоз, якість життя, незамінні амінокислоти.

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Динамика показателей качества жизни больных туберкулезом легких на фоне назначения комплекса незаменимых аминокислот

Цель работы — изучить динамику показателей качества жизни больных туберкулезом легких на фоне назначения комплекса незаменимых аминокислот.

Материалы и методы. В исследование были включены 100 больных туберкулезом легких, которые получали лечение и обследование в соответствии с рекомендациями ВОЗ и действующими государственными протоколами. Больные были разделены на 3 группы: группа 1 (n = 50) не получала дополнительно в патогенетической терапии комплекса аминокислот; группа 2 (n = 25) получала комплекс аминокислот в таблетированной форме в течение 30 дней; группа 3 (n = 25) получала комплекс аминокислот в инъекционной форме в течение 10 дней, а затем была переведена на таблетированную форму на 20 дней. В начале лечения, через 30 дней и через 60 дней больные были опрошены с помощью опросника SF-36. Также пациентам был измерен уровень β-дефензина-1 в крови методом ИФА в начале лечения.

Результаты и обсуждение. Через 30 доз химиотерапии отмечались лучшие параметры качества жизни в группах 2 и 3, чем в группе 1. Так, PF составляло в группе 1 — 54,73 ± 2,99, в группе 2 — 80,87 ± 2,82, в группе 3 — 66,40 ± 4,23; RP составляло в группе 1 — 20,27 ± 3,47, в группе 2 — 81,52 ± ± 3,92, в группе 3 — 55,00 ± 7,07; GH составляло в группе 1 — 16,68 ± 1,79, в группе 2 — 45,48 ± 3,09, в группе 3 — 34,04 ± 3,35; VT составляла в группе 1 — 13,38 ± 1,55, в группе 2 — 45,87 ± 2,86, в группе 3 — 33,60 ± 3,68; SF составляло в группе 1 — 43,45 ± 2,39, в группе 2 — 69,02 ± 2,06, в группе 3 — 60,50 ± 3,53; RE составляло в группе 1 — 27,03 ± 4,80, в группе 2 — 95,65 ± 3,18, в группе 3 — 73,33 ± ± 7,69; MH составляло в группе 1 — 39,22 ± 1,36, в группе 2 — 60,00 ± 2,12, в группе 3 — 56,00 ± 2,71, $p < 0,05$. Данное соотношение между группами сохранялось и на 60 дозах химиотерапии: PF составляло в группе 1 — 62,17 ± 3,47, в группе 2 — 82,95 ± 2,39, в группе 3 — 76,52 ± 3,42; RP составляло в группе 1 — 28,33 ± 4,90, в группе 2 — 90,91 ± 3,09, в группе 3 — 66,30 ± 7,14; GH составляло в группе 1 — 22,97 ± 2,13, в группе 2 — 52,63 ± 3,14, в группе 3 — 46,78 ± 4,22; VT составляла в группе 1 — 19,33 ± 1,91, в группе 2 — 50,68 ± 2,72, в группе 3 — 40,87 ± 3,98; SF составляло в группе 1 — 50,67 ± ± 2,31, в группе 2 — 75,00 ± 2,18, в группе 3 — 68,48 ± 3,84; RE составляло в группе 1 — 36,67 ± 6,26, в группе 2 — 98,49 ± 1,52, в группе 3 — 82,61 ± 6,91; MH составляло в группе 1 — 42,73 ± 1,62, в группе 2 — 63,82 ± 2,01, в группе 3 — 59,83 ± 2,75, $p < 0,05$.

Выводы. Назначение комплекса аминокислот как дополнительной патогенетической терапии у больных туберкулезом легких позволяет повысить качество жизни пациентов, а назначение инъекционной формы аминокислот ускоряет их адаптацию и повышает приверженность к лечению, что является одним из ключевых факторов эффективности терапии.

Ключевые слова: туберкулез, качество жизни, незаменимые аминокислоты.

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Стаття надійшла до редакції 22 лютого 2021 р.