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## QUALITY OF LIFE OF PATIENTS WITH CHRONIC TROPHIC ULCERS OF VENOUS ETIOLOGY

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### **Abstract**

The quality of life of patients with trophic ulcers of venous etiology using the the Chronic Venous Insufficiency Questionnaire (CIVIQ) was studied. To assess the quality of life of the patient, the questionnaire was conducted before the transplantation of cord blood stem cells, 1 and 6 months after surgery. Patients in group I had a higher assessment of quality of life, because the healing process of the ulcer was faster, the feeling of pain decreased and as a result the patient's psycho-emotional state improved. In addition, the surveyed 12 (85.7%) surveyed patients of group I noted that even with the preservation of some symptoms, their subjective manifestations were reduced and the feeling has improved. All this helped to improve the assessment of the quality of life of patients with trophic ulcers of the lower extremities, which were treated according to our proposed method.

**Key words: Venous trophic ulcer; quality of life; cord blood; CIVIQ-20.**

The chronic trophic ulcer caused by venous hypertension significantly reduces quality of life of the patient due to the constant need for bandaging, chronic pain and the aesthetic appearance of the wound surface. The patient is usually having the same place of residence and the same regime, avoids traveling to the sea, visiting ponds, swimming pools, playing sports. Currently, the assessment of quality of life occupies an important place in medical research, in particular, both general and specific questionnaires have been widely used [1].

Among the most recognized for chronic venous insufficiency is the CIVIQ 20 questionnaire [2 - 5]. Therefore, the next stage of our work was to assess the indicators of QOL in patients with chronic trophic ulcers of venous etiology.

A survey of 32 patients with trophic ulcers of venous etiology, which do not heal for a long time. All patients received inpatient treatment in the vascular surgery department of the Chernivtsi Regional Clinical Hospital in the period 2015-2019 years. The cause of venous insufficiency of these patients was the diagnosis: postthrombophlebitic disease of the lower extremities, C6 by CEAR. The main group consisted of 14 patients who underwent transplantation of cord blood stem cells additionally to the main treatment. To assess the quality of life of the patient, the questionnaire was conducted before the transplantation of cord blood stem cells, 1 and 6 months after transplantation. The control group included 18 patients representative by age and sex and without signs of chronic venous insufficiency.

The CIVIQ-20 scale (CIVIQ-20 - Chronic Venous Insufficiency Questionnaire) was chosen to assess the quality of life of patients with chronic trophic ulcers [2, 4]. The questionnaire consisted of 20 questions that allowed to assess the degree of quality of life limitation associated with venous insufficiency and the presence of trophic ulcers, in four areas: physical (questions №5, 6, 7 and 9), psychological (questions № 12-20), social (questions № 8, 10 and 11) and pain (questions № 1, 2, 3 and 4). In terms of issues that characterized the physical component of quality of life, the range of points - from 4 (minimum number) to 20 (maximum number); psychological component - from 9 to 45 points; social - from 3 to 15; severity of pain - from 4 to 20. A total score of 20 indicated the best result in terms of quality of life, and one equal to 100 - the worst.

The patient had to choose and emphasize one answer to the question in the form of a number of points from 1 to 5, reflecting the level of limitation of his physical, psychological, social activity and pain intensity.

Therefore, the analysis of the obtained results showed that in the main group the quality of life was equal to  $76.9 \pm 6.36$  points, in the control group the result was  $-31.4 \pm 2.16$  points (Table 1).

Thus, the presence of chronic venous insufficiency worsens the quality of life of patients by almost 2.4 times. Most people in the main group have problems climbing stairs. These patients are ashamed to show their legs, go for walks, weddings, parties, buffets, etc., feel cramped. Regarding the physical component, the minimum number of points (12) was scored by 12.5% patients, the maximum (17 points) - also the same percentage of patients. Patients emphasized that it was difficult for them to stand for a long time and that they had to

take a forced position. In addition to these complaints, patients reported sleep disturbances due to leg pain.

**Table 1 - Characteristics of quality of life in the main and control groups at the time of involvement in the study**

<b>Indicator</b>	<b>Control group, n = 18</b>	<b>Main group, n=14</b>
SP, points	4,5±0,52	15,28±1,78*
PC, points	7,47±1,06	14,91±1,67*
PsC, points	13,93±1,62	33,66±4,01*
SC, points	5,45±0,64	13,06±0,51*
TS, points	31,4±2,16	76,9±6,36*

**Notes:** 1. SP - severity of pain, PC - physical component, PsC - psychological component, SC - social component, TS - total score. 2. \* - the probability of differences in indicators with the control group ( $p < 0,05$ ).

All of the above significantly affected the quality of life. In the social category, the minimum number of points (12) was recorded in 9.4% patients, which indicates that CVI significantly impairs the social activity of patients, namely, limits travel by transport and attend various parties, buffets, etc. Most of the respondents felt unhappy and believed that because of their illness they prevented their relatives from living peacefully, burdened them and so on. They also got tired very quickly and became irritable. In the psychological category of the main group, the sum of points exceeded the control index by 2.4 times ( $p < 0,05$ ). Due to skin defects on the lower extremities, patients who took part in the survey cannot go to crowded places because they feel insecure and are very ashamed of their illness.

In issues that characterize the severity of pain, patients with severe and very severe pain predominated, which significantly affected the overall quality of life.

The first group included 14 patients - 4 (28.6%) men and 10 (71.4%) women, and the second (control) group formed 18 patients, of whom 8 (33.3%) were men and 12 (66.7%) women.

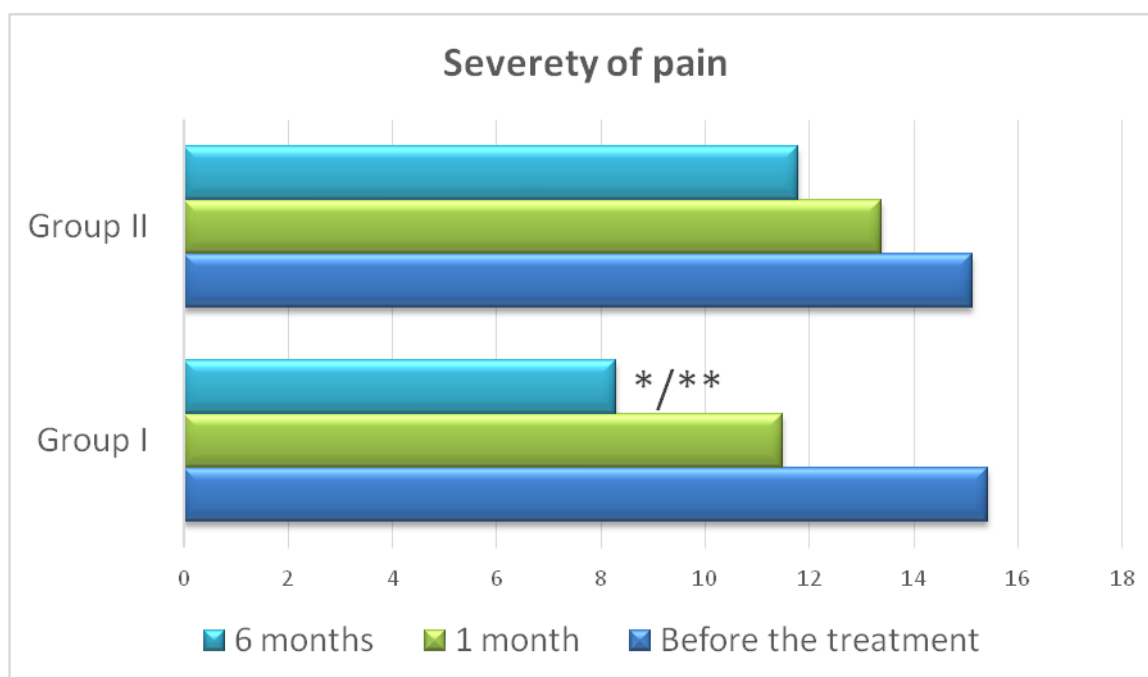
To assess the quality of life of the patient, the questionnaire was conducted before the transplantation of cord blood stem cells, 1 and 6 months after transplantation (Table 2).

The results of the survey of patients in the dynamics of treatment showed that after a month the severity of pain in patients of the experimental group decreased by 25% (Fig. 1), while in the control group by 11.5% ( $p < 0,05$ ).

**Table 2 - Characteristics of quality of life in the main and control groups in the dynamics of treatment**

Indicator	Group I			Group II		
	Before the treatment	1 month	6 months	Before the treatment	1 month	6 months
SP, points	15,43±1,79	11,5±1,02	8,29±0,73*/**	15,12±1,82	13,38±1,24	11,78±0,73
PC, points	14,79±1,72	12,14±1,17	9,5±0,65*/**	15,1±1,69	12,78±0,89	12,11±0,47
PsC, points	33,79±4,74	24,36±3,2	17,36±2,06*/** *	33,56±3,59	25,5±2,26	24,55±1,40
SC, points	13,21±0,43	10,36±0,63	7,64±0,84*	12,94±0,59	10,33±0,49	10,17±0,77
TS, points	77,21±7,34	58,36±5,05	42,79±3,45*	76,67±5,69	62±3,46	57,61±4,29

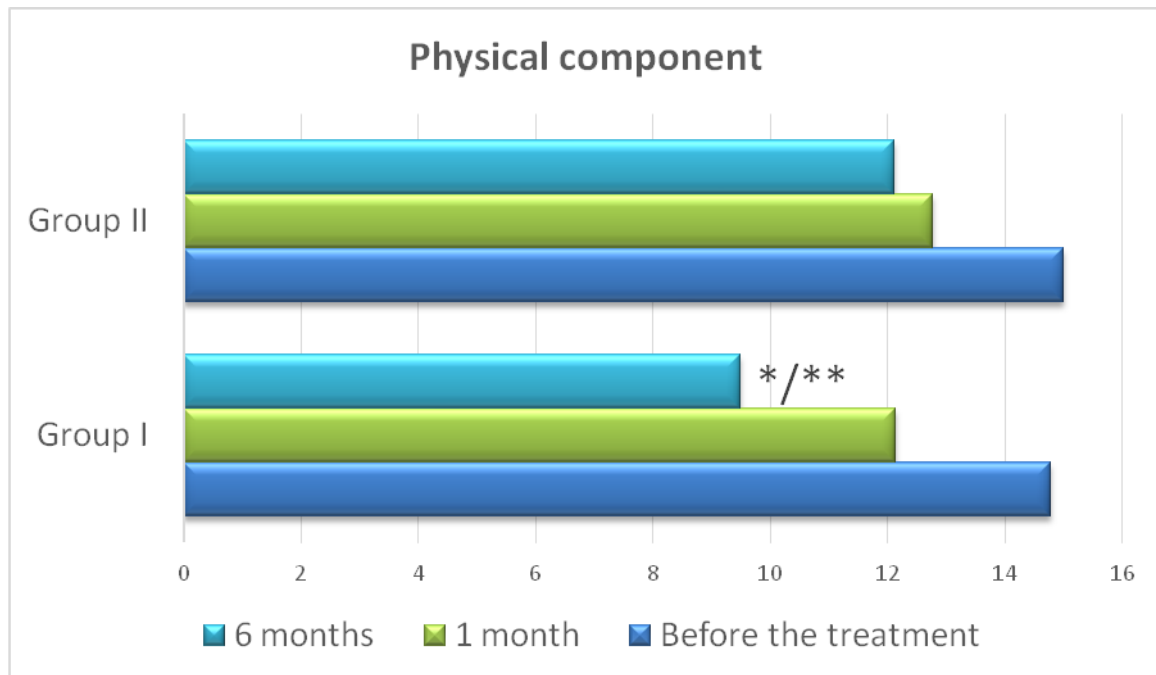
**Notes:** 1. SP - severity of pain, PC - physical component, PsS - psychological component, SC - social component, TS - total score; \* - probability of differences in the dynamics of treatment ( $p < 0,05$ ); \*\* - the probability of differences with indicators of group II ( $p < 0,05$ ).



**Fig. 1.** Indicators of pain syndrome in the dynamics of treatment, where \* - the probability of differences in the dynamics of treatment ( $p < 0,05$ ); \*\* - probability of differences with indicators of group II ( $p < 0,05$ ).

The analysis of indicators in a month later showed that the same indicator decreased by another 27.9% ( $p < 0,05$ ) and 11.9%, respectively.

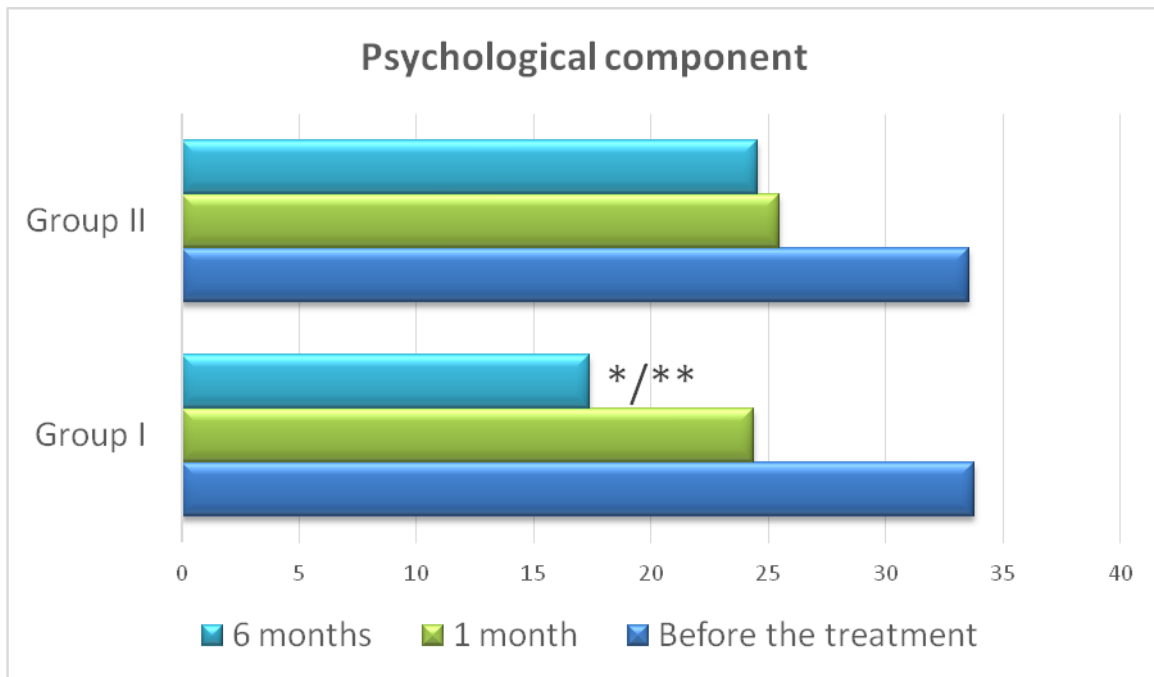
The proposed method of treatment using transplantation of cord blood stem cells led to the improvement of the physical component of the QOL of patients (Fig. 2).



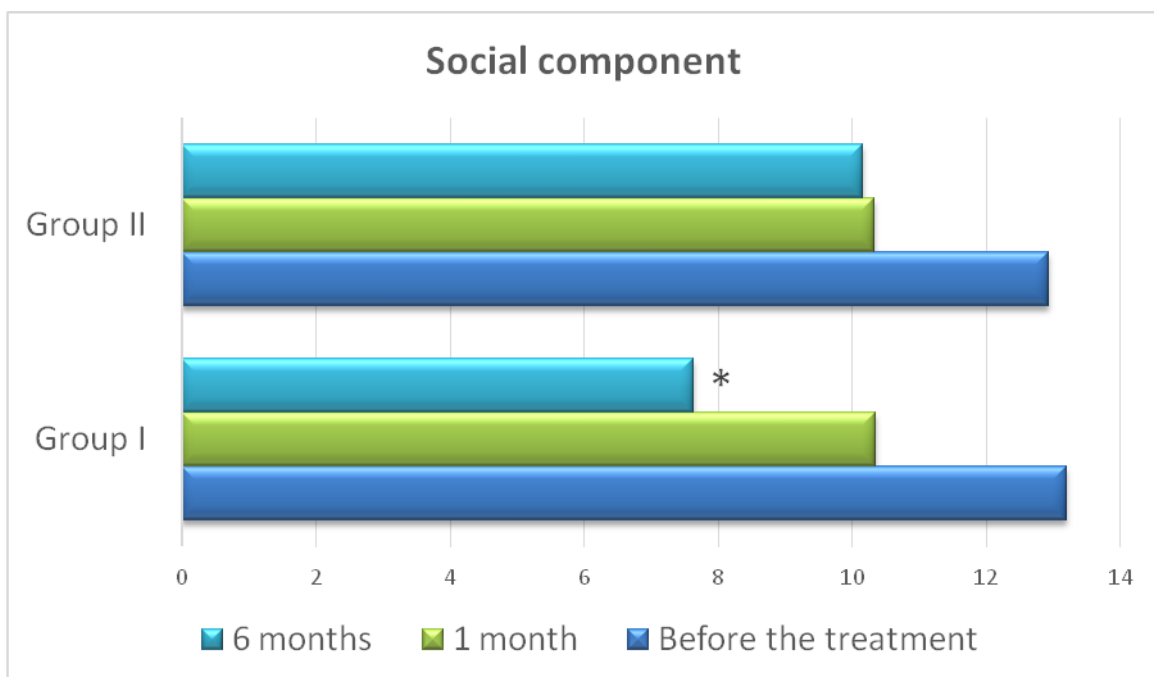
**Fig. 2.** Indicators of the physical component of QOL in the dynamics of treatment, where \* - the probability of differences in the dynamics of treatment ( $p < 0,05$ ); \*\* - probability of differences with indicators of group II ( $p < 0,05$ ).

Thus, a month later the indicator decreased in the study group by 17.9%, and the half-year result added to the set trend another 21.7% ( $p < 0.05$ ), in contrast to the indicators of 14.8% and 5.2% with a significant intergroup difference. Assessment of the psychological component of QOL (Fig. 3) allowed us to conclude that the proposed method of managing patients led to an improvement in the psychological state of patients in the half-year by 48.6% and 26.8%, respectively, with a significant intergroup difference ( $p < 0.05$ ), which was manifested by a decrease in anxiety and irritability of patients, and generally improved the quality of life.

The comparative characteristics of the indicators of the social component showed (Fig. 4) that a month later after the transplantation of the cord blood stem cells contributed to an improvement of 21.6% in the experimental and 20.2% in the control, and after 6 months another 26.3% and about 2 % respectively. If patients in the study group indicated that there was significant relief in doing housework, restrictions on exercise remained for patients in both groups.



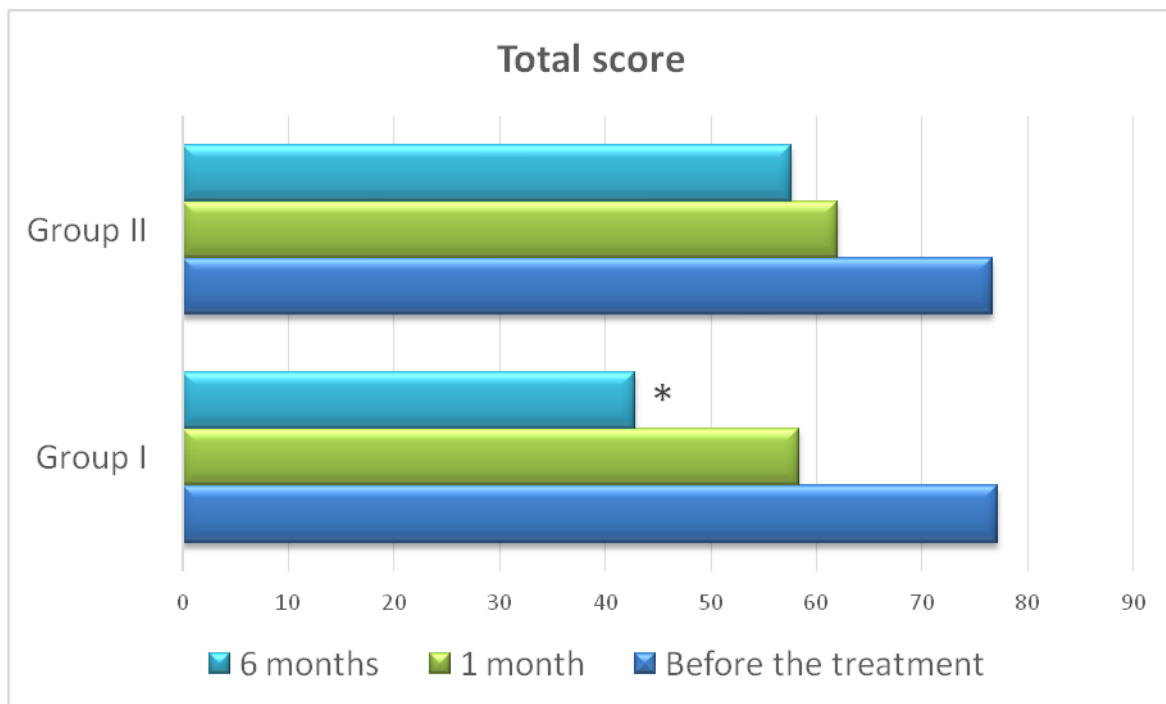
**Fig. 3** Indicators of the physical component of QOL in the dynamics of treatment, where \* - the probability of differences in the dynamics of treatment ( $p < 0,05$ ); \*\* - probability of differences with indicators of group II ( $p < 0,05$ ).



**Fig. 4** Indicators of the social component of QOL in the dynamics of treatment, where \* is the probability of differences in the dynamics of treatment ( $p < 0,05$ ).

A comparative analysis of the overall QOL assessment one month after treatment showed an improvement of 24.4% in the group of patients who underwent cord blood cell

transplantation and 19.1% in the control group. Evaluation of the long-term consequences of treatment in the six-month period showed that the above indicator improved by 44.6% in the experimental group and by 24.9% in the control group (Fig. 5). In addition, the surveyed 12 (85.7%) patients of group I noted that even with the preservation of some symptoms, their subjective manifestations are reduced and the feeling is improved. All this helped to improve the assessment of the quality of life of patients with trophic ulcers of the lower extremities, which were treated according to our proposed method.



**Fig. 5** Dynamics of QOL in the dynamics of treatment, where \* is the probability of differences in the dynamics of treatment ( $p < 0,05$ ).

Thus, the CIVIQ-20 questionnaire is specific to monitoring the dynamics of clinical, physical, psychological and social aspects of quality of life of patients with trophic ulcers of venous etiology that do not heal for a long time. Patients treated with the proposed method showed a significant improvement in all components of QOL, in particular with the maximum achievement of the result in the severity of pain and social component.

**Conclusion.** After transplantation of cord blood cells in patients with trophic venous ulcers, a significant increase in quality of life was achieved according to the CIVIQ-20 questionnaire in a month by 24.4% and by 44.6% in six months.

It is recommended to analyze the results of treatment using a planimetric index of wound defect healing rate and quality of life indicators according to the CIVIQ-20 questionnaire after 1 and 6 months.

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