

The Results of Assessing the Severity of the Clinical Condition and Quality of Life in Women with Chronic Heart Failure

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Abstract: The results of the assessment of the severity of the clinical condition and quality of life of patients showed that in the middle-aged group of female patients, there was a strong correlation between all three indicators of the severity of CHF – SHOCK, TSH and QOL. At the same time, the average values of all three indicators had statistically significant differences depending on the functional class (FC) of chronic heart failure (CHF). In the groups of elderly and senile patients, a strong correlation was noted only between the values of the indicators of SHOCK (clinical condition assessment scale) and TSH (six-minute walk test). Quality of life (QOL) indicators did not have statistically significant differences depending on CHF FC, and therefore the correlation between them and the indicators of SHOCK and TSH was weak or average.

Keywords: Chronic heart failure, quality of life, The six-minute walk test, clinical condition assessment scale.

Relevance. Chronic heart failure (CHF) is one of the urgent problems in modern gerontology and medicine in general due to its widespread prevalence, continuous increase in morbidity and high rates of mortality and hospitalization of patients. Given the limited scientific evidence of the effectiveness and safety of most interventions in elderly and senile patients, when developing a strategy for the treatment of CHF, it is necessary to focus on the individual characteristics of the patient, his preferences, the presence of geriatric syndromes and concomitant diseases, as well as life expectancy [1,2]. With age, the effect on the patient's quality of life and mobility indicators, such as the state of the bone and joint system, sedentary lifestyle, and cancer status, is reflected. This leads to inconsistencies between the patient's clinical condition and the results of the 6-minute walking test. When developing a treatment strategy, a scale for assessing the clinical condition in patients with high-severity chronic heart failure, a 6-minute walking test, and a questionnaire to assess the quality of life of patients are also important for evaluating the effectiveness of patient treatment[3,4,5]. But it is important to study the effect of age-related involitional changes in patients, their mental state, and changes in the bone and joint system on the quality of life. Goal. In patients with chronic heart failure of different ages, the patient's quality of life and fracture during 6-minute walking are evaluated to determine the correlation between the results of the clinical condition assessment scale in patients with heart failure[6,7].

The material is methodlar. The average age of all 139 patients included in the study was 67.18 ± 10.69 years. During the study, all patients were divided into 3 subgroups: group 1 – middle-aged patients (n=32), average age 52.29 ± 4.24 years; group 2 - elderly patients (n=69), average age 66.91 ± 4.68 years and group 3 - group of senile patients (n=38), average age 79.81 ± 4.47 years. The group of elderly patients included 69 women with 34 cases of FC II CHF and 35 cases of FC III CHF. The group of senily patients included 38 women with 19 cases of FC II CHF and 19 cases of FC III CHF. 32 middle-aged patients with CHF included FC II (n=20) and III (n=12). There are several types of scales to assess the condition of patients and the severity of clinical signs of CHF. To assess the severity of the clinical course of CHF, the SACC system has been proposed. The system includes objective inspection criteria. The system is convenient in that it can be used to make an objective and fairly accurate assessment of the severity of CHF without the use of additional complex research methods. A score is calculated for each item and noted according to the patient's answer. At the end, the total score is summed up:

0 points corresponds to the complete absence of symptoms of CHF;

- ≤ 3 points corresponds to FC I;
 4–6 points correspond to FC II;
 7–9 points correspond to FC III;
 > 9 points correspond to FC IV.

The 6-minute walk test distance can be used to determine the functional class of CHF and the volume of physical training (class of recommendations II a, level of evidence C).

Таблица 1. Interpretation of the 6-minute walk test (6MWT)

Functional class	The distance covered in 6 minutes, m
I	426-550
II	301-425
III	151-300
IV	< 150

The procedure for conducting this test is as follows: the patient must walk along the corridor, marked every 1 meter, at an acceptably fast pace for him for 6 minutes. In this case, the patient's rest stops are also included in the total time. Interpretation of the 6-minute walk test results is presented in Table 1.

Minnesota Heart Failure Quality of Life Questionnaire (MLHFQ)

To assess the quality of life of patients with heart failure, the Minnesota Living with Heart Failure Questionnaire (MLHFQ or LHiFE) was used. This questionnaire is intended not only to assess aspects of a patient's life related to his physical capabilities, but also other indicators characterizing quality of life.

Results. The results of assessing the severity of the clinical condition using the SCS scale showed that middle-aged patients in the total sample ($n=32$) had an average score of 4.72 ± 1.61 points. The average TSH score for the entire group was 324.84 ± 82.18 m, while the average MLHFQ score was 40.47 ± 8.14 points. A noticeable or strong correlation was determined between these 3 average indicators (see table 2).

Table 2. Results of assessing the main indicators of the severity of CHF and the correlation between them

Groups	Indicators			
	SACC	6MWT	MLHFQ	r
Middle-aged patients, $n=32$	$4,72 \pm 1,61$	$324,84 \pm 82,18$	$40,47 \pm 8,14$	SACC / 6MWT $-0,729$ SACC / MLHFQ $0,763$ 6MWT / MLHFQ $-0,945$
Middle-aged patients, $n=32$	$6,64 \pm 1,77$	$255,29 \pm 69,67$	$54,77 \pm 10,07$	SACC / 6MWT $-0,885$ SACC / MLHFQ $0,325$ 6MWT / MLHFQ $0,258$
Middle-aged patients, $n=32$	$6,21 \pm 1,4$	$241,45 \pm 71,93$	$62,16 \pm 7,58$	SACC / 6MWT $-0,864$ SACC / MLHFQ $0,381$ 6MWT / MLHFQ $-0,295$

Note: * - differences relative to the indicators of group 1 (average age) are significant

(* - $P < 0,05$; ** - $P < 0,01$; *** - $P < 0,001$)

Table 3 shows a comparative assessment of the severity of CHF in middle-aged patients depending on FC. Evaluation of the results showed that the values of all indicators differed depending on the FC. It should be noted that the average score for all 3 indicators was within the acceptable values for this FC. In general, in the group of middle-aged patients, relatively more favorable indicators of the severity of the clinical condition and the quality of life of patients were noted. It should be noted that the values of the SCS indicators in patients of this age group were lower than the established indicators for FC II and III. This fact was due to the fact that some patients had symptoms of stagnation of only one of the blood circulation, which indicated that they had CHF II A according to the Vasilenko-Strazhesko classification with impaired function of the right or left ventricle.

Table 3. Comparative assessment of CHF severity indicators in a group of middle-aged patients depending on FC

FC CHF	SACC	6MWT	MLHFQ
FC II	3,8±0,89	379,05±44,24*	35,2±4,54
FC III	6,25±1,36	234,5±37,5	49,25±4,05

Note: * – differences in comparison with the indicators of patients with FC III in the group are statistically significant ($P<0.05$);

Elderly patients in the general sample ($n=69$) had an average SACC index of 6.64 ± 1.77 points. The average 6MWT score for the entire group was 255.29 ± 69.67 m, while the average result of the survey on the quality of life assessment scale (MLHFQ) was 54.77 ± 10.07 points. A strong negative correlation was determined between the average values of SACC and 6MWT. The correlation between the indicators of QL and SACC /6MWT was weak or moderate (see Table 2).

Table 4. Comparative assessment of the severity of CHF in a group of elderly patients, depending on FC

FC CHF	SACC	6MWT	MLHFQ
FC II	5,12±0,84*	321,91±16,47*	52,06±8,12
FC III	8,11±1,02	190,57±26,32	57,74±10,85

Note: * – differences compared with the indicators of patients with FC III in the group are statistically significant ($P<0.05$);

Table 5 shows a comparative assessment of the severity of CHF in elderly patients depending on FC. Evaluation of the results showed that the values of the SACC and TSH indicators had significant differences depending on the FC ($P<0.05$). The indicators of SACC and TSH in this age group corresponded to the FC of CHF. It should be noted that the differences between the quality of life indicators for different functional classes of CHF were statistically insignificant.

In senily patients in the total sample ($n=38$), an average SACC score of 6.21 ± 1.4 points was observed. The mean TSH score for the entire group was 241.45 ± 71.93 m, while the mean MLHFQ score was 62.16 ± 7.58 . There was a strong correlation between the SACC and 6 MWT indicators in this age group, while the correlation between these indicators and QL indicators was weak or moderate (see Table 2). Table 5 shows a comparative assessment of the severity of CHF in senily patients depending on FC. Evaluation of the results showed that the values of the SACC and MWT indicators, as well as in the group of elderly patients, had significant differences depending on FC ($P<0.05$), and the QOL indicators did not have statistically significant differences. This trend in older age groups was explained by the fact that in both functional classes of CHF, the quality of life of patients is greatly influenced by age and associated restrictions in everyday life. In general, in the group of elderly patients there was a trend similar to that of elderly patients, with worsening indicators due to the age of the patients.

Table 5. Comparative assessment of the severity of CHF in a group of senily patients depending on FC

FC CHF	SACC	6MWT	MLHFQ
FC CHF	5,11±0,74*	310,79±12,72*	61,16±7,07
FC CHF	7,32±0,95	172,42±18,46	63,16±8,13

Note: * – differences in comparison with the indicators of patients with FC III in the group are statistically significant ($P < 0.05$);

Thus, the results of the assessment of the severity of the clinical condition and quality of life of patients showed that in the middle-aged group of female patients, there was a strong correlation between all three indicators of the severity of CHF – SACC, 6MWT and QL. At the same time, the average values of all three indicators had statistically significant differences depending on the CHF FC. In the groups of elderly and senile patients, a strong correlation was noted only between the values of the SACC and 6MWT indicators. QL indicators did not have statistically significant differences depending on CHF FC, and therefore the correlation between them and the indicators of SACC and 6MWT was weak or average.

Conclusion. It is worth noting separately that a significant difference was noted between the average values of 6MWT in the middle-aged and older age groups, which emphasizes the influence of involuntal changes in the body of patients on the course of CHF. In the group of elderly patients, the correlation between the QL index and SACC/6MWT was weak and of medium strength, due to the fact that in this age group, patients' subjective self-assessment of their own condition, on the basis of which QL is assessed according to the questionnaire, in some cases is not entirely accurate. This indicator is influenced by a number of factors, including the development of cognitive impairment and reassessment of one's own condition with prolonged persistence of CHF symptoms limiting physical activity. In this regard, it is advisable to take into account the specified features of these indicators for dynamic monitoring of the condition of patients and the results of therapy.

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