dimensions of the cardiac cavities, presence/absence of valvopathies and pulmonary hypertension.

We evaluated the functional mobility with the G-Walk device that contains a wireless sensor. The G-Walk device represents a gait analysis system, performing- according to a protocol- 2 tests: Walk and TUG.

The Walk test recorded the patient's walking speed over a distance of 2x6 meters, in an area arranged on the hospital corridor. The patients were divided into two groups: those with a walking speed <0.8 m/s (group A), and those with a walinkg speed above 0.8 m/s (group B).

Patients were instructed to walk as far as possible, turning 180° every 12 m in the allotted time of 6 min. A low walking speed was considered to be a value < 0.8 m/s.

The Timed Up and Go (TUG) test is a functional test used to measure the balance and mobility in reabilitation centers (6). The patients were divided into two groups: those with TUG < 15 s (group A), and those with TUG above 15 s (group B).

The patients were placed on a chair, asked to stand up, walk 3 meters and return to the chair at his normal pace.

The results of the TUG test were evaluated as follows: normal mobility – TUG < 15 s, slightly low mobility – TUG 15-25 s, moderately low mobility – TUG > 25 s, severely impaired mobility – patients who failed to complete the test.

Statistical analysis

The database was compiled in the MS Access 2007 program and then exported and processed initially in Excel. Subsequently, after adjusting and preparing all variables, they were introduced in SPSS. The SPSS variant used was 22.0.

TABLE 1. *The analysis of baseline descriptive statistical differences for the discrete variables of the two groups*

	Lot A speed < 0.8 m/s (n = 21)	**Lot B speed > 0.8 m/s (n = 23)**
Female gender n%	12 (57.1%)	7 (30.4%)
Smokers n%	2 (9.5%)	11 (47.8%)
Arterial hypertension%	19 (90.5%)	16 (69.6%)
Dyslipidemia, n%	18 (85.7%)	20 (87%)
Diabetes mellitus, n%	6 (28.6%)	4 (17.4%)
History of heart failure, n%	21 (100%)	15 (65.2%)
History of atrial fibrillation n%	13 (61.9%)	12 (52.2%)
History of ischemic coronary artery disease, n%	14 (66.7%)	12 (52.2%)
History of revascularization n%	7 (33.3%)	5 (21.7%)
Furosemide, n%	16 (76.2%)	14 (60.9%)
Spironolactone, n%	10 (47.6%)	6 (26.1%)
Digoxin, n%	6 (28.6%)	3 (13%)
Angiotensin-converting enzyme inhibitor, n%	14 (66.7%)	12 (52.2%)
Double antiplatelet therapy, n%	6 (28.6%)	1 (4.3%)
Betablocker, n%	17 (81.0%)	15 (65.2%)
Oral anticoagulation, n%	12 (57.1%)	9 (39.1%)
Age, standard deviation (SD)	71.81 (6.266)	66.78 (12.982)
NTproBNP, SD	4138.50(4186.760)	4739.78(5118.982)
Weight, SD	72.57(13.457)	87.39(25.464)
Heart rate, SD	88.43(30.498)	88.04(28.049)
Arterial tension, SD	116.19 (21.266)	134.87(25.742)
Sat O_2, SD	94.62 (2.224)	95.00(3.205)
Right ventricle, SD	33.65 (9.074)	36.17 (8.283)
Left atrium, SD	43.37 (7.388)	46.04 (8.127)
Diastolic transverse diameter of the left ventricle, SD	50.70 (9.325)	53.87 (8.120)
Tricuspid annular presystolic excursion, SD	18.47 (3.717)	18.52 (4.986)
Hemoglobin, SD	12.106 (1.5865)	12.952 (1.7699)
Creatinine, SD	1.2382(0.70965)	1.2130 (0.50727)
Na, SD	136.22(4.989)	138.35(3.113)
K, SD	4.5 (0.6869)	4.509 (0.6653)
Glycemia, SD	115.50 (54.735)	107.82 (27.114)

Given the relatively small batch, but with completely independent records, we considered that only the usual methods of verifying the normal distribution of the studied parameters are needed. The methods of testing the normality of the data are, as the case may be, the evaluation of the histogram of the data, determining the mean, median, standard deviation, standard error and implicitly rule 68-95-99.7 as well as Kolmogorov Smirnov testing.

The studied parameters are represented by continuous variables and categorical variables, mostly binary. Continuous variables were compared using the two-tailed student T-test, a test that uses the comparison of the means of the two variables and the standard deviation with the F or Levene test.

For the evaluation of the correlated results at hospitalization and discharge for the paired continuous variables, the paired T-test was used. The binary variables were compared using the chi-square test, either automatically or initially forming contingency tables, the significance of the variations being obtained from the ratio of observed and expected values. For variables that do not follow the normal or Z distribution or for those with low values, nonparametric tests, the Wilkoxon rank-sum test for independent continuous variables or the Fischer test exactly for independent categorical variables will be used. Given values frequently below 10, the exact Fischer test was predominantly used.

RESULTS

Our study group consisted of 44 patients with a mean age of 62.7 +/- 12.1. The average length of hospitalization was 9.3 days. The average walking speed of the whole group was 0.8416 m/s (SD 0.18890). The average discharge speed of the whole group was 0.8820 m/s (SD 0.23887).

After analyzing the walking speed, the patients were divided into 2 groups: those with a speed < 0.8 m/s and those with a speed > 0.8 m/s. Out of 44 patients, 21 patients had a walking speed < 0.8 m/s and 23 patients had a walking speed > 0.8 m/s.

TABLE 2. *Analysis of baseline descriptive statistical differences for the discrete variables of the two groups*

	Lot A, TUG < 15s (n = 19)	**Lot B, TUG > 15s (n = 25)**
Female gender n%	7 (36.8%)	12 (48%)
Smokers, n%	6 (31.6%)	7 (28%)
Arterial hypertension, n%	15 (78.9%)	20 (80.0%)
Dyslipidemia, n%	18 (85.7%)	20 (87%)
Diabetes mellitus, n%	4 (21.1%)	6 (24%)
History of atrial fibrillation, n%	9 (47.4%)	16 (64.0%)
History of ischemic coronary disease, n%	10 (52.6%)	16 (64%)
History of revascularization, n%	4 (21.1%)	8 (32%)
Furosemide - pre, n%	12 (63.2%)	18 (72%)
Spironolactone, n%	5 (26.3%)	11 (44%)
Digoxin, n%	2 (10.5%)	7 (28%)
Angiotensin-converting enzyme inhibitor, n%	9 (47.4%)	17 (68%)
Double antiplatelet therapy, n%	0 (0%)	7 (28%)
Betablocker, n%	12 (63.2%)	20 (80%)
Oral anticoagulation, n%	6 (31.6%)	15 (60%)
Age, SD	66.89 (11.362)	70.92 (9.729)
NTproBNP, at admission, SD	4563.75 (4032.289)	4398.50 (5035.113)
Weight at admission, SD	81.32 (23.048)	79.56 (21.115)
Heart rate, at admission, SD	92.11 (30.127)	85.28 (28.191)
Arterial tension, at admission, SD	134.84 (27.817)	119.20 (21.296)
Sat O_2, at admission, SD	94.63 (3.320)	94.96 (2.300)
Right ventricle diameter, SD	34.89 (10.049)	35.08 (7.587)
Left atrium, SD	46.79 (8.290)	43.22 (7.198)
Diastolic transverse diameter of the left ventricle, SD	52.21 (8.702)	52.54 (8.959)
Tricuspid annular presystolic excursion, SD	18.74 (4.280)	18.29 (4.551)
Hemoglobin, SD	12.518 (1.8331)	12.625 (1.6819)
Creatinine, SD	1.0618 (.33332)	1.3435 (.71260)
Na, SD	137.28 (3.159)	137.52 (4.823)
K, SD	4.539 (.6260)	4.478 (.7090)
Glycemia, SD	106.87 (26.686)	115.44 (52.041)

that patients with lower walking speed (< 0.8 m/s) are older, have a lower body weight, a lower value of oxygen saturation, a lower value of sodium and a higher value of glycemia.

It was also observed that patients with an increased value of the Timed Up and Go test are older, have a higher value of creatinine and glucose.

Thus, we can conclude that risk factors such as diabetes, chronic kidney disease, old age and the presence of heart failure are associated with low mobility.

Low mobility increases the risk of cardiovascular disease, thus increasing long-term morbidity and mortality.

We can thus conclude that the implementation of physical rehabilitation programs to increase mobility in patients with heart failure, along with drug treatment and the correction of risk factors is essential in reducing morbidity and mortality due to cardiovascular dise-Table 2ase.

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