ABSTRACT

In patients with liver cirrhosis, a high prevalence of malnutrition should be expected. Although the early diagnosis of malnutrition and well-chosen nutritional support have a positive effect on the patient's prognosis, early diagnosis of malnutrition might be difficult. There is currently no standardized diagnostic protocol for the nutritional status assessment of patients with liver cirrhosis. In patients with liver cirrhosis fluid retention occurs, which distorts the otherwise commonly used diagnostic criteria.

The aim of the study: We wanted to evaluate the nutritional status of patients with liver cirrhosis in comparison with a acontrol group without severe comorbidity using anthropometric measurements, electrical bioimpedance, functional tests and laboratory parameters using diagnostic criteria GLIM (Global Leadership Initiative On Malnutrition) and various malnutrition screening tools. The work also focused on evaluating the quality of life of patients with chronic liver disease.

Methods: The observational study included 11 patients with Child-Pugh stage cirrhosis A (n = 10) and B (n = 1), who were compared with a control group of 11 study participants without severe comorbidities. An examination panel consisting of anthropometric measurements, indirect calorimetry, electrical bioimpedance, laboratory tests and functional tests was performed in both groups: Hand Grip, Time Up and Go Test (TUG), 6 Minutes Walking Test (6MWT) Study participants also completed the Chronic Liver Disease Questionnaire (CLDQ), the Malnutrition Universal Screening Tool (MUST), the Strength, Walking Assistance, getting up from a chair, climbing stairs and falls (SARC-F), and the Royal Free Hospital Nutrition Prioritizing Tool (RFH-NPT) and the diagnostic criteria for malnutrition according to GLIM were applied.

Results: We compared the nutritional status in both groups. We did not find significant differences between the two groups in anthropometric measurements, in the determination of body composition and in indirect calorimetry. In laboratory parameters, the values in the panel of liver tests were significantly higher, and the patients also had significantly higher values of glycemia, INR and CRP. We observed a significant difference in patients with albumin, prealbumin, cholinesterase and magnesium. In the area of functional tests, significant differences were found in 6MWT, where patients had a demonstrably lower (449.02 m) compared to the control group (555 m) with p = 0.008. In the area of quality of life, statistically, significant differences were also found between patients with liver cirrhosis (154.0) and the control group (179.5) with p = 0.003.

Conclusion: Although we did not find reduced muscle mass in patients with liver cirrhosis compared to the control group, its performance in 6MWT was significantly worse. The inclusion of simple and functional tests, as a common part of outpatient care in patients with liver cirrhosis, could help with the early diagnosis of malnutrition. We have verified that there is not yet an ideal malnutrition screening questionnaire suitable for patients with liver cirrhosis in outpatient care. For example, in the diagnosis of malnutrition, the mandatory linking of the application of GLIM criteria to a positive nutritional screening is also likely to reduce the sensitivity of detection.

keywords: nutritional status assessment, malnutrition, liver cirrhosis, hepatopathy, sarcopenia, quality of life