Abstract

Introduction: Huntington's disease (HD) is an inherited neuropsychiatric disorder with a fatal course. It is manifested mainly by motor symptoms and psychological changes. HD, like other neurological diseases, often results in the development of nutritional disorders due to many causes.

Aims: The first aim of our research was to perform nutritional screening and examinate the nutritional status of a cohort of patients with HD and to determine in which parameters they differ from the healthy population. The second objective was to evaluate the sensitivity and specificity of the Malnutrition Universal Screening Tool (MUST) and the Global Leadership Initiative on Malnutrion (GLIM) in diagnosing malnutrition in HD patients.

Methods: The patient and control cohort both consisted of 30 subjects, 15 women and 15 men. The examination protocol consisted of nutritional screening, bioelectrical impedance analysis (BIA), grip strength testing using a handheld dynamometer, and 30 second chair-stand test. The nutritional status was further assessed using the GLIM diagnostic criteria and the Subjective Global Assessment (SGA) questionnaire. The results of the BIA, grip strength and 30 s chair-stand test were statistically compared using unpaired Welch's t-test or Mann-Whitney U test. The SGA questionnaire was used as a reference standard to calculate the sensitivity and specificity of the MUST questionnaire and GLIM criteria.

Results: Among the studied parameters, there was a statistically significant difference between the group of patients and the control group in the value of the phase angle ($p < 0.01$), muscle strength measurement ($p < 0.01$) and the 30-second chair-stand test ($p < 0.01$). The sensitivity and specificity values of the MUST questionnaire were 47.83 % and 85.71 %, respectively. The GLIM criteria sensitivity and specificity values were 34.78 % and 100 %, respectively.

Conclusion: Our study showed that the prevalence of nutritional disorders, especially malnutrition associated with sarcopenia and impaired functional status is common in HD. Currently, there is no universal guidance on how to approach this issue and how to effectively search for nutritional disorders. Our study concludes that an individualized comprehensive approach is essential. The development of diagnostic tools specializing on neurological disorders would be a valuable asset in the future. This would allow for faster examinations and more efficient nutritional care. Early diagnosis of nutritional disorders in neurodegenerative diseases can have a positive impact on the functional status and quality of life of patients.