

Abstract

The thesis deals with the evaluation of gait and balance tests in patients after vestibular schwannoma surgery. The experimental part focuses on the evaluation of dynamics of walking tests during hospitalization of patients diagnosed with vestibular schwannoma. The aim of the experimental part is also to analyze statistically significant correlations between measurable parameters of vestibulo-ocular reflex and walking tests and to evaluate the correlation between the subjective scale of fall fear and the objective assessment of walking and dynamic postural stability. A total of 28 patients aged 33 to 68 (14 men and 14 women) were included in the research with diagnosed vestibular schwannoma. Measurements were performed three times in patients (before surgery, after surgery and before the end of hospitalization). After the surgery, in addition to standard rehabilitation, training with visual biofeedback was included using the interactive Homebalance system. Gait and balance assessments were performed through the tests Timed Up and Go, Four Step Square Test and Functional Gait Assessment. Examinations were complemented by a questionnaire of subjective assessment of fear of falling Falls Efficacy Scale. Statistical analysis showed a significant correlation coefficient in the correlation of Four Step Square Test with a parameter defined by the difference of values of dynamic and static visual acuity using nonparametric testing. Furthermore, there was a statistically significant correlation between the subjective evaluation of balance and the objective testing of walking by Timed Up and Go in the postoperative period.