

Abstract

The theoretical part of the thesis describes vestibular schwannoma and its treatment, the basic anatomical structures and neurophysiological functions of the vestibular system, and summarizes the knowledge regarding vestibular rehabilitation and telerehabilitation. The practical part of the thesis deals with the possibility of using telerehabilitation in aftercare for patients after resection of vestibular schwannoma.

Methodology: In the practical part, 10 probands underwent an individualized telerehabilitation program after resection of vestibular schwannoma in the post-hospitalization period. The program consisted of 6 therapeutic interventions, which were delivered via video call under the supervision of a physiotherapist. During the first and last intervention, postural stability of standing (standing joint, tandem standing) and walking (tandem walking) were measured. The main aim of the study was to determine whether this group of patients could complete the program. A secondary aim of the study was to observe changes in postural stability.

Results: All 10 probands completed the study with a mean time since surgery of 36.6 ± 4.8 days. While testing postural stability using jointed stance and standing on one lower limb, the maximal results were achieved by all probands and thus the tests have low discrimination quality for this group of patients. During the assessment of postural stability, there was a statistically significant increase in tandem standing time with head movements ($p < 0.05$) and with the exclusion of visual control ($p < 0.05$), but there were no significant improvements in standard tandem stance test. For the assessment of postural stability of gait, statistically significant results were observed for tandem gait in standard performance ($p < 0.05$) and with exclusion of visual control ($p < 0.05$).

Conclusion: Our study and the literature of other authors suggest that the use of telerehabilitation in providing vestibular rehabilitation during follow-up care after resection of vestibular schwannoma is effective and safe. Future studies are needed to verify the effectiveness of telerehabilitation.