

Abstract

The graduation thesis deals with the issue of balance disorders due to a cerebellar damage. It deals in detail with the treatment of patients suffering from degenerative cerebellar ataxia and with the use of biofeedback technologies as means of postural stability treatment. The aim of practical part of this work was to investigate the effectiveness of therapy using biofeedback for patients suffering from progressive ataxia due to cerebellar neurodegeneration. The research sample consisted of 8 patients. The patients underwent a total of 18 therapy sessions within a twelve-day rehabilitative program. The therapy contained a training of stability in various positions with the elimination of visual control. A device provided an additive information about head sways for the patients via a tongue electrotactile stimulation. The effects were assessed by means of posturography, functional clinical tests (BESTest, Dynamic Gait Index) and questionnaires (Activities-specific Balance Confidence Scale, Dizziness Handicap Inventory). Three assessments were performed: immediately before, immediately after, and 30 days after the rehabilitative program. A statistical analysis of the data showed significant improvement in all observed parameters. In addition, there was no loss of the benefits in the interval of 30 days from the end of rehabilitative program. The study results show that the stability training with the use of biofeedback system providing the tongue electrotactile stimulation is an appropriate symptomatic treatment for patients with degenerative cerebellar disease.