

**Introduction:** Studies from recent years imply that cerebellum does not play role only in the movement management but that it is also important in cognitive and affective function. The aim of our study was to show that cerebellar repetitive transcranial magnetic stimulation (rTMS) causes the decline in verbal fluency task performance.

**Method:** 20 healthy volunteers were divided according to their performance in verbal fluency test. The first group was submitted to rTMS of the right cerebellum, the second group was submitted to the control stimulation of the right m. trapezius. Verbal fluency test was assessed immediately after the stimulation and one week after the stimulation. It was assumed that cerebellar rTMS would cause decrease in verbal fluency task performance and thus the role of cerebellum in this test would be confirmed.

**Results:** There was no significant difference between the groups immediately after the stimulation neither after one-week retest. However there was no improvement in performance after the cerebellar stimulation in the one week retest but there was the improvement in the one week retest in the groups with m. trapezius stimulation. In the group with stimulation of m. trapezius were found anticipated correlations between the performances in each test time but they were not found in the group with cerebellar stimulation.

**Conclusion:** The decline in verbal fluency test performance after cerebellar rTMS was not confirmed. Nevertheless, deeper statistical analyses suggest the possible effect of cerebellar rTMS in cognitive performance. It seems that for further research the control of the stimulation by neuronavigation would be necessary.