

Abstract

Title: Changes in reaction time, respiratory rate and swallowing rate in the complex response during reflex rolling stimulation according to Vojta

Objectives: The aim of this study is to evaluate accompanying non-locomotive manifestations in the context of a complex response to stimulation of trigger zones from the concept of reflex locomotion according to Professor Vojta. The thesis is focused on the changes of breathing and swallowing frequency and the changes in reaction time.

Methods: The research was conducted on 27 healthy women aged 19-25 years. For 10 minutes, pressure stimulation of the thoracic trigger zone, between the 6th and 7th ribs on the left, from the the supine position of reflex rolling according to Vojta (RO1), was performed. Each proband also underwent sham stimulation, for the same duration, from the same position, but with pressure on a different location on the chest, between the 2nd and 3rd rib on the right. For a possible persistent effect of the stimulation even after its termination, sham stimulation was included in all probands before the experimental stimulation. Reaction time was obtained from the Plate tapping test for the upper half of the body using a stopwatch. ANOVA test for repeated measures was used for statistical processing. Data for breathing rate analysis were obtained from ECG recording and video recording. Swallowing frequency was obtained from the video recording. Statistical comparisons were made between the mean values of the number of both breaths and swallows in each minute by paired t-test. Furthermore the trend of the measurements was compared using Mann Kendall trend test and ANOVA test for repeated measures.

Results: After the first, sham stimulation, there was a statistically significant decrease in reaction time measured by the Plate tapping test. A further decrease followed the experimental stimulation, which was no longer statistically significant. The results of the number of breaths and number of swallows showed a tendency to be more variable during stimulation according to VRL compared to sham. The only significant change was in the decrease in respiratory rate in the minute after the end of stimulation according to VRL, where even the difference in the number of breaths compared to the same minute after sham stimulation was significant.

Conclusion: The results show changes in both reaction time and breathing and swallowing frequency during and after experimental stimulation, but without statistically significant ($p < 0.05$) difference compared to changes in the same parameters during and after sham stimulation.

Keywords: Vojta therapy, reflex locomotion, diaphragma, autonomous nervous systém, breath, swallowing and reaction time.