

ABSTRACT

Author: Bc. Pavel Bohatý

Title: Comparison of the effects of manual techniques and radial shock waves in the area of the myofascial trigger point.

Objectives: The main focus of this thesis is to compare the effect of treatment using radial shock wave and selected manual techniques.

Methods: In this diploma thesis, the Wagner FDIX Force digital pressure algometer was first used to evaluate the effectiveness of both experimental methods to examine the pressure pain threshold, then a Visual Analogue Scale for pain and a two-arm goniometer to examine range of motion to the lateroflexion of cervical spine to opposite side from the occurring MTrp. The outcome data was stored in Microsoft Excel 365. Basic descriptive statistic was used for data analysis using mean values, medians, standard deviations, etc. Due to the heterogeneity of input values in both groups, a regression model and nonparametric Mann-Whitney U-test was used. The significance level for statistical tests was set at $\alpha = 0.05$.

Results: A total of 31 probands were involved in the research, of which 16 underwent radial shock wave therapy and 15 using manual techniques. A statistically significant improvement was measured in the group undergoing radial shock wave therapy in the examination of the pressure pain threshold at the 1st session (by 1.7 N) and at the 3rd session (by 0.82). Subsequently, there was a significant improvement again in the group undergoing radial shock wave therapy in the examination using the Visual Analogue Scale of pain in the 2nd and 3rd sessions (in both cases by more than 1 degree). Regarding the comparison of the range of motion, there was no significant changes between the groups.

Conclusion: Based on the statistical analysis of the data, 2 out of 3 hypotheses were rejected. Due to the significant heterogeneity of the input values, it was clear even before the statistical analysis that only immediate significant results in the partial measurements are likely to occur. In all cases, there were significant changes in favor of the radial shock wave compared to manual techniques. Twice as part of an PPT examination using an algometer and twice as part of an examination for pain using a visual analog scale. No significant results were measured when comparing changes in range of motion to the lateroflexion of the cervical spine to the opposite side to the

trigger point. Due to the low number of significant results, it would be appropriate to follow up further research in the same area in an effort to avoid as much as possible the heterogeneity of input values, try to perform the measurements on only one sex, at the same time of day, etc..

Keywords: trigger point, shock wave, manual techniques, algometer