Assessing the implementation of myofascial techniques in patients with symptoms of accessory nerve damage after oncologic treatment in the head and neck regions

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Introduction

The analysis of outcomes of the surgical treatment in patients with H&N tumours indicates as much as 60% incidence of dysfunction of the trapezius muscle, leading to reduced ROM of the shoulder girdle and the neck. As therapeutic options for those patients are not extensively reported, some alternatives are sought.

Material and method

Twenty patients with dysfunction of the trapezius muscle were enrolled in the study. The myofascial therapy was applied to 10 of them. The control group received kinesiotherapy as defined in the literature reports. Participants were randomised to groups. Both before and after the therapy, all participants had the sEMG examination of the trapezius muscle. The range of movement in the glenohumeral joint and cervical spine was measured using the angular measurement system SFTR. Pain was assessed using (VAS): at rest and in movement of the shoulder girdle, and during palpation of the myofascial unit within the area of the scapula (RE-SC). The statistical analysis was completed with the t test for dependent variables demonstrating a normal distribution, or with the Wilcoxon signed rank test for non-parametric variables. Variables measured before and after the therapy were considered in both groups. The study was approved by the Ethical Committee.

Results

The myofascial therapy had a significant effect on the change of the mean ROM in flexion (p<0.001) and abduction (p=0.001) in the glenohumeral joint. The group
receiving the conventional treatment ($p=0.07$; $p=0.08$). Results indicated a significant change of the electric potential (uV) of the trapesius muscle operation after the myofascial therapy ($p=0.03$) ($p=0.26$ in the control group). The myofascial therapy had also a significant effect on extension ($p<0.001$) and rotation of the head to the side opposite to the surgical intervention ($p=0.09$). The study group reported lower subjective pain at rest ($p=0.07$) and while moving ($p<0.001$).

Conclusions

1. The application of myofascial techniques is more effective compared to the conventional therapy. The myofascial therapy improves the range of movement in the glenohumeral joint, and in the cervical spine. The therapy significantly reduces pain perceived by patients.

2. The use of sEMG provides a reliable insight in function of examined muscles, and proves highly useful in the assessment of the efficacy of the the