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Differential activation of muscles during arm flexion in patient with active myofascial triggers point

Marzieh Yassin¹, Saeed Talebian², Ismail Ebrahimi Takamjani¹, Nader Maroufi¹, Amir Ahmadi¹ and Javad Sarrafzadeh¹

¹Iran university of Medical Sciences, Iran

²Tehran University of Medical Sciences, Iran

Aim: Myofascial pain syndrome is a significant source of mechanical pain. The aim of this study is to investigate the effects of Active Myofascial Trigger Points (AMTrPs) on muscle pattern in females with upper trapezius AMTrPs.

Methodology: 15 women (aged 26.8±5.9 years) with one AMTrPs in the upper trapezius, and 15 healthy women (aged 27.7± 3.4 years) participate in this study. We ask participants to stand for 10 seconds in an erect comfortable standing position to investigate the onset of muscle activation and muscle pattern. We consider the onset of Anterior Deltoid (AD) as the starting point in marking the onset of Cervical Paraspinal (CP), Lumbar Paraspinal (LP), left and right Upper Trapezius (UT), Sternocleidomastoid (SCM), and medial head of gastrocnemius. We ask participants to flex their arms in response to a sound stimulus preceded by a warning sound stimulus.

Results: In the AMTrPs group, the onset of all of muscles activity except SCM is significant later than the control group ($p < 0.001$). Also, the results of experiments on the AMTrPs group show a different recruitment pattern compared with that on control group.

Conclusions: According to the results, muscles experience delay in muscle activation and alterations in their recruitment pattern during rapid arm flexion. These changes may serve as the adaptive motor control strategies due to the presence of AMTrPs in UT muscle. It can be concluded that the application of motor control techniques might be useful in treatment of patients with AMTrPs.

Biography

Marzieh Yassin is a Visiting Professor of Iran University of Medical Sciences, Iran and specializes in the field of Physical Therapy, Biomechanics, Neuroscience and Myofascial Trigger Point.

m.yassin.pt@gmail.com

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