

Myogenic Trigger Zone of Trapezius Muscle Increases the Tone of the Middle Cerebral Artery

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Abstract

© 2016, Springer Science+Business Media New York. A myogenic trigger zone (MTZ) has been shown to affect the tone of the surface arteries of the head and lower limbs. However, it remains largely unknown whether the tone of the intracranial arteries is regulated by MTZ. The aim of the present study was to investigate the effect of MTZ in trapezius muscle on the tone of the middle cerebral artery. Using ultrasound measurements of the peak velocity of blood flow and the Lindegaard index (LI), we found that the presence of an active MTZ in a trapezius muscle was per se associated with an increased LI values and that pressure stimulation of the MTZ further increases LI. When MTZ was eliminated by means of manual therapy, the indices of blood flow and LI returned to normal values. We conclude that the reflex spasm of the middle cerebral artery can occur in the presence of an active MTZ-TM and that this phenomenon contributes to the pathogenesis and the clinical symptoms associated with the cervicogenic and tension headaches.

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Keywords

Lindegaard index, Middle cerebral artery, Myogenic trigger zone, Trapezius muscle

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