

PAIN MEDICINE

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The effects of radial extracorporeal shockwave therapy and dry needling on the pressure pain threshold of latent trigger points in the quadriceps

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Statement of the Problem: Trigger points (TrPs) can alter activation pattern and can become painful. Trigger points in the lower quarter are under-investigated. Latent TrPs in the vastus lateralis (VL) and vastus medialis (VM) may modify knee kinematics possibly resulting in pathologies such as patellofemoral pain syndrome or knee osteoarthritis. Active TrPs in the VL and VM may refer pain to the knee. The sensitivity of TrPs is measured with the pressure pain threshold (PPT) and has been found to be reliable. Dry needling (DN) is a recommended treatment for TrPs. Post-treatment soreness lasting up to three days has been reported. Radial extracorporeal shockwave therapy (rESWT) is a relatively new treatment for TrPs. The aim of this study is to compare the short-term effects of DN and rESWT on the PPT of latent TrPs in the VL and VM.

Methodology & Theoretical Orientation: A pilot randomized control study, with three groups DN, rESWT, and control, was conducted. The treatment sessions were undertaken over a week was the PPT and was recorded before treatment. Moreover, two follow-up sessions occurred which was PPT which was also recorded.

Findings: DN and rESWT both improve the PPT in the VL and VM. DN showed a greater improvement one week after treatment, but there was an increase in TrP sensitivity during treatment, possibly due to post-treatment soreness ($p < 0.01$). rESWT, on the other hand, has less of an improvement than DN but did not demonstrate any transient adverse effects ($p < 0.01$).

Conclusion & Significance: DN and rESWT can improve the sensitivity of TrPs in the thigh. However, rESWT does not cause any post treatment soreness. Further investigation is needed to determine the medium-term effects of DN and rESWT on the PPT in the VL and VM, as well as other muscles responsible for stabilizing the knee..

Biography

Richie Walsh is pursuing his MSc from Institute of Technology, Carlow. He is preparing to enroll on a PhD from Institute of Technology Carlow. He has published two papers in reputable journals and is serving as Vice Secretary and Chair Person of the Education Committee of Athletic Rehabilitation Therapy Ireland.

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