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Radial shock wave therapy and ultrasound therapy for patellar tendinopathy – A pilot study

Magdalena Stania, Grzegorz Juras, Kajetan J. Słomka, Wojciech Marszałek and Piotr Król
The Jerzy Kukuczka Academy of Physical Education, Poland

The main aim of the study was to determine the efficacy of radial shock wave therapy (RSWT) and sonotherapy for patellar tendinopathy. Stabilographic measurements were conducted to ensure objective data on the therapeutic efficacy. Fourteen patients qualified for the study were randomly allocated to one of two experimental groups: group A received RSWT (2.5 bars, 3000 shocks, 8 Hz) and group B sonotherapy (3 mhz, 1 W/cm², 50%). Therapy effect was evaluated based on Visual Analogue Scale (0-10) for pain and stabilographic measurements prior to therapy and at 1 and 6 weeks of therapy completion. Stabilography was carried out using 2 AMTI accugait platforms. The displacements of Center of Foot Pressure (COP) were registered during quiet standing with one foot resting on Platform A and the other on Platform B. Two 60-second quiet standing trials were recorded for each of the two testing conditions: eyes open and eyes closed. At 1 and 6 weeks of therapy completion, both groups exhibited significantly reduced pain complaints ($p < 0.05$). At 6 weeks of therapy completion, percent changes of the pain severity in group A was significantly higher in comparison to group B ($p < 0.05$). Except for the COP path length in sagittal plane for eyes open trial, the changes of all other stabilographic parameters were statistically not significant in either group A or group B ($p > 0.05$). This pilot study provide some evidence for RSWT therapy being superior to sonotherapy for pain treatment in patients with patellar tendinopathy. Standard stabilographic measures are probably not sensitive enough to detect subtle therapeutic changes induced by the two physical treatment modalities used in the study.

m.stania@awf.katowice.pl