

Eccentric loading plus radial shock wave therapy in the treatment of chronic patellar tendinopathy

Author:

Javier Crupnik

Institution:

KINEF, Kinesiología Deportiva; FEVA, Buenos Aires, Argentina

Device and producing company:

Swiss Dolorclast, EMS

Introduction:

Tendon diseases constitute an increasingly important problem in medicine and sport rehabilitation fields. When speaking specifically about patellar tendon pathology, Blazina and colleagues in 1973 first used the term "jumper's knee" to describe patellar insertional tendinopathy, a condition that affects approximately 20% of athletes for whom jumping is the most important sport drill. Although the majority of conventional treatments produce poor results, many are offered to patients with this pathology. Nevertheless some treatment methods are based on basic evidence and have been investigated with randomized controlled trials (RCT). Low-energy shock wave therapy (rESWT) and eccentric loading (EE) recently have demonstrated therapeutic effectiveness. The aim of this study is to analyze the results obtained with the combined application of both procedures (rESWT + EE) in patients with chronic patellar tendinopathy.

Methods:

Thirty patients with chronic patellar tendinopathy for more than four months and who showed poor or no results from conservative treatment, which could include physiotherapy, prescription of NSAIDS or the injection of corticosteroids, were evaluated in the areas of pain, function and activity according to the VISA, Score Grading Patellar Tendinosis (Victorian Institute of Sport Assessment, Australia), using the non-parametric test of Wilcoxon dependent samples for evaluation. All the patients received 3 weekly sessions, of 2000 impulses, with an intensity of 2.5-3.5 bar (energy flux density = 0.1-0.16 mJ/mm²) and a frequency of 8 Hz. In addition to this, patients were fully informed about the protocol of eccentric training based on the study of Jonsson and Alfredson (Br. J. Sports Med. 2005; 39; 847-850).

Results:

Four months after the initial evaluation, the VISA score demonstrated an increase from 52 to 82. Twenty-three of the 30 (76%) patients reported excellent or good results according to the Roles and Maudsley Scale. The return to sport activity for this group was an average of 51.3 days.

Conclusion:

The combination of radial shock wave therapy (rESWT) and eccentric loading (EE) demonstrated improvement in function and activity, as well as diminution of pain, signifying it as a good alternative for conservative treatments on chronic patellar tendinopathy. Future randomized controlled studies are necessary to confirm the results of this investigation.