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The role of extracorporeal shock wave therapy in the treatment of muscle injuries

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Introduction

Muscle injuries are common and considered the most prevalence musculoskeletal injury among nearly all sports categories. The muscle and muscle groups more frequently involved are the hamstrings, rectus femoris and the medial head of the gastrocnemius. Extracorporeal shockwave therapy (ECTUB) may be of benefit in treating muscle injuries.

Material & Methods

A total of 5 patients with muscle injuries where treated with RECTUB (totalling 6 sessions with 7-minute application of 3000 impulses, 2.5-3.0 Bar intensity, 15 Hz frequency at muscle injury points). The patients' progress was monitored on the Numeric scale of pain and ultrasonographic evaluation before the treatment started and after its completion.

Results

At the end of the treatment regarding the Numeric Scale of Pain scored a mean of 7 and 3, respectively, before and after the treatment was finished. Regarding the ultrasinographic findings it was showed results of addition to final muscle repair in all cases.

Discussion

The literature does not show significant results in the effectiveness of shock wave treatment for muscle injuries. Most of the published studies are experimental studies conducted on animals (rabbits, horses). Items in a systematic review and MetaAnalyses (PRISMA) statement guidelines to access the efficacy and safety of ESWT in the treatment of patients with muscle injuries. PubMed and Cochrane were searched to screen for potentially relevant articles and the literature search was last updated in June 2023 where that shock wave therapy improves muscular microcirculation and may increase regeneration after muscle injury. The evidence regarding the use of ESWT for these types of injuries is therefore promising. Nevertheless, higher-quality studies are needed in the future to prove its efficacy, better comprehend its mechanisms of action and define treatment protocols (timing, type and parameters of ESWT).