Shock-wave therapy versus corticosteroid injection on lateral epicondylitis: a meta-analysis of randomized controlled trials

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ABSTRACT

Background: Shock-wave (SW) therapy has been widely promoted and proven to be effective in ameliorating symptoms of lateral epicondylitis (LE) during recent years. Corticosteroid (CS) injection is another common treatment of LE, and several researches have documented its significant effect in the treatment of LE. Despite this, few studies have focused on comparing the use of SW and CS in the treatment of LE. The aim of this meta-analysis is to assess whether SW is superior to CS in managing LE, both in terms of ameliorating pain and improving functionality.

Methods: A systematic search of the literature was conducted to identify relevant articles that were published in Pubmed, Medline, Embase, the Cochrane Library, SpringerLink, Clinical Trials.gov and OVID from the databases' inception to December 2018. All studies comparing the efficacy of SW and CS in terms of pain levels and functionality improvement were included. Data on the two primary outcomes were collected and analyzed using the Review Manager 5.3.

Results: Four studies were included in the current meta-analysis. A significant difference in VAS score (SMD = 1.13, CI 0.72−1.55 P < 0.00001, I_2 = 0) was noted between the SW group and the CS group. Furthermore, Significant difference was also seen in the term of grip strength (including HGS and GSS scoring system) (SMD = -1.42, CI -1.85−-0.98 P < 0.00001, I_2 = 0).

Conclusions: In light of the better improvement in the terms of VAS and grip strength with follow-up more than 12 weeks, we assume that SW may be a superior alternative for the treatment of LE.

KEYWORDS:

Lateral epicondylitis | shock-wave | corticosteroid | therapy injection

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Declaration of interest

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties. Peer reviewers on this manuscript have no relevant financial relationships to disclose.

Availability of data and materials

Please contact the corresponding author, Guohui Liu, for data requests.

Additional information

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Yuan Xiong and ***Hang Xue*** participated in the design of the study

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Yun Sun
Lang Chen and ***Qipeng Wu*** carried out investigation

Yi Liu
Bobin Mi and ***Chenchen Yan*** carried out project administration

Qipeng Wu
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Jing Liu
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Liangcong Hu
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Guohui Liu, Yuan Xiong and ***Adriana C. Panayi*** participated in the sequence alignment and drafted the manuscript. All authors read and approved the final manuscript.

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