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CORR Insights

CORR Insights®: Does Nonsurgical Treatment Improve Longitudinal Outcomes of Lateral Epicondylitis Over No Treatment? A Meta-analysis

Frank Alberta MD

Where Are We Now?

The current meta-analysis by Sayegh and Strauch provides an excellent insight to the current state of treatment options for lateral epicondylitis. Unfortunately, the best treatment remains elusive for this common and debilitating condition.

A previously published, double blind, placebo-controlled injection study [4] indicated that neither platelet-rich plasma nor glucocorticoid showed a benefit in both pain and disability measures of a patient related tennis elbow evaluation when compared with saline alone at 3-month followup. Another recent injection study [1] also failed to show a benefit in terms of complete recovery, 1-year recurrence, VAS scores, and pain and disability measures of a patient related tennis elbow evaluation at 1-year followup when comparing physiotherapy and corticosteroid treatment to physiotherapy and placebo injection. Finally, a large meta-analysis [3] showed that at final followup, there was limited difference with respect to change in pain intensity and adverse reactions at final followup after various injections. To further complicate matters, of the 17 trials evaluated in the study by Krogh et al. [3], only two met the definitions established for studies displaying a low-risk of bias.

In all of these analyses, several types of injections have been shown to limit pain at early followup. Lateral epicondylitis is a self-limiting condition that, by its natural history and the passage of time, may improve regardless of treatment. Still, that does not negate the short-term benefits associated with treatments in terms of disability, lost productivity, and quality of life that these studies have also shown. And, importantly, long-term, population-based outcomes studies [1, 3, 4] fail to take this short-term benefit into account in their conclusions, leading to a defeatist attitude towards the treatment of this condition.

This CORR Insights® *is a commentary on the article* "Does Nonsurgical Treatment Improve Longitudinal Outcomes of Lateral Epicondylitis Over No Treatment? A Meta-analysis?" *by Strauch and colleagues available at:* DOI: 10.1007/s11999-014-4022-y.

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F. Alberta MD (✉)
North Jersey Orthopaedic Clinic, 266 Harristown Road, Suite 100, Glen Rock, NJ 07452, USA
e-mail: falberta@njorthoclinic.com

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The current study by Sayegh and Strauch pools data from 22 randomized, controlled trials and comes to a similar conclusion – treatment with nonsurgical modalities was not superior to observation or placebo. But does that conclusion indicate that we should not offer our patients interventions that may offer short-term relief of their symptoms? In our efforts to apply outcomes data to obtain best practices in the most cost efficient manner, it is possible to forget that our primary goal is to improve the quality of life for our patients.

Where Do We Need To Go?

The ultimate goal for treatment of lateral epicondyle pain is rapid, and permanent, relief of symptoms with a simple modality. Until that magic bullet is available, efforts should focus on developing methods of treatment that can help us determine what treatment options, if any, provide the best relief in both the immediate and long-term post-treatment periods. And until those are available, interventions that – even for shorter effect durations – may improve pain, function, quality of life, or productivity should be considered, and evaluated against one another. Conversely, the pitfalls and limitations of relying on short-term "outcome" studies are well documented. It will be the responsibility of authors, editors, and the skeptical reader to hold these studies to a high standard. The bias of placebo effects in the very early term cannot be overlooked. Therefore, randomized, controlled studies with a no-treatment or placebo intervention control arm must be employed.

Additionally, the cost of any additional treatment that may result in a short-term benefit should also be weighed against the potential gains in productivity over that same period. That analysis becomes even more important as we realize that this condition is usually self-limiting. Any additional treatment costs need to be measured by how quickly these patients can return to work or activities of daily living. Finally, emerging technologies and techniques should be evaluated with these goals in mind.

How Do We Get There?

New techniques and technologies have started to emerge that we hope will help us reach our goals. Platelet-rich plasma and other autologous blood preparations have shown promise and are currently one of the hottest topics in tendon care. Percutaneous fasciotomy and tenotomy using ultrasonic energy (FAST procedure) is an interesting technique that has recently shown significant improvements in VAS, DASH scores, and morphological characteristics of tendon quality [2]. For all of these procedures, an increase in the use of ultrasound imaging to guide injection placement has the potential to increase our effectiveness. Future studies should be aimed at calculating how quickly, and for how long, a treatment modality provides symptomatic relief and return to function. Well thought out randomized, placebo controlled studies can help us determine what treatments make sense and when to employ them. The studies mentioned above have shown that modalities currently in our treatment algorithm (eg, corticosteroid injection) have a benefit above and beyond placebo in terms of pain and function scores at 1 month, but the optimal time period for eliminating the placebo effect bias is unknown. This has to be taken into account on all future studies.

The cost of intervention becomes even more critical as we develop new technologies that are typically more expensive. Employing any new technology, and its associated cost, must be supported by the value of the improvement in the patient's pain and function. Researchers, reviewers, and editors will need to consider the real, tangible and meaningful effect that immediate relief of symptoms has on patients who are suffering from lateral epicondylitis.

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