



Corticosteroid injection for lateral epicondylalgia is helpful in the short term, but harmful in the longer term; data for non-corticosteroid injections and other tendinopathies are limited

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Commentary on: **Coombes BK, Bisset L, Vicenzino B.** Efficacy and safety of corticosteroid injections and other injections for management of tendinopathy: a systematic review of randomised controlled trials. *Lancet* 2010;**376**:1751–67.

Context

Cortisone injections have been an accepted and recommended treatment for chronic tendinopathies for many years, including tennis elbow (lateral epicondylitis), Achilles tendinopathy and rotator cuff tendinopathy. Most of the recommendations to use cortisone injections are based on case series or controlled studies with short-term follow-up. However, theoretical objections have been raised against the use of cortisone, particularly that tendinopathy is not generally an inflammatory disorder. There have been reported associations of tendon weakening and rupture after cortisone injections. Tendinopathy experts have argued for years that, since inflammation is not a major part of the pathology, anti-inflammatory treatment such as cortisone injections may not be ideal management.^{1–4}

Methods

Coombes and colleagues used a systematic review with meta-analysis approach to compile the results of randomised controlled trials (RCTs) of injection for tendinopathies and effects in the short term (4 weeks, range 0–12), intermediate term (26 weeks, 13–26) or long term (52 weeks, ≥52). They used a cut-off score of 50% on the Physiotherapy Evidence Database as the minimum quality for inclusion. They chose to assess tendinopathies including tennis elbow (lateral epicondylalgia), rotator cuff tendinopathies and Achilles and patella tendinopathies. Cortisone was the most common injection agent used in trials, but the authors attempted to assess other agents including platelet rich plasma, glucose prolotherapy and botulinum toxin.

Findings

For tennis elbow, corticosteroid injections reduced pain in the short term compared with other interventions, but conversely at intermediate and long terms, they appeared to be harmful. Cortisone injection significantly improved tennis elbow in the short term (SMD 1.44, 95% CI 1.17 to 1.71) but worsened it in the intermediate term (–0.40, –0.67 to –0.14) and long term (–0.31, –0.61 to –0.01). There were limited data to support injections of sodium hyaluronate botulinum toxin and prolotherapy in tennis elbow, whereas there were not enough data for other tendinopathies to adequately assess any injection type by meta-analysis.

Commentary

This is a landmark meta-analysis in that it presents high-level evidence that, in general, cortisone injections are harmful in the long term for tennis elbow. Although there was no conclusive proof of long-term harm from cortisone injections in other tendinopathies, neither was there any evidence from good-quality RCTs to suggest long-term help. The other tendinopathies analysed included golfer's elbow, rotator cuff and Achilles and patellar tendinopathies.

It is relevant to note that cortisone injections showed strong evidence of benefit for tennis elbow in the first 6 weeks, but then evidence of harm thereafter, suggesting more than one mechanism of action or a single mechanism which initially relieves pain but eventually inhibits tendon healing.

The most important question to arise from this analysis is “how much can the findings be generalised to other tendinopathies?” The answer is likely to be that for intrinsic degenerative tendinopathies such as golfer's elbow, Achilles and patellar tendinopathies, which do not typically involve impingement, the long-term results for cortisone injections may also be poor.

In this study, there were variable long-term effects of cortisone injections for rotator cuff conditions, and this is likely to be because some patients have a primarily degenerative tendinopathy, in which case cortisone may be harmful, but other patients may have a primary shoulder impingement condition, in which case cortisone injections may be helpful. Ultrasound is probably the best imaging modality to differentiate between the two.

The authors chose not to analyse some related conditions such as De Quervain's tenosynovitis, gluteal tendinopathy/trochanteric bursitis, iliotibial band syndrome, pes anserinus bursitis and posterior ankle tendinopathy/impingement. This may have been partially due to lack of trials and may also be because the authors did not consider these conditions to be primarily intrinsic tendinopathies. There is much debate about whether these conditions are more impingement syndromes because of swelling in some or all cases. If they are primarily impingement syndromes, then it still makes sense to use cortisone and may be expected that cortisone injections could give long-term help.

The take home message is the reminder that cortisone is catabolic and in the long term will shrink soft tissue, including tendon. The clinician must ask “is there enough impingement present that I actually want to shrink tissue in this case?” The answer should be no for most cases of

tennis elbow but may vary depending on pathology for other tendinopathies.

Competing interests None.

References

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