

**Wong SM, Hui ACF et al. Treatment of Lateral Epicondylitis with Botulinum Toxin. Ann Intern Med 2005; 143:793-797.**

Design: Randomized clinical trial

Population/sample size/setting:

- 60 adults (49 women, 11 men, mean age 45) treated for lateral epicondylitis in a community and university setting in Hong Kong
- Eligible if they had at least 3 months of lateral elbow pain during resisted dorsiflexion of the wrist with elbow in full extension
- Ineligible if they had previous local injection treatments (including steroid and acupuncture), nerve entrapment, breastfeeding, and systemic neuromuscular disorders (e.g., myasthenia gravis)

Main outcome measures:

- Randomized to one injection with 60 U Dysport botulinum toxin (n=30) or normal saline (n=30); injections were guided by palpation into subcutaneous tissue and muscle 1 cm from epicondyle and directed to tender spot
- Both groups were instructed to avoid pain-provoking activities as much as possible for 48 hours after injections, and to avoid NSAID, physical therapy, and alternative medicines for the duration of the study
- Outcomes were recorded at baseline and again at 4 weeks and 12 weeks
- VAS pain score on scale of 0-100 was the principal outcome
- Baseline VAS for Dysport was 65.5 and for saline was 66.2; 4 week and 12 week VAS for Dysport were 25.3 and 23.5, with corresponding scores of 50.5 and 43.5 for the saline group
- Grip strengths in kg did not differ significantly between groups at baseline or at 4 and 12 weeks in either hand
- Patients were questioned at 4 and 12 weeks about weakness and about ability to perform workday activities; 10/30 Dysport patients reported mild weakness of third finger extension at 4 weeks; 2 patients reported persistent weakness at 12 weeks; in the placebo group, 6/30 patients reported weakness at 4 weeks and 1 reported weakness at 12 weeks; only 1 person in Dysport group reported weakness sufficient to interfere with work activities
- At week 4, there were 4 patients in Dysport group who reported digit paresis, but none in the saline group; at 12 weeks, only 1 Dysport patient still reported digit paresis

Authors' conclusions:

- Botulinum toxin may offer an alternative short-term treatment option for lateral epicondylitis
- The issue of possible arm weakness and digit paresis should be discussed with patients prior to any trial injections
- Additional studies are needed to define magnitude of benefit and frequency of adverse effects

Comments:

- Design and follow-up of the trial are satisfactory, but the reason for randomization using a block size of 3 is obscure, since there were only 2 treatment groups
- It is not clear why extensor muscle strength was not measured by a clinician at 4 and 12 weeks, since the patient had to return to the clinic for measurement of grip strength; this would have provided additional information about the possible adverse effects of the treatment
- Authors display appropriate caution and restraint in interpreting their findings

Assessment: Adequate for an evidence statement to the effect that botulinum toxin may provide short-term pain relief, but that the risk of weakness of digit extension should be discussed with the patient