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## **Short-Term Effect of Low-Dose, Electromyography-Guided Botulinum Toxin A Injection in the Treatment of Chronic Lateral Epicondylar Tendinopathy - A Randomized, Double-Blinded Study**

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**Background:** Botulinum toxin A (BoNT-A) is a novel treatment for chronic lateral epicondylar tendinopathy. Preliminary studies have demonstrated promising results; however, confirmation of the effectiveness of BoNT-A treatment and further assessment of its side effects are required. This study investigated the analgesic effects of BoNT-A in the treatment of chronic lateral epicondylar tendinopathy.

**Methods:** This was a phase-III, single-center, randomized, double-blinded, placebo-controlled study including 60 patients with chronic lateral epicondylar tendinopathy that had been resistant to treatment for >6 months. Patients received either a 40-IU injection of BoNT-A or saline solution placebo into the extensor carpi radialis brevis (ECRB) muscle, aided by electromyographic (EMG) stimulation. Follow-up was 3 months. The primary assessment criterion was the percentage of patients whose pain was reduced by >50% at 90 days after injection. Secondary outcomes, including pain intensity, pain frequency, interference with quality of life, sick leave taken, maximum grip strength, and side effects, were assessed at days 30 and 90, and the number of participants per group requesting additional therapies at day 90 was recorded.

**Results:** Twenty-nine patients in the BoNT-A group and 28 patients in the placebo group were included in the day-90 analysis. Fifteen (51.7%) of the patients who were administered BoNT-A and 7 (25%) of the patients who received placebo reported a >50% reduction in initial pain intensity at day 90 ( $p = 0.005$ ). Pain intensity and the effect on quality of life, measured using visual analog scales, were both significantly lower in the group treated with BoNT-A compared with placebo at day 90 ( $p < 0.05$ ). The rate of clinically detected transitory paresis of the third finger on extension was 17.2% in the BoNT-A group, with no associated functional impairment.

**Conclusions:** BoNT-A at 40 IU injected into the ECRB is an effective treatment for chronic lateral epicondylar tendinopathy that has been otherwise resistant to medical treatment. The rate of paresis of the third finger was low, with no associated functional impairment.

**Level of Evidence:** Therapeutic Level I. See Instructions for Authors for a complete description of levels of evidence.

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## Kommentar

Denne måneds “One to Watch” omhandler den berømte Tennisalbue som alle ortopædkirurger vel har stiftet bekendtskab med. Som kirurg er det en utaknemmelig diagnose. Det kan være ganske invaliderende for patienterne mens det står på, men for langt de fleste går det over med tiden. For de kroniske tilfælde findes en række behandlingsmuligheder, hvoraf ingen har overvældende effekt. Der kan skinnebehandles, anlægges blokade eller endda kan overskæring af ekstensorfæstet komme på tale. Dette studie er et dobbelt-blindet RCT der påviser en betydende analgetisk effekt af Botox injektion. Det er et studie med kort follow-up (kun 3 mdr), men under alle omstændigheder spændende, synes jeg. God fornøjelse.

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