
Design: Randomized clinical trial

Population/sample size/setting:
- 56 patients (33 men, 23 women, mean age 40) who completed (62 enrolled) a clinical trial for treatment of tennis elbow in a university orthopedics department in Cairo, Egypt
- Eligibility criteria were a clinical diagnosis of tennis elbow failing 6 months of conservative treatment which included NSAID, steroid injections, PT, exercise program, and elbow brace
- Exclusion criteria were age under 18, elbow arthritis, generalized polyarthritis, ipsilateral shoulder dysfunction, radial nerve entrapment, steroid injection in previous 6 weeks, and medical comorbidities (infection, cancer, neurological, cardiac arrhythmias)

Abbreviated summary of results:
- Randomized to receive extracorporeal shock wave therapy (ESWT, n=29) or tenotomy (n=27)
- ESWT was administered once using conscious sedation anesthesia at the common extensor origin at a high-energy setting, with 1500 shocks delivering a total energy of 324 J
- Tenotomy was done under general anesthesia through a 1-2 cm incision, with a plaster splint applied for one week after the operation
- Both groups had measurements at baseline, with follow-up at 3 weeks, 6 weeks, 12 weeks, and 1 year
- Outcomes included several pain scores: at rest, at night, with pressure, with resisted extension, and on lifting a 3.5 kg chair
- Pain scores improved equally in both groups over the course of the study
- Roles and Maudsley score is a 4 point scale where 1 is excellent (no pain, full movement, full activity) and 4 is poor (pain limiting activity)
- Roles and Maudsley scores were also used as success measures for the interventions; the treatment groups had statistically equivalent success rates at the end of 1 year (62% for ESWT and 78% for tenotomy)
- The success rates at 1 year were very similar to those measured at the 6 and 12 week follow-up times

Authors’ conclusions:
- ESWT appears to be a successful noninvasive treatment for tennis elbow which has failed conventional treatment
- ESWT success rate is similar to rate for surgery, and may reduce the necessity for operative intervention

Comments:
Although design is overall adequate, there is no information about any additional treatment: it appears that no rehabilitation was done after the initial intervention.

Therefore, we do not know if either group had any exercise program, supervised or unsupervised, and whether the rehabilitation was the same in the two groups.

ESWT had to be given at a level high enough to require conscious sedation, which may limit its practicality.

At best, the results are suggestive of, but not evidence for, a benefit of ESWT equivalent to tenotomy.

For patients who are considered surgical candidates, ESWT could be an option, but without evidence of equivalence to tenotomy.

Assessment: Inadequate for an evidence statement regarding ESWT effectiveness compared to surgery (total lack of information about the entire rehabilitation program)