

Diagnostic and Therapeutic Strategies for the Treatment of Tennis Elbow

Stephan Albrecht from Germany

*Department of Orthopaedic Surgery, Ev. Waldkrankenhaus, Spandau, Berlin,
Teaching Hospital Charit, Humboldt University Berlin, Germany*

We examined extent and affection of an assumed neuromuscular transmission disorder by performing a prospective clinical study on 75 patients with therapy-resistant radiohumeral epicondylopathy. Before operation, we electromyographically diagnosed an increased rate of polyphasic potentials of the long wrist extensors as well as a prolonged motor latency of the respective muscles. Corresponding to a hereby implied damage to the distal part of the motor neuron, disordered neuromuscularrecruitment combined with a reduced maximum strength and -elasticity could be proven. Both effects were significantly reversible ($p < 0,001$) through operative intervention. We found a significant correlation ($\text{corr} > 0,90$) between the normalization of the motor latency and increased strength. Subgroups were formed depending on different pre-operative diagnostic efforts and differing radicality regarding the performed soft-tissue operation, thus the clinical validity of the findings diagnosed in the anatomic / electrophysiologic part of the study was additionally examined. It was proven that the failure rate varies between 10% and 30%, depending on the radicality of tenotomy, which could be interpreted as a general indication for a complete extensor carpi radialis brevis tendon release. In this connection it is remarkable that the clinical result of an electromyographically localized damage in the area between epicondyle and arcade of Frohse could not be improved through open neurolysis. Dealing with strictures located on the proximal side of the epicondyle on the other hand, this technique seems to play an important role in the recurrence prophylaxis.