

SURGICAL RELEASE FOR TENNIS ELBOW-A CASE SERIES AT VIMS, BELLARY

Dr. KrishnagiriSundaresh, Dr. Pramod G, Dr. Venkatesh K, Dr.AbhishekGumaste, Dr. Punith

Department of Orthopaedics, Vijayanagara Institute of Medical Sciences, Bellary, India.

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ABSTRACT

OBJECTIVE: To assess the outcome of open release in the management of resistant tennis elbows, based on patient satisfaction. **METHODS:** This was an observational retrospective case series of 25 consecutive patients that underwent surgical treatment for resistant tennis elbow between August 2012 and August 2014 at VIMS Hospital. **RESULTS:** In twenty two patients (83%) excellent pain relief was achieved and they regained normal use of the limb. One patient (6%) had moderate improvement and two (11%) gained minimal benefit with persistent symptoms. There were no complications in this series. **CONCLUSION:** We conclude that despite recent advances, this time tested procedure still remains an excellent option when non-operative management has failed.

INTRODUCTION:

Tennis elbow (TE)—also called lateral epicondylitis, epicondylosis, epicondylalgia or tendinopathy—is a common disorder of the elbow with a prevalence of 1–3% in the general population and 7% in manual workers^{1,2}. However, resistant tennis elbow is a rare, yet disabling, condition⁴. TE is occurring most often in the age group of 40–60 years— except in tennis players who are generally younger—and it affects men and women to the same degree^{1,2,3}. In addition to age, risk factors for developing tennis elbow include repetitive and forceful motions of wrist and arm, participating in racket sports, using a faulty tennis playing technique and smoking tobacco¹. Histopathology of the affected extensor carpi radialisbrevis (ECRB) attachment demonstrates noninflammatoryangiofibroblastictendinosis with neovascularisation, a disorderedcollagen scaffold, mucoid degeneration, and microtears^{5,6}.

The management of resistant tennis elbows has always been an enigma. Although encouraging results have been recently obtained with the use of ultrasound shock wave therapy⁷, up to 10% of patients may fail to respond to conservative management⁸. In these patients surgery can be offered and various operative techniques have been described which include open common extensor origin release⁹, partial excision of extensor origin with repair¹⁰, Z- lengthening of the extensor carpi radialisbrevis¹¹, excision of the proximal part of the annular ligament¹², excision of the synovial fringe of the radiohumeral joint¹³, bursectomy¹⁴, percutaneous release of the common extensor origin¹⁵, a combination of the aforementioned

procedures¹⁶, and an arthroscopic release¹⁷. This study was done to assess the out-come of the open release of the common extensor origin, based on patient satisfaction in the management of resistant tennis elbows after an unsuccessful trial of non-operative treatment methods.

METHODOLOGY:

This was an observational retrospective case series of 25 consecutive patients that underwent surgical treatment for resistant tennis elbow between August 2012 and August 2014 at VIMS Hospital. All patients were chosen for the operation following an unfavourable response to nonsurgical treatment of at least six-month duration with the following modalities: rest, cessation of exacerbating activities, nsaid medications, physiotherapy, and local steroid injections. The median local steroid injections given to the patients was three (range, one to six injections). The median duration of symptoms before the operation was 21 months (range, 12–36 months).

The inclusion criteria were a predominant symptom of dull pain localised to the lateral epicondyle area and increased pain on resisted extension of the wrist. The exclusion criteria were lateral elbow pain aggravated by radio humeral movements and by forearm supination in order to exclude other causes of lateral elbow pain.

All cases were done as a day case surgery using either general or local anaesthesia under tourniquet control. The technique involved using an approximate 4-cm skin incision over the lateral epicondyle area. The deeper layers were then divided to expose the common extensor origin. A longitudinal release of the complete lateral

extensor origin was done taking care to preserve some of the anterior part of the lateral collateral ligament. The anterior half of this incised common extensor tendon was elevated and allowed to slide distally for 1 cm. The posterior half of the incised common extensor origin was not elevated and was preserved. The anterior half of the common extensor origin which was elevated and allowed to slide was then sutured side to side to the posterior half, one centimetre distal to the common origin.

Of the 25 patients all were available for follow-up and their results were analysed. There were 13 men and 12 women with an average age of 38.3 years (range, 30–60 years). Median age of the men was 40 years and of the women 38 years. They were interviewed at an average 24 months (range, 9–48 months) after the operation, using the telephone questionnaire-based scoring system (Table 1) by Das and Maffuli [18]. This score was used as it has the advantage of succinctly presenting an individual's personal functional assessment of the current status and

gives a realistic representation of the expectation of demands of an individual. Pain, grip strength, elbow function, and patient satisfaction as a result of the operation were scored according to the patient's telephonic response.

Pain was recorded and classified as none or minimal if the scores using the numerical scale were between 1 and 3, moderate if scores were 4–7, and severe if the scores ranged from 8 to 10. Grip strength was reported as normal, weak, or very weak and compared with the preoperative status as documented in patients' medical records. Elbow stiffness was reported as mild, moderate, or severe. Patient satisfaction was recorded as satisfied, partly satisfied, or dissatisfied. Each elbow was given a numerical score for every category (Table 1). A grand total was obtained for each elbow and results were categorised as excellent if the score was 4 or less, good if the scores were 5 or 6, fair for scores of 7 and 8, and poor for scores between 9 and 12.

Table 1: Telephone questionnaire scoring system

SCORE	PAIN	ELBOW FUNCTION	GRIP STRENGTH	PATIENT SATISFACTION
1	None or minimal	Without difficulty	Normal	Satisfied
2	Moderate	With difficulty	Weak	Partly satisfied
3	Severe	Severe difficulty	Very weak	Dissatisfied

RESULTS:

The results were obtained by telephonic interviews from 25 patients and then analysed. Severe pain was the main reason to opt for surgical treatment for 20 patients and moderate pain in 5 patients. Pain improved considerably postsurgery, 23 patients having complete pain relief and the rest 2 had residual moderate pain at final follow-up. Grip strength was weak or very weak in 22 of 25 patients (while three other patients had normal grip strength at presentation). Of these, 20 improved to achieve normal grip strength and two with very weak grip strength improved to weak grip strength at final follow-up. Severe or moderate elbow dysfunction reported by 16 and 7 patients, respectively, improved to normal in 21. Two with severe elbow dysfunction had moderate elbow dysfunction at final follow-up. According to the Das and Maffuli¹⁸ scoring system there were 23 patients with excellent results and 2 with good results without any complications.

DISCUSSION:

The results of this study are encouraging, with 23 of 25 (92%) patients achieving an elbow that was completely free of pain at final follow-up. This pain-free status is an improvement over the 87.4% reported by Das and

Maffuli¹⁸ and is similar to value of 95% reported by Thornton¹⁹. Grip strength showed a remarkable improvement with 20 of 22 (90.9%) patients regaining normal strength and no functional limitation. This once again exhibits considerable improvement over the 62% reported earlier¹⁸. Elbow dysfunction was present in all patients preoperatively and a marked progress was observed in 21 of 25 (84%) patients achieving normal elbow function. This result was similar over the previously reported 84%¹⁸. Finally, patient satisfaction was uplifting with 23 excellent and two good results. Our results are similar to the 94% success rate reported by Yerger²⁰ and are better than the results of 56% excellent and 33% good reported by Veerhar⁹ and the 75% combined excellent and good results of Das and Maffuli¹⁸.

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