



## Patient satisfaction after open release of common extensor origin in treating resistant tennis elbow

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Resistant tennis elbow has been an enigma for orthopaedic surgeons. Several treatment methods have been suggested. We assessed the outcome of open release in the management of resistant tennis elbows, based on patient satisfaction. Eighteen patients (24 elbows) who underwent open release were followed up. Surgery was done after a mean waiting time of 23 months from the onset of pain and an unsuccessful trial of non-operative methods. Post operatively they were followed up for clinical improvement and complications. They were later contacted to assess effectiveness from the surgery. In fifteen 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. We conclude that despite recent advances, this time tested procedure still remains an excellent option when non-operative management has failed.

**Key words** : tennis elbow ; surgical management ; open release ; patient satisfaction.

### INTRODUCTION

The management of resistant tennis elbows has always been an enigma. Several aetiological factors (4, 7) have been named and studies have shown variable results with different treatment options. Systematic reviews have not found any superiority of one treatment method over another. Studies done so far have concentrated on the clinical assessment

of the operating team while the patient perspective which should be given priority has often not been cited. We undertook this study to assess the outcome 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.

### MATERIALS AND METHODS

We followed-up 18 patients (24 elbows) aged 38 to 59 years, who underwent open release of the common extensor origin for tennis elbow after an unsuccessful trial of non-operative management. Non-operative methods were rest, analgesics, NSAIDS, physiotherapy and local steroid injections. There were ten males and eight females in this group, of which fourteen patients had their dominant side involved.

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

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radio humeral movements and by forearm supination (11) in order to exclude other causes of lateral elbow pain. The surgery was done by the same team after a mean waiting time of twenty three months from the onset of 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.

The patients had regular post operative reviews in the clinic where they were assessed initially for clinical improvement (pain relief based on visual analogue score) and complications from the surgery. The patients were given physiotherapy to help in regaining their elbow movements. They were then discharged from the clinics and were later contacted after six months to score the effectiveness of surgery. As the predominant troubling symptom for all patients was pain, they were asked to score the pain relief correlating with the surgery, based on a simple pain relief scale. A telephonic questioning was done by a doctor who was not a part of the operating team. Scoring was done as reported by the patient over the telephone on a one to ten scale. Pain relief was considered excellent with a score of 8 or more out of 10. Moderate improvement was 6 or 7 out of 10 and minimal benefit 5 out of 10. A score of 5 or below was graded as a poor result as no benefit was achieved from surgery. Any known complications were also recorded to assess if they would require any further clinic follow-up.

## RESULTS

In 15 patients (83%) excellent pain relief was obtained with the surgery and they regained the normal use of the limb. One patient had moderate improvement and two patients only had minimal benefits with the surgery and continued to have persisting symptoms. None of the patients suffered deterioration of the condition or increase of pain as

a result of surgery. There were no complications recorded in this series, similar to other published studies (3).

## DISCUSSION

Over the past one hundred years since its first description, there have been many theories regarding the aetiology of tennis elbow, with different treatment methods suggested for this condition (4, 6, 9, 10, 12). The argument that tennis elbow is a self limiting condition without any intervention cannot be upheld for those patients in whom symptoms have been troubling their daily activities for nearly two years. The most widely accepted theory is that this is caused by the presence of micro or macro tears in the tendon of extensor carpi radialis brevis (ECRB) and treatments have been directed at this. Greenbaum *et al* (6, 7) suggested that even in the most controlled situation it was not possible to separate the origin of the ECRB from the common extensor tendon, which suggests that the pathology cannot be isolated to a single structure. Any surgical treatment for resistant tennis elbow should therefore address the common extensor origin to achieve the intended benefit.

Buchbinder *et al* (2) and Labelle *et al* (8) in their review found that there are no properly designed control trials for the surgery of lateral elbow pain and in these circumstances it is very difficult to draw conclusions about the superiority of different treatment methods. Rosenberg *et al* (11) showed that the lateral extensor release which is a relatively simple procedure has shown to have good results with low complication rates. In our study, following the initial assessment in the review clinic we have used a second telephone questionnaire with the patients to assess their satisfaction and benefits from surgery as it was more convenient for the patients. We used a simple pain relief score as this was the most important troubling symptom for the patients and it was simple for the patients to express the result they achieved. The interviewing person was not part of the operating team which increases the chance for a more honest opinion regarding the outcome of surgery from the patients (5). Baumgard (1) and Yerger (12) from their

study have recommended percutaneous release of the ECRB in the management of tennis elbows with promising results. As studies have established the difficulty to isolate the ECRB from the common extensor origin, it would be more prudent to do an open release visualising the structures that are incised.

Recently arthroscopic surgery has been reported to give promising results. However the points in favour of an open release are that it can be done as an economical day case procedure, and has a low learning curve. This procedure is cost effective and requires less expertise compared to arthroscopic surgery. Open release is not an equipment dependant procedure, similar good results have been shown from other studies and the results can be reproduced.

### CONCLUSION

Despite recent advances in the management of tennis elbow, our experience points out that the time tested open release of the common extensor origin, which is an economical day case procedure, still remains as an excellent option. This procedure is easy to perform and gives high patient satisfaction in the management of tennis elbow resistant to non-operative management.

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