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INTRODUCTION

'Tennis elbow' or extensor tendinopathy is a chronic overuse tendinopathy of the wrist extensors. Tennis elbow is characterised by pain around the common extensor insertion at the lateral aspect elbow (Orchard 2011).

In the majority of cases tennis elbow resolves with conservative management such as activity modification, analgesia, physiotherapy and strapping. This can take between 6-24 months (Chesterton 2011).

Resistant tennis elbow is a complex condition for which there is currently no overwhelmingly successful treatment. Traditionally surgical decompression has been done by open surgical release at the common extensor origin, however we know from previous studies that approximately 10% of cases will have persistent symptoms and in 10% the symptoms may be worse (Chesterton 2011).

The Topaz® technique is a newer method that utilises radiofrequency to decompress the tendon and in addition is thought to stimulate angiogenesis thereby facilitating healing (Tasto 2005). This study aims to investigate the early results of this new technique and compare it with traditional common extensor release.

MATERIAL & METHODS

Inclusion criteria

Patients who were diagnosed with tennis elbow and who had exhausted conservative treatments including a trial of physiotherapy and at least two injections of local anesthetics and steroid around the lateral epicondyle.

Exclusion criteria

We excluded patients who had any associated problems on the ipsilateral upper limb, previous surgery to the same limb or any neurological disorder affecting the upper limb.

All patients were explained about the Topaz® procedure in detail and the benefits and problems associated with it. They were informed of the possibility of this procedure not working and needing a further surgery in terms of open surgical release.

Surgical technique

The Topaz® procedure is undertaken under general or regional anesthesia. A tourniquet is applied to ensure bloodless operative field. The lateral epicondyle is marked (Figure 1) and a curved incision is made anteriorly to it (Figure 2) and the lateral epicondyle and common extensor origin is exposed (Figure 3). The Topaz® instrument which is a radiofrequency probe transmits radiofrequency pulses to the tissue (Figure 4). It requires a moist field to transmit the pulses and hence the saline is dripped at a slow rate with it. The Topaz® is used around the common extensor origin to 'pepper pot' the area with an aim to decompress and 'detension' the extensor tendon and also stimulate the healing (Figures 5,6). The wound is closed in layers and compressive dressing is given.

Post-operative management

The operated elbow is supported in a sling and advised mobilisation as tolerated. In addition the patient is advised strictly to avoid any NSAID for 6 weeks to negate effect of the Topaz® therapy. The first follow up is at six weeks and patients are discharged at three months if they are recovering well.

Data collection

The case notes were reviewed and findings were recorded on a structured proforma. In particular, we recorded the symptom duration, conservative treatment received and symptoms at follow up and early recurrences. The group of the Topaz® patients (Group I) was compared to a group of open tennis elbow decompressions done during the same time period (Group II).

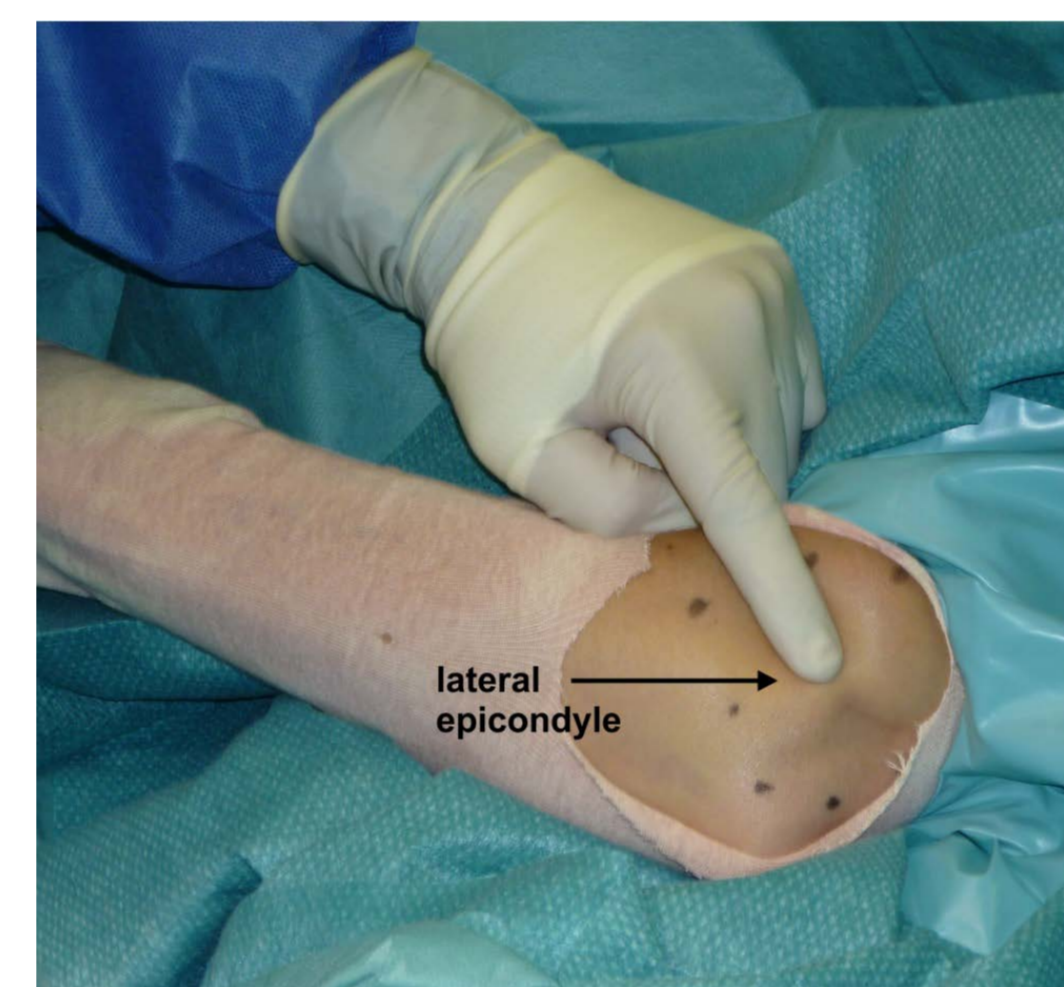


Figure 1: Skin marking
The lateral epicondyle is located



Figure 2: Surgical approach
A curved incision is made slightly anterior to lateral epicondyle

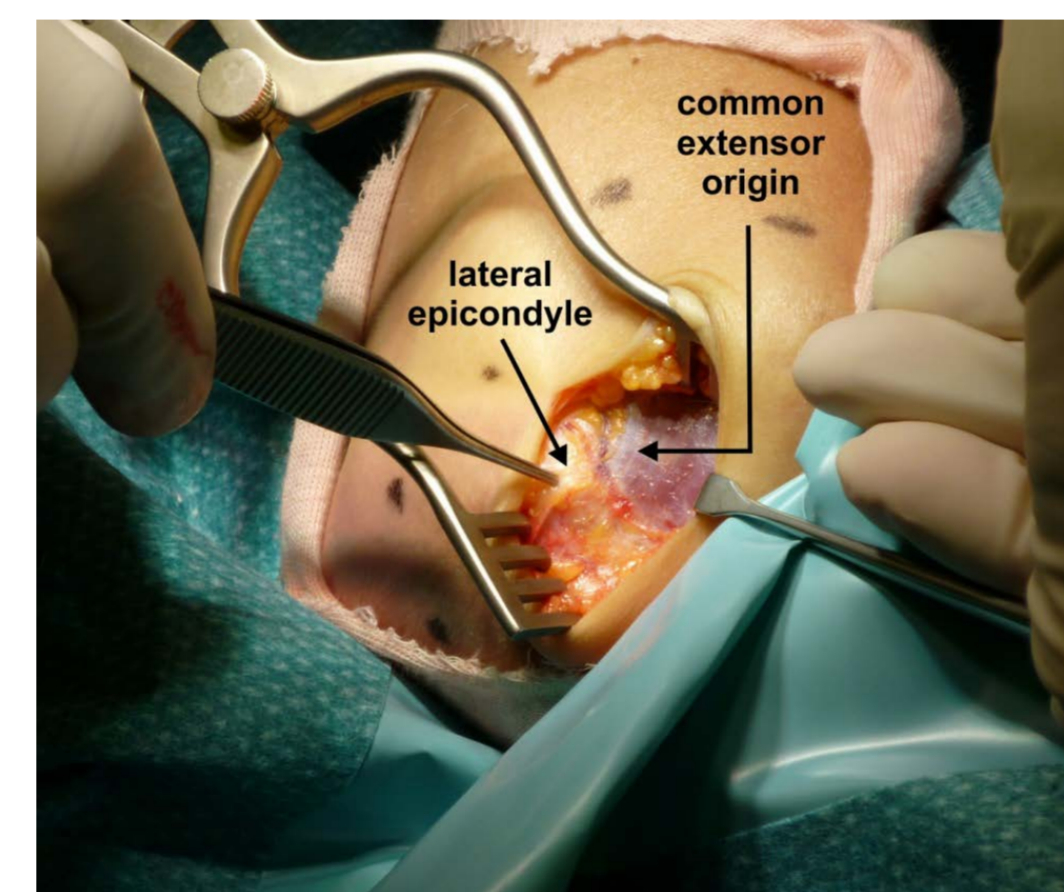


Figure 3: Anatomy
The common extensor origin is exposed along with its insertion to lateral epicondyle and the distal humerus

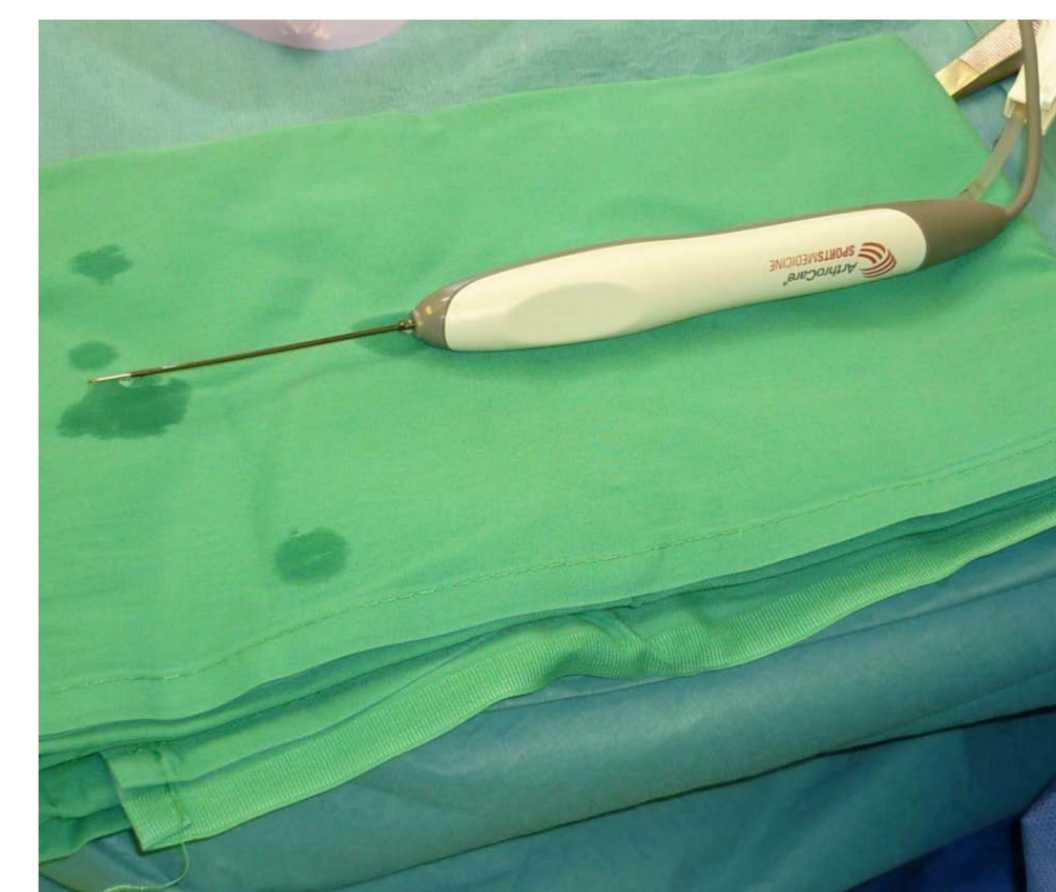


Figure 4: The Topaz® instrument

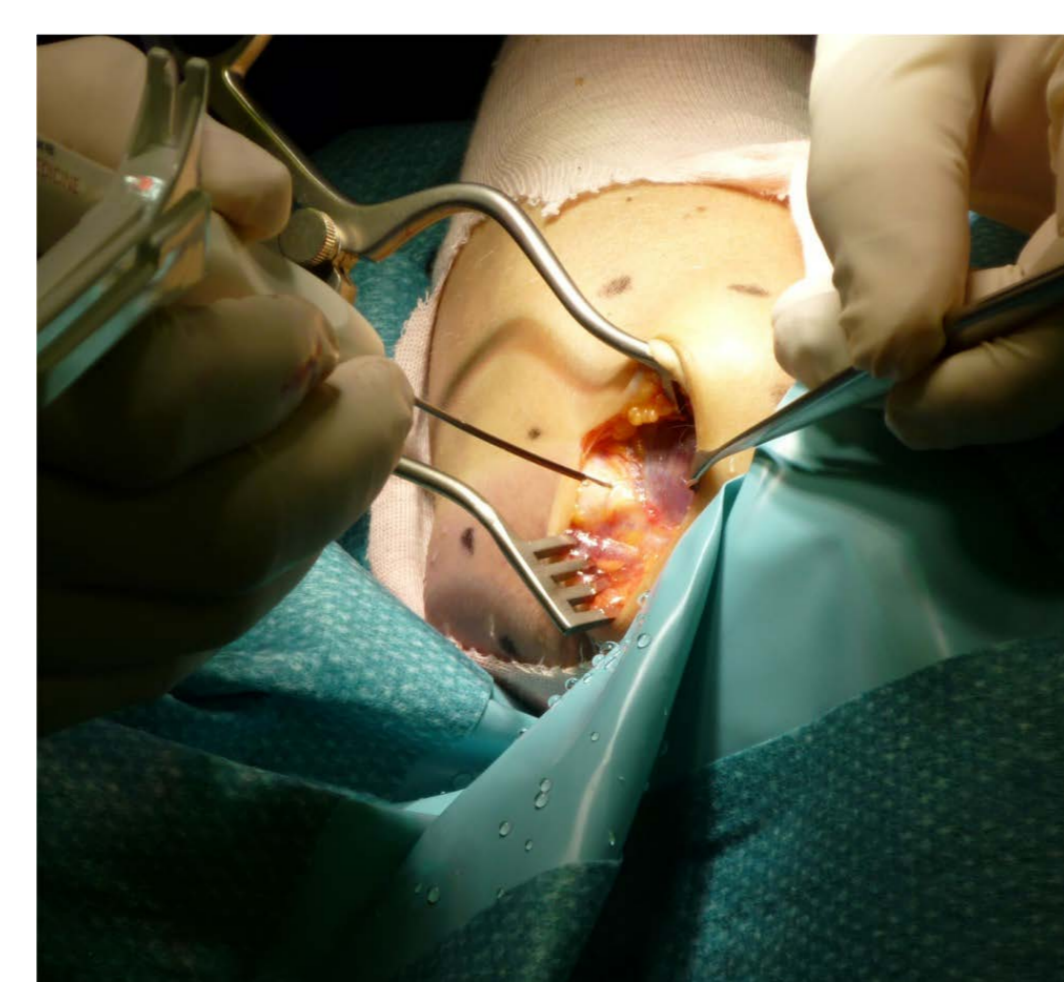


Figure 5: Technique
The Topaz® instrument is used to 'pepper pot' the common extensor origin and area around the lateral epicondyle

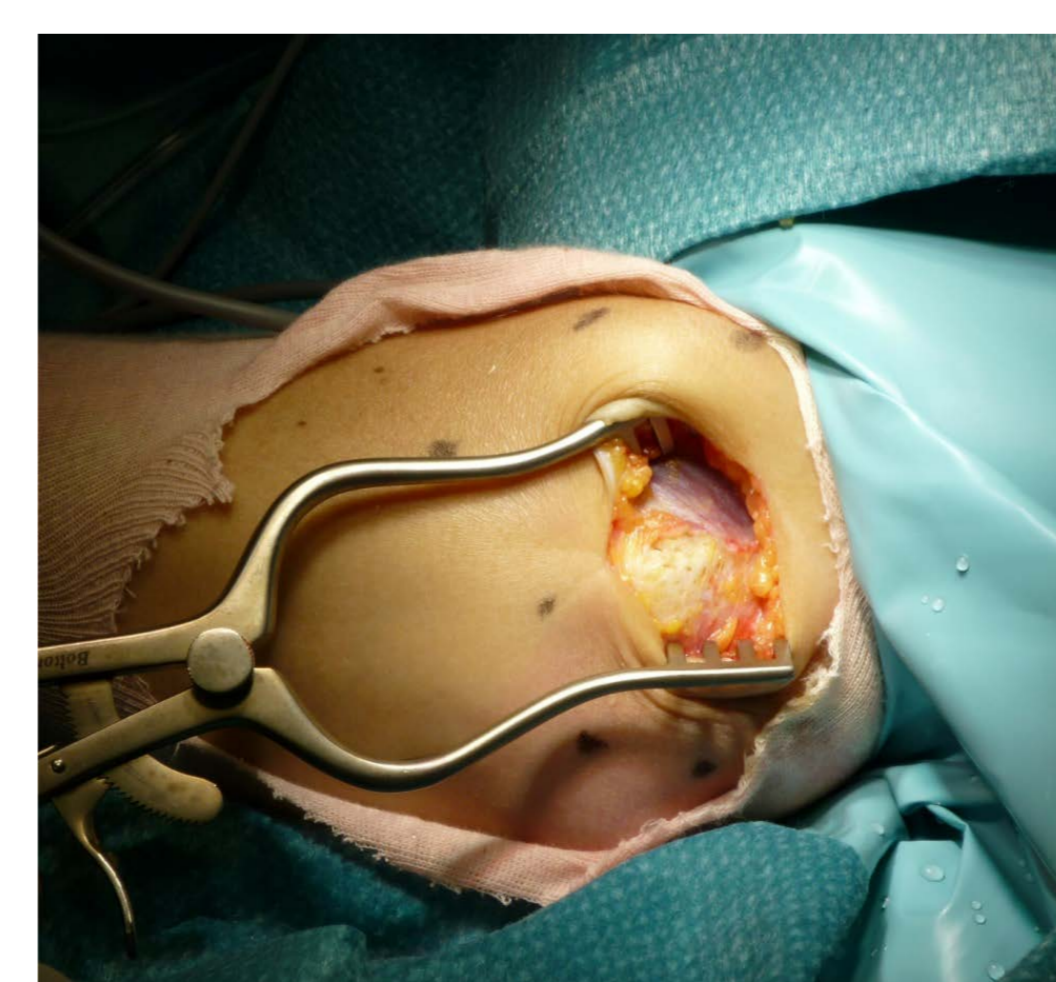
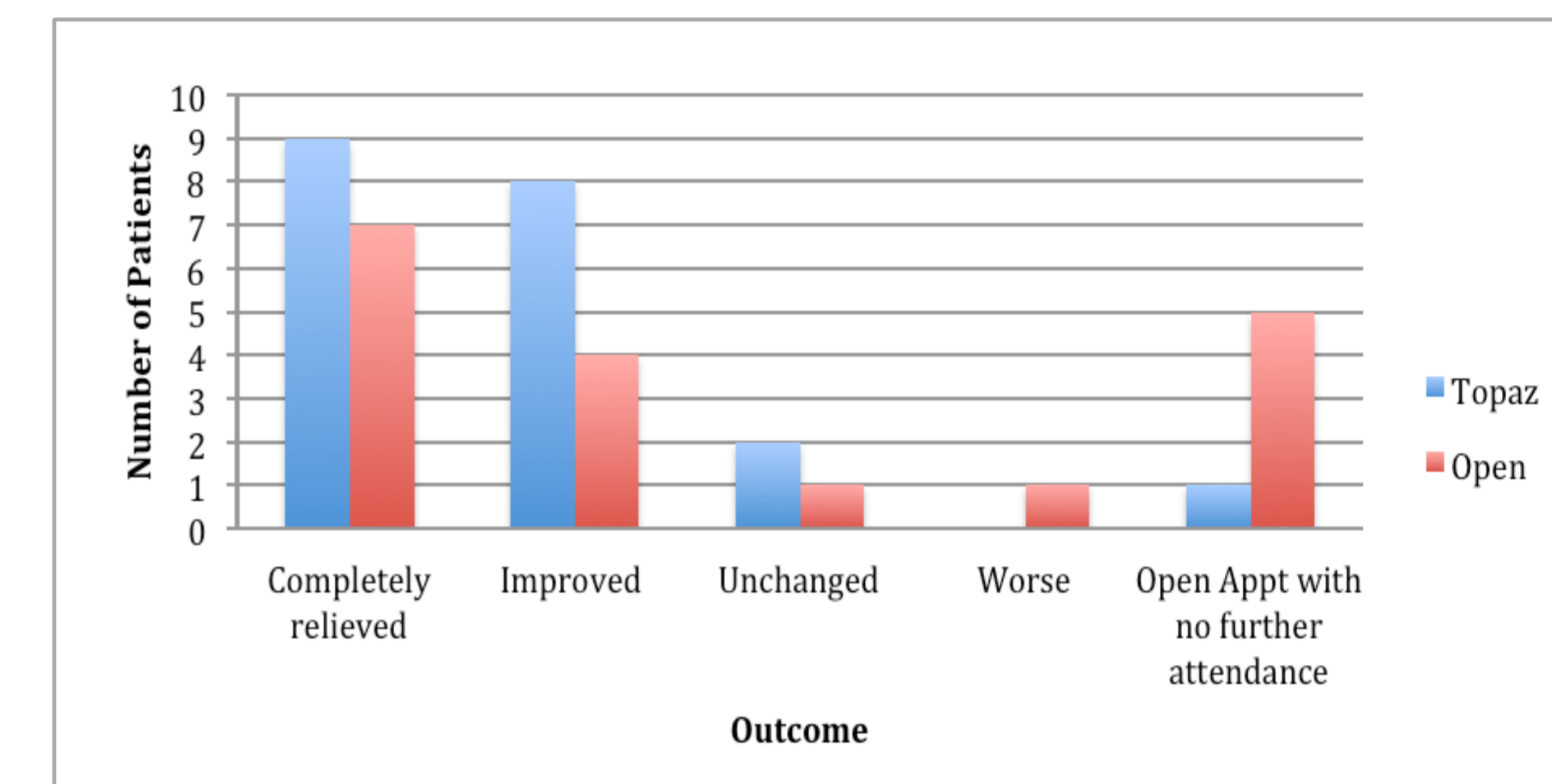


Figure 6: Post-operative
Final result following 'pepper potting' with the Topaz® instrument

RESULTS

PARAMETERS	GROUP I (TOPAZ®)	GROUP II (OPEN)
Total Number	20 elbows	18 elbows
Male/Female	5/15	11/7
Duration more than 12 months	16 (80%)	14 (78%)
Common Complaints Pain	19 (95%)	16 (89%)
Weakness	7 (35%)	3 (17%)
Tenderness	16 (80%)	15 (83%)
Tourniquet time (min)	16 (8-40)	19 (6-38)
Symptoms: completely relieved or improved	17/19 (90%)	11/13 (85%)
Revision surgery	0	0



Comparison of post-operative outcome at 3 months for the two Groups

SUMMARY POINTS

- Early results (three months follow-up) of treatment of the Topaz technique seem promising.
- The pre-operative symptoms in approximately 90% of patients having the Topaz treatment were either completely relieved or improved.
- No specific complications to this treatment method was noted.
- When comparing to a similar group of patients with open release we noted no significant difference in the outcome, complications and recurrences.

WEAKNESS OF THE STUDY

- Retrospective Audit with short follow up
- No objective assessment like functional scores (DASH)

RECOMMENDATION

- Prospective study with pre and post operative functional scores
- Longer follow up to see if the initial short term benefit is sustained

REFERENCES

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