

ROUNDUP³⁶⁰

Shoulder & Elbow

For other Roundups in this issue that cross-reference with Shoulder & Elbow see: [Oncology Roundup 1](#); and [Research Roundups 4 and 5](#).

Another look at PRP

■ It seems that clinicians won't give up: having bought centrifuges for platelet-rich plasma (PRP), this technology continues to be the focus of clinical trials attempting to find a use for this attractive sounding treatment. There have, however, been more clinical studies on PRP than on any other biologic therapy, and the majority demonstrate absolutely no difference in outcomes. Researchers in [Sao Paulo \(Brazil\)](#) hypothesised that the use of PRP during rotator cuff repair would result in superior clinical outcomes.¹ The research team designed a prospective randomised controlled double-blinded study with 54 participants, half randomised to rotator cuff repair (RCR) with PRP and half to cuff repair alone. All patients included had a complete supraspinatus tear and underwent a single-row repair. The study design assessed outcomes using the VAS score at three, six, 12 and 24 months using the UCLA and Constant outcome scores. Across both groups there were significantly improved outcomes post-operatively, with improvements at two years in the UCLA score (from around 14 points to 32 in both groups) and this improvement was mirrored in the Constant scores. There were no convincing or significant differences between the two groups with respect to functional outcomes or complications.

What puzzles us most, here at 360, about PRP is not how it might work – but rather, why its use hasn't been abandoned already.

PRP is not effective in tennis elbow

■ Hot on the heels of the above study in the shoulder comes a systematic review from [Doha \(Qatar\)](#) evaluating the use of PRP in lateral epicondylitis.² The authors undertook a systemic review using the major databases (PubMed, EMBASE, CINAHL, Medline OvidSP, Scopus, Google Scholar, Web of Science and Cochrane Library). Studies describing the outcomes of chronic lateral epicondylar tendinopathy treated with an intervention, including PRP injection, were included in the study. Studies were evaluated using the PEDro technique, suggesting that of the six studies included, four were of high quality methodology. Only a single study suggested that PRP injection was efficacious when compared with a corticosteroid injection, whereas the others suggested PRP had no efficacy in this diagnosis. The authors' commentary suggests that there is strong evidence that PRP injections are not efficacious in chronic lateral epicondylar tendinopathy. They explain that the single aberrant study results may have been due to the comparator group chosen where there is some evidence that steroid injections are actually harmful in the management of tennis elbow and this may have explained the discrepancy in results.

Eccentric physiotherapy effective in subacromial pain

■ The management of degenerate shoulder pain is challenging. Older patients with large rotator cuff tears are often not suitable for surgical treatment, and finding appropriate alternative options can be difficult. There has been renewed interest in conservative treatments for subacromial pathology, particularly with novel types of physiotherapy intervention such as eccentric exercises. Researchers in [Linköping \(Sweden\)](#), adding more to the volumes of high quality randomised studies that have emerged from Scandinavia, have looked at rehabilitation regimes in patients with subacromial pathology.³ Their study involved patients who were waiting for subacromial decompression and were randomised to either a specific graded eccentric loading exercise programme or more general rehabilitative exercises. Outcomes were assessed primarily at a year with the Constant score. The study population consisted of 97 patients, all waiting for arthroscopic subacromial decompression. Patients were enrolled into the study and randomised to one of the rehabilitation programmes. Their wish to continue to wait for surgery was confirmed at three months and the option to request surgery was kept open until one year following initiation of rehabilitation. Across both groups, patients improved significantly as measured by the Constant score. However, there were significant differences in the choice for

'surgery' at one-year follow-up. Their surgical intervention rate was just 24% in the eccentric loading group as compared with 63% in the general exercise group. Predictors of the need for surgery included lower baseline shoulder scores and the presence of a full-thickness tear. This study joins a long line of high quality shoulder studies from the northern Europeans and demonstrates that carefully managed rehabilitation can reduce the need for surgery and provide longer-term benefit at a year than has been previously demonstrated.

Dexamethasone in shoulder surgery

x-ref Research

■ Analgesia in the peri-operative period is tricky following shoulder surgery. Although very uncomfortable, regional blockade offers superb analgesia but has the added difficulty that it involves a small risk of nerve damage but also usually results in a motor blockade. Other strategies to improve post-operative pain management include the use of peri-operative dexamethasone which has been demonstrated to have analgesic properties when given in the peri-operative period. Researchers in [Horsens \(Denmark\)](#) set out to establish what the optimal dose and expected analgesic effect of dexamethasone was during outpatient shoulder surgery.⁴ They designed a randomised double-blinded placebo controlled trial to investigate the optimal analgesic effects of two different doses of dexamethasone: high dose (40 mg) and low dose (8

mg). Patients who were undergoing outpatient subacromial decompression or acromioclavicular joint resection were included in the study. The primary outcome measure was pain perception at eight hours following surgery as measured on a numeric rating scale (0 to 10). The research team were able to enrol 101 patients into the study, although complete results were only available for 73 patients. Sadly, the results of this study do not support an improved analgesic effect with a higher dose of dexamethasone. Although the numeric values would suggest a dose-response relationship between the dexamethasone dose and analgesic effect seen during the first three days following surgery, there were no significant differences between the two doses of dexamethasone at any measured time point. There were also no significant differences between any secondary outcome measure including analgesic consumption or side effects observed. One has to wonder, when a study such as this provides data that support a dose-response relationship with an increasing dose of dexamethasone but no significantly improved analgesic effect, whether or not the study really does hit power? Is there a type II error seen here?

Arthroscopic remplissage for engaging Hill-Sachs lesions

■ Shoulder dislocation in the young population can be difficult to treat, particularly when the long-term sequelae of a dislocation can be continuing disability and pain. This can be especially difficult when patients exhibit loss of bone on either side of the joint, so a simple Bankart repair will not suffice. Probably the most popular salvage procedure for these patients is the Latarjet procedure, which involves transfer of the tip of the coracoid to the anterior glenoid then acts like a dynamic sling to stabilise the shoulder with both a physical bone block and conjoint tendon transfer. An alternative that has been less popular in recent years is that of arthroscopic remplissage.

The technique is simple and easy to achieve and potentially avoids many of the possible complications associated with the Latarjet procedure. The surgical team in **San Francisco (USA)** examined the results of a series of 270 patients who were treated surgically for anterior shoulder instability.⁵ Around one in five of their patients were treated with the remplissage technique (n = 59 patients, 21.9%). The indications in these patients were a combination of anterior instability and Bigliani grade IIIA bone loss. The remplissage was performed in an identical manner on each occasion with a posterior capsulodesis and concurrent infraspinatus tenodesis filling the Hill-Sachs lesion.

At the same time, an arthroscopic anterior Bankart repair was performed, potentially addressing the mechanical 'engaging' type instability seen with this pattern of bone loss. Like many clinical studies, there was a significant loss to follow-up with 45 patients available for review by the study team at an average of 58 months. Very few patients went on to develop recurrent instability (n = 2, < 5%) and both were due to re-injury with subsequent dislocation. There were no other re-operations or complications in the remainder of the group and outcome scores were good, as measured by the Constant (mean 95 points), Rowe (mean 95 points) and Shoulder Instability Index (mean 110 points). This paper shows good results in a subpopulation of anterior shoulder instability patients with bone loss on both sides of the joint, a difficult condition to treat. The technique, well known to arthroscopic shoulder surgeons for many years, is simple and carries very little risk of complications compared with the alternative Latarjet procedure. It is a shame that there is no comparative subgroup – although this procedure does sound

appealing, without a comparative group of Latarjet or simple Bankart repairs it really is impossible to say whether either procedure is better.

A consistent approach to subacromial impingement

■ Subacromial impingement has been a commonly accepted term since Neer developed the concept some 30 years ago. However, with newer techniques of imaging and a better understanding of the col-



lection of underlying pathologies that present in the same way, many conditions are now covered by the umbrella term of subacromial pain syndrome. Due to the broad range of different pathologies and treatment options available, patients are treated in a diverse manner, even within the same healthcare institution. The Netherlands Orthopaedic Society has set about standardising, or at least setting standards, in the treatment of patients with a diagnosis of subacromial impingement syndrome. The guidelines were drawn up by a working party from the Dutch Orthopaedic Association and are based on a sensible interpretation of the available scientific evidence.⁶ The working party summarised a number of key points which nicely encapsulate the state of the art in treatment of subacromial pain in just a few lines. The guidelines suggest that:

1. Diagnosis can only be made using a number of clinical tests
2. Preferred treatment is non-operative
3. Pain management strategies should include oral analgesics
4. Persistent symptoms can be

treated with injection

5. Imaging and occupational therapy is indicated beyond six weeks of symptoms
6. Physiotherapy should not include immobilisation and should be specific low intensity high frequency exercises
7. Calcific tendonitis should be treated as appropriate
8. There is no indication for surgical treatment of asymptomatic cuff tears or convincing evidence that surgical treatment is superior to conservative treatment

We congratulate the Dutch orthopaedic association on their superbly concise and clear guidelines dealing with what is an impossibly complex topic with a constellation of conflicting papers and opinions.

Delay in fixation of proximal humeral fractures detrimental to outcomes

x-ref Trauma

■ There has been much focus on timing of surgery in proximal femoral fractures, with growing evidence that the timing is important in maximising outcomes. In the fragile group of hip fracture patients, early operation in combination with a range of other aspects of multidisciplinary care, such as medical reviews and bone health, have improved outcomes in hip fracture no end, however, there is no evidence for this in humeral fractures. Researchers in **Boston (USA)**, reasoning that proximal humeral fractures are probably not that different to hip fractures, set out to ascertain if there was a relationship between surgical delay and adverse events (including prolonged hospitalisation and mortality) in fragility fractures of the proximal humerus.⁷ They designed a study using the almost ubiquitous national inpatient sample and identified over 70 000 patients in a three-year period who were admitted with a proximal humeral fracture. The majority of this cohort (87%) underwent surgery within two days of admission and the remainder (13%) underwent surgery a further three days later. Interestingly, there was

no association between inpatient death and delay to surgery, but there was, however, a difference between complication rates and delay to theatre. The investigators identified an independent association between inpatient adverse events (OR 2.1), prolonged post-operative stay (OR 1.7), non-routine discharge (OR 2.7) and delay to initial surgery. While this paper has a relatively strong message on the surface, the difficulty with these kinds of studies is the likelihood of confounders. It is probable that patients with significant comorbid-

ties or correctable medical problems (e.g. chest infections) would have delayed time to surgery whilst being medically optimised pre-operatively. This group will inevitably suffer delays to surgery, and they will also inevitably have higher rates of post-operative complications. For us here at 360, this is the most confusing type of registry paper as, without proving causation, papers like this one do not allow any conclusions to be drawn despite the large headline cohort numbers.

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