

# ROUNDUP<sup>360</sup>

## Wrist & Hand

### Simple debridement and ulnar-sided wrist pain?

■ Recalcitrant pain can be difficult to manage in the wrist and hand with large levels of functional overlay. Recent years have brought our understanding on in leaps and bounds concerning the pathophysiology and treatment of ulnar-sided wrist pain, particularly when it appears to originate from the triangular fibrocartilage complex (TFCC). Researchers in **Nagoya (Japan)** share some of their experience in a recent publication, and ask the question: is isolated arthroscopic debridement of use? They undertook a complex retrospective study based on patients managed using a complex local treatment algorithm for ulnar-sided wrist pain in their institution. Patient selection was based completely on the hospital's local treatment algorithm. Of the 66 patients presenting with ulnar wrist pain, 24 underwent ulnar shortening osteotomy, 15 arthroscopic TFCC repair, 14 arthroscopic TFCC debridement and 13 conservative treatment. Patients were followed up to 36 months and outcomes were assessed using the Hand20 score. The research team noted significant differences in Hand20 scores between the debridement group and the other two intervention groups, while the debridement and conservative groups performed similarly.<sup>1</sup> They show that simple debridement of the central portion of the triangular fibrocartilagenous plate/synovitis did not have a 'favourable impact'

on the clinical course of recalcitrant ulnar-sided wrist pain. The authors compare their findings with the papers which led to the change in arthroscopic knee debridement practice; hard to do based on 14 patients, but the point is certainly worth considering. It really is impossible to make any valued judgements on the relative merits of each treatment as the groups were separated. All patients with abutment or TFCC detachment were treated with osteotomy and repair, respectively. It is, however, nice to see the start of an evidence-based evaluation of what has become a favourite cure for all – the wrist arthroscopy.

### Needle fasciotomy or collagenase injection?

■ The case for or against collagenase injections for Dupuytren's contracture rumbles on. There is little doubt that both percutaneous fasciotomy and collagenase injections are effective in the correct patients. However, there is one potential difference: price. Even with recent reductions in cost, collagenase is still a very expensive intervention when compared with needle fasciotomy. Needle fasciotomy also offers the potential benefit that multiple sites can be treated in one go. There are many large-patient series expounding the virtues of each treatment, but very few comparative series. Researchers in **Tampa (USA)** offer a comparison between percutaneous needle fasciotomy and collagenase injections. The authors undertook a retrospective comparative review

(Level III evidence) of patients with Dupuytren's contracture. However, patients were unmatched and this review simply represents an evaluation of practice. All patients treated with needle fasciotomy or collagenase injection were included in the review. Their research is based on the clinical results of 59 patients (29 collagenase and 30 needle fasciotomy) with outcomes assessed at six months following intervention. The groups were reasonably comparable with regards to contractures at the metacarpophalangeal joints (40° collagenase *versus* 37° needle fasciotomy) but the collagenase group presented with more severe interphalangeal contracture (50° *versus* 41°). Clinical success rates were similar between the two groups, with rates of 67% in the fasciotomy and 56% in the collagenase group. The patients reported similar success rates and complication profiles.<sup>2</sup> Crucially, this study demonstrates no significant differences between two similar groups at six months in the amount of correction achieved. Although the methodology used here is undoubtedly poor, it serves as a starting point and reminds us all that a large comparative study really is needed to sort out the cost benefit from collagenase injections.

### Joint replacement in osteoarthritic knuckles

■ Non-rheumatoid metacarpophalangeal joint osteoarthritis is much rarer than rheumatoid cases, which are well studied with all types of metacarpal joint replacements.

Osteoarthritic metacarpophalangeal joints present a greatly different clinical picture. There is less difficulty with soft-tissue balance, but patients have potentially better global upper limb function and are likely to function reasonably well. Researchers from **Pittsburgh (USA)** set out to evaluate the outcomes of 38 joint replacements performed in 30 patients for non-inflammatory arthritis. They performed a single follow-up at a mean of 56 months for this retrospective series and undertook a range of outcome assessments including clinical assessment (range of motion, grip and pinch strength), and outcome measures (Disabilities of the Arm, Shoulder, and Hand (DASH), VAS pain and satisfaction scores). Patients demonstrated a marked improvement in all of their outcome scores and range of motion when compared with the pre-operative baseline. During the period of the study there was a revision rate of just over 10%, and nearly 90% of patients said they would have the surgery again.<sup>3</sup> Revisions in these prostheses are common and usually for silicone arthroplasty fractures, but in the face of very high patient satisfaction rates the silicone arthroplasty seems to form a reasonable baseline before trying any more expensive replacements or unusual surgical techniques in this group of patients.

### The Mannerfelt arthrodesis revisited

■ The Mannerfelt arthrodesis is a modification of the first (Clayton) arthrodesis which relied on a Steinmann pin to induce fusion. In

Mannerfelt's modification, a rush rod is used to maintain position and the fixation is supplemented by some dorsal staples. While plate-assisted fusion has gained more popularity in recent years, there are some advantages of the Mannerfelt technique which offers more flexibility than arthrodesis plates and may potentially have lower tendon attrition and hardware-related complications. Surgeons in **Berlin (Germany)** have revisited this tried and tested technique with their report on 34 wrists. Outcomes were assessed retrospectively and reported with both radiological and functional scores (assessed using Disabilities of the Arm, Shoulder and Hand (DASH) and pain scores). These surgeons were able to achieve over 90% satisfaction rates and mean post-operative DASH scores of 63.3. Interestingly, this series unusually consisted of wrists fixed in both flexion ( $n = 17$ ) and extension ( $n = 17$ , mean  $8^\circ$ ). The surgeons were unable to identify any differences between objective or subjective measures of wrist function or satisfaction with the arthrodesis position.<sup>4</sup> The Mannerfelt arthrodesis remains an option for patients undergoing fusion for rheumatoid arthritis, and may still have a role, particularly in patients with poor bone stock where a wrist fusion plate may not be appropriate.

#### Scaphoid union rates with conservative treatment

■ Management of the acute minimally displaced scaphoid fracture remains controversial. While we eagerly await the results of the UK-wide SWIFT study, it does no harm to turn our attention to what has gone before. Researchers in **Leicester**

(**UK**), the originating centre for the SWIFT study, have turned their beady eyes to the results of conservative treatment for the scaphoid, aiming to assess the current reported union rates. The review team conducted a thorough literature search and were able to include the results of 1147 acute scaphoid fractures in their meta-analysis. Of these 1147, only 67 (5.8%) were proximal pole. Proximal pole fractures have poor union rates,



with 34% progressing to nonunion which is 7.5 times the relative risk of scaphoid waist or body fractures, which face a little over 4.5% incidence of nonunion in the indexed literature.<sup>5</sup> The current evidence would suggest that more aggressive treatment of proximal pole fractures is justified. However, there are no randomised controlled trials to inform treatment decisions despite this being a relatively common diagnosis. The results of this study would suggest that only 76 cases would be required to undertake a properly conducted randomised controlled trial. We have no doubt that those tenacious chaps in Leicester are

preparing to undertake just such a study.

#### Research: Atorvastatin is beneficial for muscle re-innervation after sciatic nerve transection X

■ Neurological regeneration and re-innervation is not always guaranteed, even in the case of traction injury, let alone neurotmetic lesion. There is some evidence to suggest that Atorvastatin is neuroprotective after transient ischaemic insult, but there is no evidence of the role (if any) of atorvastatin in peripheral neurotmetic lesions following surgical re-innervation. Researchers in **Québec (Canada)** tested the potential efficacy of atorvastatin in 16 female Sprague-Dawley rats. A surgical model of sciatic nerve transection and re-innervation was completed with sutures and fibrin glue following sciatic nerve section and end-to-end microanastomosis. Rats were randomised to surgical repair plus saline, surgical repair plus atorvastatin and uninjured nerve. At five months following repair, the sciatic nerve and the gastrocnemius muscle were isolated and *in vivo* electrophysiological measurements performed.<sup>6</sup> The rats in the atorvastatin group demonstrated better kinematics with a markedly larger excursion of the hip-ankle-toe angle during walking and preservation of electromyographic activity (2.91 mV *versus* 0.77 mV) and maximal muscle force (85.1 g *versus* 28.6 g). Systemic administration of atorvastatin (in rats at least) over a 14-day peri-operative period apparently resulted in much improved function following peripheral nerve repair, and was associated with improving locomotion and the

re-establishment of muscle strength and EMG activity. Certainly to our minds here at 360, a candidate for surgical repair.

#### Complications of trapeziectomy

■ Finally, we would draw readers' attention to a short review of all those things that can go wrong in this commonly performed operation for basal thumb osteoarthritis. An excellent read and a salient reminder that whatever can go wrong sometimes does go wrong!<sup>7</sup>

#### REFERENCES

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