Letters about Published Paper

Letters of comment about recently published papers should be sent by email to: editor@journalofhandsurgery.com.

Re: Imao K, Tsubokawa N, Maki Y. Trans-scaphoid-perilunate dislocation with an ulnar nerve injury. J Hand Surg Eur. Epub ahead of print 12 May 2015. DOI: 10.1177/1753193415583951.

Dear Sir,

We read this short report letter with great interest and congratulate the authors on their management of the case. However, we would like to make some additional comments that we believe will contribute to this study.

Palmar lunate dislocation may cause median nerve paresis (Panting et al., 1984), but ulnar nerve paresis has been infrequently described in carpal dislocations (Al-Ahaideb A, 2007; Bollen, 1988; Sagini et al., 2011; Shariff et al., 2009; Yamada et al., 1995).

The authors of the case report state that they found no previous case reports of ulnar nerve palsy with lunate or perilunate dislocations in the English-language literature review. However, we would like to draw the attention of readers to the fact that there are case reports in literature that have described ulnar nerve palsy with lunate or perilunate dislocations.

The first case report, by Bollen in 1988, presented a 58-year-old man who had slipped off a kerb, falling onto his outstretched right hand. A peri-triquetral-lunate dislocation with associated ulnar nerve palsy was reported. The patient was treated conservatively (closed reduction and plaster fixation) with virtually full restoration of wrist function at follow-up 3 months after the injury, at which point he had also resumed his job. The author suggested that exploration or decompression is unwarranted for prompt recovery following reduction (Bollen, 1988).

In 1995, Yamada et al. reported a case of trans-radial styloid, volar lunate dislocation with an ulnar styloid fracture in a 39-year-old male, which resulted in transient ulnar nerve palsy because of direct compression of the ulnar nerve by the palmarly dislocated lunate at the proximal end of Guyon's canal. The patient was treated with open reduction with a volar approach after failed closed reduction. After gently retracting the ulnar nerve and artery, the lunate was reduced by compression from the volar side with manual distraction of the wrist joint through the carpal tunnel. Both Tinel's sign and finger clawing had disappeared 4 months later. At 1 year after the injury, the patient had no complaints of pain and was able to return to work as a truck driver (Yamada et al., 1995).

Al-Ahaideb (2007) reported a rare case of an acute open dorsal compound perilunate dislocation in a 42-year-old male associated with ulnar artery injury and complete ulnar nerve palsy in 2007. It was treated with open reduction and internal fixation through dorsal and volar approaches after thorough debridement. This case was complicated by forearm compartment syndrome which was treated by fasciotomy. The outcome was favourable with full return of the ulnar nerve function and a pain-free wrist.

In 2009, Shariff et al. presented a case of ulnar nerve paresis secondary to lunate dislocation resulting from a wrist hyperextension injury in a 36-year-old-male. The patient underwent urgent operative exploration in which the volarly dislocated lunate was found to have impinged upon the ulnar nerve and artery just proximal to Guyon's canal. Early open reduction and screw fixation with decompression of the carpal tunnel and Guyon's canal led to a rapid resolution of symptoms (Shariff, 2009).

Sagini et al. reported a rare case of trans-radial styloid radial perilunate dislocation in a patient who presented with ulnar nerve symptoms in 2011. The patient was treated with open reduction and internal fixation, which necessitated volar and dorsal approaches, as well as repair of the distal radial articular surface. The patient experienced complete neurological recovery and an acceptable clinical short-term outcome, but at 1 year postoperatively the radiographic outcome was poor (Sagini et al., 2011).

It is interesting that in these studies with reported ulnar nerve symptoms, nerve recovery was achieved with reduction of the dislocation or decompression of Guyon's canal. No further surgical nerve intervention was performed after reduction. Again, we congratulate the authors on their study, which has focused attention on this difficult clinical entity.

References

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The authors of the published short report letter chose not to reply.

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Dear Sir,

Re: Thomas PR, Saunders RJ, Means KR. Comparison of digital nerve sensory recovery after repair using loupe or operating microscope magnification. J Hand Surg Eur. 2015, 40: 608–13.

We read this article with interest. We congratulate the authors for tackling this common treatment dilemma, but believe that there are methodological concerns, such that the conclusion, that loupe and microscope repairs of digital nerves are comparable, is unsound.

In the retrospective observational study, the authors acknowledge that there may be systematic differences between the groups, but that these could not predictably affect the results. However, inadequate detail is provided to confirm this. Their unit's rationale for electing to repair with a microscope is not fully explained, though they imply that microscope repairs were often delayed by 1 week. There is growing evidence that delaying peripheral nerve repair adversely affects outcome, which cannot be effectively summarized in this correspondence article format. Indeed, 1 week delay to repair is beyond the standards set by the British Society for Surgery of the Hand (British Society for Surgery of the Hand Working Party, 2007). In the study, microscope repairs were either delayed, or were more complex cases.

Although trained hand surgeons conducted all repairs, the relevant level of experience of surgeons was not specified. Only 22 patients between 2005 and 2010 (just over four per year) were eligible for the study, this suggests that the volume of experience at the study centre was low. Was there any difference in nerve repair experience between those who performed the loupe repairs and those performing microscope repairs? Were there other differences between the cases in each group? For example, the authors state that crush injuries were excluded from this series. How was this defined, and were the cases comparable between the groups? In a non-randomized study, it seems unlikely that some received loupe repair as an emergency, yet others required delayed repair with a microscope by chance alone.

Related to the point about case volume, is the issue of sample size. The authors provide a power calculation that supports a sample size of 12 per group. However, to meet this, a third of the microscope magnification group had more than one digit analysed. Multiple sampling per patient in hand surgery research has been criticized in this journal previously (Sauerland et al., 2003). Although we accept the authors' comment regarding the challenge of retrospectively recruiting discharged trauma patients, this would typically be expected to result in a low conversion of eligible invited candidates. In contrast, the authors only contacted 22 patients, and achieved 95% recruitment out of those. The low sample size cannot be attributed to the challenge of recruiting trauma patients, but instead must reflect either the eligibility criteria or the case volume at the study centre. The use of multiple samples from the same patient may have affected the findings of this study, as patients might demonstrate a learning curve when undergoing sensory assessment. The small sample size may also have masked other important differences between the groups. For example, the authors comment upon the need for concurrent tendon repairs. Although not analysed statistically in the article, the proportions of concurrent tendon repairs appear different between groups, with apparently more in the microscope group requiring concurrent tendon repairs. This may indicate a higher severity of injury in the microscope group. If Fisher's Exact test is performed on these proportions, it is in fact not