CASE REPORT

Simultaneous dislocation of both interphalangeal joints in the middle finger

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SUMMARY

Simultaneous dorsal dislocation of both interphalangeal joints (IPJs) in one finger is an uncommon injury. This injury usually occurs on the ulnar side of the hand involving ring and little fingers. We report a case of simultaneous dislocation of both IPJs in the middle finger. Closed reduction and splinting with the IPJs in extension provided a good result with full range of motion at the patient's final follow-up.

BACKGROUND

Dislocations are common at the distal and proximal interphalangeal joints (IPJs) of the fingers. Simultaneous dorsal dislocation of both IPJs in one finger is an uncommon injury, with the middle finger affected being extremely rare, as this injury usually occurs on the ulnar side of the hand involving ring and little fingers. This case shows that by following the basic principles of medical practice, good results can be obtained in a challenging rare case such as this.

CASE PRESENTATION

We report a case of simultaneous dislocation of both IPJs in the middle finger with an associated volar avulsion fragment from the base of the middle phalanx. A 56-year-old woman, a right hand-dominant office worker, slipped in her garden catching her outstretched finger on a table. She was an otherwise fit and well non-smoker living with her husband, and independent in all activities. On examination, there was a diffusely swollen finger, with no associated lacerations or neurovascular injury, yet due to pain she was unable to move the digit.

INVESTIGATIONS

Radiographs ([figure 1](#)) showed simultaneous dorsal dislocation of the IPJs and the post-reduction radiographs showed good overall alignment ([figure 2](#)).

TREATMENT

Digital ring block was carried out, with 8 mL 1% lidocaine, in the emergency room. Simple inline traction was applied and the joints were reduced. The finger was then taken through a full, passive range of movement, which showed the finger to be stable in flexion and extension without lateral instability. The finger was placed in extension with a splint up to the base of the proximal phalanx, leaving the metacarpophalangeal joint free, for 2 weeks. Thereafter, range of motion exercises were started under supervision of the hand therapists.

Figure 1 Radiographs before reduction. (A) Anteroposterior and (B) lateral views.

OUTCOME AND FOLLOW-UP

At 6 months of follow-up, the patient had a painless finger with 95° of flexion at the proximal IPJ and

Figure 2 Radiographs after reduction. (A) Anteroposterior and (B) lateral views.

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Figure 3 Clinical photos of affected digit at 6-month follow-up.

50° of flexion at the distal IPJ, with only minimal residual swelling, and joint stability (figure 3).

DISCUSSION

Dislocations of both IPJs have been reported in only a small number of cases with varied causes and management algorithms.^{1–7} The underlying mechanism has been previously described as a dorsally directed force, producing rupture of the volar capsule and acute hyperextension with resultant dorsal dislocation of the distal IPJ. The force is then directed on the exposed head of the middle phalanx causing similar dislocation of the proximal joint.^{2 6 7} The indications for surgery in such patients are broadly accepted as open, articular fracture leading to subluxation or instability and irreducible dislocations such as those caused by volar plate entrapment in the joint or button-holing of condyles through extensor aponeurosis. Conservative

management algorithms vary. With differing position for splinting, ranging from intrinsic plus to ulnar gutter splints and the period of immobilisation from none to 4 weeks. This case was immobilised with the IPJs in extension for 2 weeks with excellent results. Our case demonstrates that this rare injury can be managed with simple principles of reduction followed by early mobilisation.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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Learning points

- Unusual cases do not have to be complicated.
- Basic principles, if followed and applied correctly, will always help you form a good initial treatment strategy.
- Early reduction of dislocated joints is imperative.
- Early appropriate movement is likely to improve outcomes.

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