Rare disease

Double dislocation of finger interphalangeal joints

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Summary

A 62-year-old, right-hand-dominant man who had dementia and lived in an Elderly Mentally Infirm (EMI) nursing home was admitted through Accident & Emergency (A&E) department following unwitnessed injury to the left little finger.

His examination revealed a swollen and deformed left little finger with a laceration along the middle crease on the volar aspect and head of proximal phalanx visible through this. Distally sensations and capillary refill was normal. X-rays showed a double dislocation of both proximal and distal interphalangeal joints. The finger was reduced under ring block and the laceration was washed with saline in A&E. The patient was taken to the operation theatre next morning for wound exploration and wash-out±stabilisation of the finger under general anaesthesia.

The wound was thoroughly washed out and closed with 4/0 interrupted nylon. The finger was immobilised with neighbour strapping and bandaged in flexion.

BACKGROUND

- ▶ Double dislocation of interphalangeal joints is a rare injury.
- ▶ It needs urgent attention and appropriate treatment for better functional outcome.
- ▶ Both dislocations should be assessed individually for the stability.
- ▶ Any over treatment by unnecessary K wire fixation can cause further joint damage.
- ▶ The resulting stiffness of finger can decrease hand grip strength.

CASE PRESENTATION

A 62-year-old, right-hand-dominant man was brought to Accident & Emergency department with a history of unwitnessed injury to his left little finger.

There was a suggestion by the carer that he might have got his finger caught in one of the fire doors and injured it while pulling it out.

He was diagnosed with Lewy body dementia 6 years ago and had significant deterioration over the last 18 months.

The patient was an Elderly Mentally Infirm (EMI) nursing home resident for the last 1 year.

INVESTIGATIONS

X-rays of left little fingers done on arrival showing double dislocation of proximal (PIP) and distal interphalangeal (DIP) joints (figure 1).

Postreduction x-rays showing anatomically reduced proximal and distal interphalangeal joints (figures 2 and 3).

TREATMENT

The patient was scheduled for wound exploration and wash-out±stabilisation of the finger using K wire under

general anaesthesia. Form 4 consent was signed and the patient was taken to theatre on routine trauma list next morning.

The operation findings were as follows:

DIP joint: stable.

PIP joint: anterior capsule and radial collateral ligament was ruptured. The ulnar collateral ligament and flexor tendons were intact.

The wound was thoroughly washed out and closed with 4/0 interrupted nylon. The finger was immobilised with neighbour strapping and bandaged in flexion.

A decision was taken not to transfix the joint with a K wire, as this may cause further joint damage and the finger was felt to be relatively stable.

Figure 1 X-ray of Left hand AP and Lateral views showing dislocation of Proximal and Distal Inter-phalangeal joints of little finger.

Figure 2 Post reduction x-ray, AP view Little Finger.

Figure 3 Post reduction x-ray, Lateral view Little Finger.

OUTCOME AND FOLLOW-UP

Upon follow-up wound was well healed and the patient regained a good range of movements in that finger without any instability or functional deficit.

DISCUSSION

Double dislocations of the interphalangeal joints of the finger have been reported for a long time. The first case was published by Bartels in 1874.¹ The mechanism of injury is a hyperextension force on both joints, first occurring at the volar surface of the terminal phalanx first dislocating the distal interphalangeal joint and then the proximal interphalangeal joint in quick succession, so it is not a 'simultaneous' dislocation.^{2 3} Good result was reported by most authors^{2 4} except for Krebs and Gron⁵ whose patient ultimately required arthrodesis of the PIP joint for severe pain.

Our patient on follow-up showed well-healed wound with good flexion and extension of both interphalangeal joints. There was no instability of the interphalangeal joints.

Learning points

- ▶ The reduction is stable despite double dislocation and ruptured ligament and capsule on one side of the proximal interphalangeal joint.
- ▶ Dislocations of finger joints need urgent reduction and are more stable in slight flexion, but for a short time to avoid stiffness.
- ▶ The finger does not necessarily need a K wire for stabilisation.
- ▶ It is possible to dislocate two adjacent joints, and every joint on an x-ray should be assessed, and ideally true lateral x-rays should be obtained.
- ▶ Proximal interphalangeal joint injuries frequently involve one collateral ligament. This can be protected by using neighbour strapping to support the finger on the side of the ligament damage. This also allows for early movement, which reduces future stiffness.

Competing interests None.

Patient consent Obtained.

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