



ENDGAMES

SPOT DIAGNOSIS

A painful swollen hand

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A 25 year old man presented with a painful, swollen right hand after a night socialising with friends. He had consumed enough alcohol for him to be unable to recall the mechanism of injury. He had no medical history.

On examination there was swelling extending from the wrist to the metacarpophalangeal joints, which was greater on the ulnar side of his hand and palpation was tender in this region.

He was able to make a fist and extend his fingers and wrist. No rotational deformity or neurovascular deficit was seen.

No fractures were visible on anteroposterior and lateral radiographs of his hand. An oblique view (fig 1) was requested because he had tenderness around the base of his fifth metacarpal and carpometacarpal joint.



Oblique radiograph of the right hand

Answer

The oblique radiograph shows a body of hamate fracture (fig 2, arrow).



Oblique radiograph of right hand with red arrow pointing at hamate fracture

Two per cent of carpal bone fractures are reported to be hamate fractures.¹

Fractures of the hook of hamate are more common than body of hamate fractures.² The hook of hamate is a bony projection and is at risk of fracture with direct compression.^{1,3}

Body of hamate fractures are typically sustained following crush injuries or axial loading (eg, punching) but this patient could not recall the mechanism.^{1,4}

What is the diagnosis?

If radiographs show a body of hamate fracture, arrange a computed tomography scan to assess for displacement or articular surface incongruity at the ring and little finger carpometacarpal joints because subluxation or dislocation of these joints can cause instability and reduced grip strength if untreated.¹

Cast immobilisation is the usual management if there is no evidence of metacarpal subluxation or dislocation, with good results reported.^{2,3}

If there is evidence of metacarpal subluxation or dislocation on computed tomography, consider surgical treatment with open reduction and internal fixation.³

Patient outcome

A computed tomography showed no associated subluxation or dislocation of either the ring or little finger metacarpals, therefore the patient was treated conservatively in a hand cast with a satisfactory result.

Learning points

- Punching injuries can cause body of hamate fractures.
- Request oblique, anteroposterior, and lateral radiographs of the hand if there is tenderness at the ring or little finger

carpometacarpal joint because a hamate fracture may only be visible on one of these radiographic views.

- Subluxation or dislocation of the ring and little finger carpometacarpal joints may require surgical treatment with open reduction and internal fixation to reduce long term instability and weakness.

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Patient consent obtained.

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