

Scaphoid Fracture with Ipsilateral Fracture Dislocation of the Metacarpals: A Rare Fracture Pattern

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ABSTRACT

Scaphoid fracture with ipsilateral metacarpal fracture dislocation is very rare. A unique case of this injury is reported. It is important to be aware of this fracture pattern so that appropriate evaluation and treatment can be instituted. Thorough clinical and radiographic examination at the initial presentation of the patient is the key to identify uncommon combination of injuries.

Key words: *Ipsilateral. Scaphoid. Metacarpals. Fracture. Dislocation.*

INTRODUCTION

Fracture of the scaphoid are common, but rarely is one found in combination with a concomitant fracture and dislocation of the upper limb.¹ Fractures of the scaphoid may not be apparent just after the injury. Inappropriate treatment may be instituted and scaphoid management delayed, especially in combination with other injuries of the ipsilateral upper limb. We report a unique case of simultaneous fractures of the ipsilateral scaphoid and metacarpals with dislocation of index, middle and ring fingers metacarpals, which was treated by closed reduction and cast immobilization with satisfactory result.

CASE REPORT

A 32-year-old man, after punching the wall, injured his right hand. On examination, he had a painful and swollen hand. There was no neurovascular deficit. Radiographs of the hand and wrist revealed fracture dislocation of index, middle and ring (2nd to fourth) metacarpals with proximal fracture of the scaphoid (Figure 1).

Under regional anaesthesia in the emergency department, the fracture dislocation of metacarpals was reduced and check images obtained in a backslab, which were satisfactory. Patient was discharged after overnight stay in the hospital with change of backslab to long-thumb spica cast. Later, at two weeks' follow-up, a

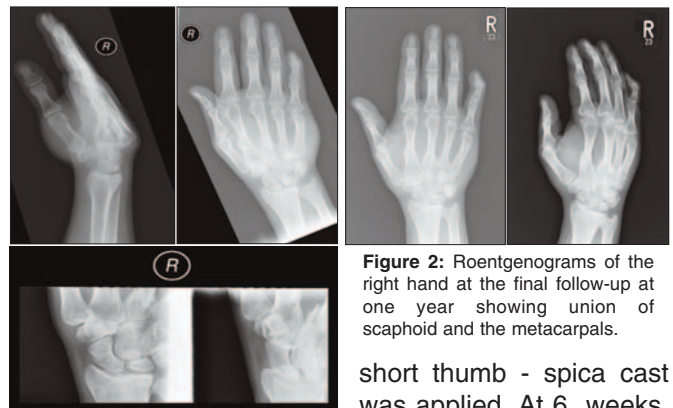


Figure 1: Roentgenograms of the right hand at the time of injury showing scaphoid fracture with fracture-dislocation of second, third and fourth metacarpals.

Figure 2: Roentgenograms of the right hand at the final follow-up at one year showing union of scaphoid and the metacarpals.

short thumb - spica cast was applied. At 6 weeks, the hand was mobilised with the help from the physiotherapist. At the final follow-up at one year, the patient was clinically asymptomatic with full range of movements and radiological union of scaphoid and metacarpals with mild residual deformity (Figure 2).

DISCUSSION

While fractures of the scaphoid are a relative common injury, their combination with metacarpals' fracture-dislocation remains uncommon. Simultaneous multiple carpometacarpal fracture-dislocations and fracture-dislocation of carpal bones are rare.²⁻⁴ Seventeen percent of patients have other fractures of the carpus and forearm associated with scaphoid fracture, including fractures at the distal end of the radius, transscaphoid perilunar dislocations, fractures of the radial head, fracture of the trapezium, Bennett fractures, and dislocations of the lunate.⁵⁻⁹ Petersen *et al.* reported simultaneous occurrence of fracture dislocation of ulna, carpometacarpal joints and dorso-radial dislocation of the trapezium.¹⁰

Fracture-dislocation of the base of metacarpals is often difficult to identify secondary to the swelling. A true

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lateral roentgenogram is needed for accurate diagnosis because swelling can obscure the deformity.² Treatment of carpometacarpal fracture-dislocation seen early is by closed reduction but Kirschner wire fixation is usually needed to prevent re-dislocation. Open reduction is required after failed closed reduction or if injury is seen late. When seen late, they may require resection of the metacarpals or fusion of carpometacarpal joint.

The scaphoid fracture may not be identified acutely, if the fracture is impacted and non-displaced, thus, one should have high index of suspicion of a scaphoid fracture and close follow-up is indicated. Failure to diagnose may result in delayed or non-union with avascular necrosis and deformity at later stage, however, treatment of the fractured scaphoid requires prolonged immobilization.

The early presentation and diagnosis of the scaphoid fracture with ipsilateral fracture-dislocation of the metacarpals in this patient did well with closed reduction, cast immobilization and close observation during follow-up. It is important to be aware of this fracture pattern so that appropriate assessment and management can be instituted. The authors recommend that patients with injuries to the upper limb should be assessed for concomitant injuries as the forces from impact at the distal end can travel to the shoulder and vice versa.

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