Ulnar-shaft fracture needs no treatment

A pilot study of 10 cases

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Ten adults with 10 isolated ulnar-shaft fractures were treated by early exercises. The patients were followed until radiographic consolidation. The average healing time was 6 weeks. There was no delay in union, and loss of forearm rotation was negligible.

Isolated ulnar-shaft fracture is often caused by direct, albeit low-energy, trauma from using the forearm as a shield; neurovascular lesions are rare. Recommended treatment includes immobilization in a cast or plate fixation (Anderson 1975, Sarmiento 1976, Dymond 1984). Pollock et al. (1983) reported an average healing time of 7 weeks without immobilization. However, 17 of their 72 cases could not be traced.

We report a prospective pilot study of isolated ulnar-shaft fracture immobilized for maximally 1 week in a forearm splint.

Patients and methods

Ten isolated, closed, ulnar-shaft fractures in 10 adults (6 men and 4 women) were treated with either a forearm splint for 1 week or only a sling. Exercising was encouraged within the limits of comfort. One fracture was located in the middle third of the diaphysis and 9 in the distal third; none was displaced by more than one quarter of the diameter of the ulnar shaft. The patients were examined after 1 week and then every 2 weeks. The fractures were considered to be united when forearm rotation could be performed without pain, and radiographic examination demonstrated bridging of the fracture by external callus. Rotation was measured by comparison with the unaffected side.

Results

There was no delay in union; the healing time was 6 (5–7) weeks. By 1 week, all but 1 patient had full active flexion and extension of the elbow. By 3 weeks, all but 2 patients had normal wrist function, and 2 patients with an undisplaced fracture had full forearm rotation without pain. By 5 weeks, all the patients had full elbow and wrist function, and 5 patients had full forearm rotation without pain. By 7 weeks, all the fractures were healed. Only 1 patient had a 5° loss of forearm rotation without pain.

Discussion

Brakenbury (1981) stated that the solitary fracture of the ulnar shaft has a reputation for nonunion. Posman (1986) recommended, in a case report, immobilization of isolated ulnar-shaft fractures because of the risk of synostosis during early functional treatment. However, immobilizing is associated with considerable loss of forearm rotation and a healing time of at least 9 weeks (Altner 1972, Anderson 1975, Brakenbury 1981, Sarmiento 1976, Smith 1957).

Our study confirms the conclusion that functional treatment can be recommended for isolated ulnar-shaft fractures with slight displacement.

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