GAVIN PUBLISHERS

Journal of Orthopedic Research and Therapy

Case Report

Al-Sadek T, et al. . J Orthop Ther: JORT-149.
DOI: 10.29011/JORT-149.000049

A Rare Case of Trapezoid Fracture

Tabet Al-Sadek[1*], A Al-Sadek[2], G Dimitrov[3], K Marinov[4]

[1]Department of Orthopedics and Traumatology, Belhoul European Hospital, Dubai, UAE

[2]Medical University of Sofia, Bulgaria

[3]Department of Orthopedics and Traumatology, Medical University of Pleven, Bulgaria

[4]Department of Special Surgery / Thoracic Surgery, Vascular Surgery, Pediatric Surgery and Orthopedics and Traumatology University Hospital, Stara Zagora, Bulgaria

[*]**Corresponding author:** Tabet Al-Sadek, Belhoul European Hospital, Dubai, UAE. Tel: +971551503964; Email: drthabet@abv.bg

Citation: Al-Sadek T, Al-Sadek A, Dimitrov G, Marinov K (2017) A Rare Case of Trapezoid Fracture. J Orthop Ther: JORT-149. DOI: 10.29011/JORT-149.000049

Received Date: 13 August, 2017; **Accepted Date:** 28 August, 2017; **Published Date:** 04 September, 2017

Abstract

Purpose: We present a 37-year-old right-hand dominant male. After a fall with direct right wrist trauma presented with wrist pain, swelling and limited range of motion. Physical examination demonstrated tenderness at the base of the second metacarpal and the "Snuffbox".

Methods: The management comprised operative fixation of trapezoid fracture via dorsal approach, dorsal fragment reduction and fixation with two 2.0 screws. Scaphoid fracture was fixed with a percutaneous palmar headless auto compressive screw. Cast immobilization for 2 weeks.

Results: At 6 months follow up, the patient was pain free, with normal grip and pinch strength, free range of motion and was very satisfied with the outcome.

Conclusion: Unrecognized trapezoid fractures can lead to a compromised function with pain and diminished grip strength. Early diagnosis and surgical treatment with adequate technique are imperative for a good functional outcome.

Keywords: Fractures; Trapezoid

Introduction

Tarpezoid fractures are the rarest among carpal bone fractures, comprising approximately 0.4% of all carpal fractures [1]. The location and shape of the trapezoid, the strong ligamentous attachments to the adjacent carpal bones and the stable and relatively immobile articulation with the second metacarpal convey a protection against fractures. The injury mechanism comprises axial load through second metacarpal or direct blow to base of second metacarpal base fractures. Trapezoid fractures have been rarely reported in the literature [2]. We report a case of trapezoid fracture with associated scaphoid fracture treated surgically with open reduction and fixation with screws and headless auto compressive screw fixatin of the scaphoid, with an excellent functional result.

Case Presentation

A 37-year-old right-hand dominant male. After a fall with direct right wrist trauma presented with wrist pain, swelling and limited range of motion. Physical examination demonstrated tenderness at the base of the second metacarpal and the "Snuffbox". Palin radiography showed a strange image around the trapezoid without other changes. CT scan with 3D reconstruction of the right wrist showed a displaced fracture of the trapezoid with dorsal fragment and a transverse occult nondisplaced waist scaphoid fracture. The management comprised operative fixation of trapezoid fracture via dorsal approach, dorsal fragment reduction and fixation with two 2.0 screws. Scaphoid fracture was fixed with a percutaneous palmar headless auto compressive screw. Cast immobilization for 2 weeks (Figure 1).

Figure 1: Diagnostic radiographs.

Materials and Methods

The management comprised operative fixation of trapezoid fracture via dorsal approach, dorsal fragment reduction and fixation with two 2.0 screws. Scaphoid fracture was fixed with a percutaneous palmar headless auto compressive screw. Cast immobilization for 2 weeks (Figure 2&3).

Figure 2: Intra-operative images.

Figure 3: Intra-operative image (screw fixation).

Results

At 6 months follow up, the patient was pain free, with normal grip and pinch strength, free range of motion and was very satisfied with the outcome (Figure 4).

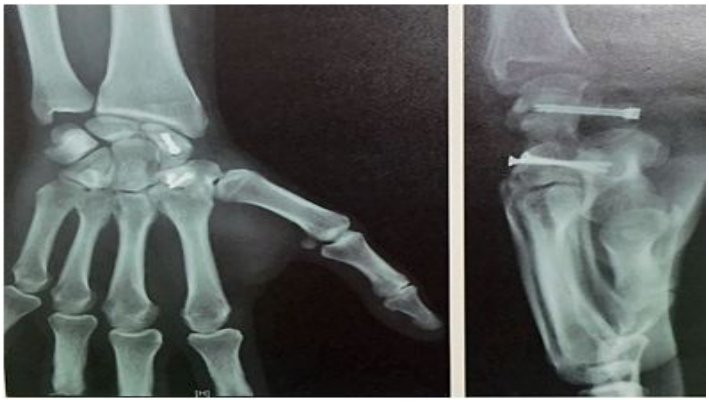

Figure 4: 6 months post-operative radiographs.

Discussion

During our research, we didn't find a case of trapezoid fracture with associated scaphoid fracture in the literature. The initial diagnosis is based on clinical suspicion through the mechanism of injury and the physical exam findings. These fractures are very difficult to diagnose with the X-ray alone due to bone overlap and the small size of bone fragments. CT and MRI are very useful for diagnosis confirmation, fracture characterization and treatment planning. The management of trapezoid fractures rests on isolated case reports and individual surgeon experiences. Treatment of non-displaced or minimally displaced (<2mm) isolated fractures with cast immobilization appears to result in uneventful union and good functional outcomes. Those fractures with displacement or associated with second metacarpal or other carpal fractures have been treated with operative fixation. Closed reduction and percutaneous fixation, open reduction and screw fixation and excision of small displaced bone fragments are described surgical procedures.

Conclusion

Unrecognized trapezoid fractures can lead to a compromised function with pain and diminished grip strength. Early diagnosis and surgical treatment with adequate technique are imperative for a good functional outcome.

References

1. Cohen M (1997) Fractures of the carpal bones. Hand Clin 13: 587-599.
2. Rhoades CE and Reckling FW (1983) Palmar dislocation of the trapezoid. J Hand Surg 8: 85-88.