



International Journal of Orthopaedics Sciences

ISSN: 2395-1958
IJOS 2018; 4(2): 426-428
© 2018 IJOS
www.orthopaper.com
Received: 14-02-2018
Accepted: 18-03-2018

Dr. Soham R Chachcha
Senior Registrar, Dept. of
Orthopedics, Geetanjali Medical
College and Hospital, Udaipur,
Rajasthan, India

Dr. Shreyas P Gandhi
Professor and Head of Unit,
Dept. Of Orthopedics, C. U.
Shah Medical College and
Hospital, Gujarat, India

A rare case of isolated Dorso-Medial fracture dislocation of navicular bone

Dr. Soham R Chachcha and Dr. Shreyas P Gandhi

DOI: <https://doi.org/10.22271/ortho.2018.v4.i2g.65>

Abstract

The tarsal navicular bone is strategically located in the uppermost portion of the medial longitudinal arch of the foot, and hence, plays a major role in weight bearing during ambulation. It acts as the keystone for vertical stress on the arch. Multiple deforming forces act on the navicular during various sporting activities and dancing and in high energy injuries resulting in varied degrees of fracture, subluxation or dislocation involving the tarsus and metatarsus. A 40-year-old male patient with history of Road Traffic accident presented in casualty with chief complain of pain and swelling over his right foot. Patient was examined and a bony swelling was palpated clinically over medial aspect of foot and it had severe tenderness. Patient was sent for X-ray and was diagnosed with isolated navicular fracture dislocation in AP, Oblique and lateral view of foot. Patient was posted for emergency reduction in OT under IITV guidance under anaesthesia. Closed reduction was tried and was successful. The navicular was then fixed with percutaneous K-Wire. Post op a below knee slab was given for 6 weeks and pt. was under strict non-weight bearing. At 6 weeks follow up K wires were removed and pt. was allowed weight bearing. Patient had no complains. Follow up radiographs showed no dislocation of navicular. Isolated navicular bone fracture dislocation can be managed with closed reduction and K- Wire fixation with no other complains in subsequent follow up. Although we have 6 months of follow up, with no any complains, we feel the patient should still be examined till 1 year with regular follow up.

Keywords: Isolated, navicular, dislocation, tarsus fixation, surgery

Introduction

A case of isolated navicular bone fracture dislocation is presented here, the injury in itself is a rare entity. Injuries of the mid-tarsal joints are rare [1]. Main and Jowet² had described the mechanism of injuries involving these joints. Mechanism of injury is believed to be the result of a severe abduction force with the foot in plantar flexion, rather than the previously described medial swivel dislocation, which typically involves the subtalar joint [3, 4].

Case Report

A 40-year-old male patient with history of Road Traffic accident presented in casualty with chief complains of pain and swelling over his right foot. Patient was examined and a bony swelling was palpated clinically over medial aspect of his right foot and it had severe tenderness. There was no distal neurovascular deficit. Movement at toes was painful and partial. Movement at ankle joint was also painful. Patient was sent for X-ray of Rt. Foot AP, Lateral and Oblique view. It was diagnosed that patient had isolated Fracture dislocation of navicular bone. Patient was posted for emergency reduction in OT under IITV guidance under anaesthesia. Closed reduction was tried and was successful. The navicular was then fixed with percutaneous K-Wire. Post operatively a below knee slab was given for 6 weeks and pt. was under strict non-weight bearing. We had opened the slab to check for any pin tract infection at interval of 10 days. We took follow up X-rays at 1 month follow up. Removal of K-Wire was done as an OPD procedure at our hospital/ medical college. Patient had no complain of pain, we made the patient to weight bear after that day. There was no tenderness or swelling. On subsequent monthly follow up we keep assessing the patient, it has been 6 months, there has been no complain from patient. Patient does regular physiotherapy.

Correspondence

Dr. Soham R Chachcha
Senior Registrar, Dept. of
Orthopedics, Geetanjali Medical
College and Hospital, Udaipur,
Rajasthan, India

Discussion

Isolated Fracture dislocation of talonavicular joint is very uncommon and controversy remains regarding the most appropriate management [5]. Long term complications with these injuries are numerous and frequent. Ankylosis and equino-varus deformity can occur with incomplete talonavicular reduction. Cases of isolated mid-tarsal dislocation in medial, lateral, or plantar directions have been reported⁶. These injuries are due to complex multidirectional forces. Usually there is severe abduction force in a planter flexed foot, leading to dislocation of navicular bone. We present this case with isolated dorsomedial dislocation of navicular bone

in a 40-year-old male. Since the patient presented to us immediately, we were able to manage this patient in emergency. Management in such cases includes close reduction or open reduction along with fixation (either internal or external). At times, a mini external fixator is used to reduce as well as maintain the medial column of foot, along with internal fixation. We managed this case with closed reduction to reduce the dislocation intraoperatively and then it was fixed with k-wires and immobilization in a posterior ankle splint. These patients require a careful and supervised physiotherapy of ankle and foot after k-wire removal.



Fig 1



Fig 2



Fig 3



Fig 5



Fig 4



Fig 6

Conclusion

Fracture-dislocations of navicular itself are rare injuries and isolated navicular dislocations are even rarer. Exact mechanisms of such injuries are complex and more studies are required for exact patho-mechanics.

References

1. Rymaszewski LA, Robb JE. Mechanism of fracture-dislocation of the navicular: brief report. *J Bone Joint Surg Br.* 1988; 70:492
2. Main B, Jowett RL. Injuries of the midtarsal joint. *J Bone Joint Surg Br.* 1975; 57:89-97
3. Sangeorzan BJ, Benirschke SK, Mosca V, Mayo KA, Hansen ST. Displaced intra-articular fractures of the tarsal navicular. *J Bone Jt Surg Am.* 1989; 71-A:1504-1510.
4. Rymaszewski LA, Robb JE. Mechanism of fracture-dislocation of the navicular: brief report. *J Bone Jt Surg Br.* 1988; 70:492.
5. Ruthman JC, Meyn NP. Isolated plantar midtarsal dislocation. *The American journal of emergency medicine.* 1988; 6(6):599-601. Epub 1988/11/01.
6. Newton Ede MP, Miller C, Malik MH, Khan SA. An unusual case of talonavicular dislocation with associated ipsilateral foot fractures. *Journal of the Royal Army Medical Corps.* 2006; 152(2):102-3. Epub 2006/12/21.