

A Case Report Of An Isolated Navicular Dorso-Medial Fracture Dislocation

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ABSTRACT

Dislocations around the foot most commonly occurs at the tarsometatarsal (Lisfranc) and at the subtalar joints. An isolated navicular-cuneiform dislocation is an extremely rare injury. Due to the rarity of this injury, a standard treatment has not been established. We encountered a 36 year old man with this unusual dislocation after a motor vehicle accident. We managed this injury with open reduction and fixation with K-wires. Injuries involving the navicular has a high risk of avascular necrosis and secondary arthritis. The importance of prompt reduction to prevent this complications should be emphasised.

KEYWORDS

Navicular dislocation, midtarsal injuries, cuneiform dislocation

INTRODUCTION

Dislocation of the midfoot are uncommon because of the highly constrained configuration of the midfoot bones, which are secured by extensive ligaments. Isolated dislocation of navicular-cuneiform is rare⁽¹⁾. A typical presentation would involve fracture of navicular⁽²⁾ itself or involving other bones of the foot⁽³⁾. The mechanism of injury is believed to be a result of severe abduction force with the foot in plantar flexion⁽⁴⁾.

CASE REPORT

A 36 year old male presented to us after a motor vehicle accident with deformed foot. Upon examination, it showed bony prominence on the dorso-medial aspect of the foot with tenderness around the region (Fig 1). There was no neuromuscular deficit distally. Radiographs showed an isolated navicular-cuneiform dislocation without any other tarsal bone fractures (Fig 2). Patient was taken to the theatre and spinal analgesia was given. An attempt of closed reduction was done but failed. An antero-medial incision was performed and reduction was successful with the usage of 1.8mm K-wires. Confirmation was done under image intensifier (Fig 3). Post-operatively patient was kept in a below knee slab and no weight bearing allowed for 6 weeks. K-wires was removed at 6 weeks and gradual physiotherapy was initiated.



Figure 1, Figure 2 and Figure 3: showing the lateral view of the medial aspect of foot, a lateral radiograph view, and a post operative reduction on a lateral radiograph view of the foot respectively.

DISCUSSION

Isolated navicular-cuneiform dislocation is rare^(1,2). This is due to the very rigid bony and ligamentous structures surrounding the navicular-cuneiform articulation⁽⁵⁾. Dhillon et al stated that a navicular dislocation can not occur without any bony or ligamentous injuries, and it is usually associated with fracture-dislocations of navicular itself or associated with fractures of other tarsal bones^(1,3). Open reduction with an antero-medial incision seems to be a reliable method of management for this injury. This type of midfoot injury is severe and will likely cause debilitating complications like avascular necrosis and post-traumatic arthritis, even with best reconstructive efforts⁽⁴⁾.

CONCLUSION

We conclude that more cases of this nature to be studied in order for us to understand the implications of this type of injury to the midfoot.

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