International Journal of Case Reports in Orthopaedics

E-ISSN: 2707-8353
P-ISSN: 2707-8345
IJCRO 2022; 4(1): 70-72
Received: 28-10-2021
Accepted: 03-12-2021

Dr. Khalid A Alessa
Department of Orthopedic Surgery, Al Khor Hospital, Hamad Medical Corporation, HMC, Qatar

Dr. Ali Almas
Department of Orthopedic Surgery, Al Khor Hospital, Hamad Medical Corporation, HMC, Qatar

Dr. Omar Alhadad
Department of Orthopedic Surgery, Al Khor Hospital, Hamad Medical Corporation, HMC, Qatar

Corresponding Author:
Dr. Khalid A Alessa
Department of Orthopedic Surgery, Al Khor Hospital, Hamad Medical Corporation, HMC, Qatar

Closed total (pan-talar) dislocation: A case report

Dr. Khalid A Alessa, Dr. Ali Almas and Dr. Omar Alhadad

DOI: https://doi.org/10.22271/27078345.2022.v4.i1b.94

Abstract
Pan-talar dislocations without talar fracture are rare with serious complication in future like osteonecrosis, and posttraumatic osteoarthritis. There are few reported cases of closed pan-talar dislocations in literature and still, there is no consensus regarding the appropriate treatment.
Our reported case of closed pan- talar dislocation for 26-year old healthy male treated successfully by open reduction and internal fixation without radiological and clinical sighs of avascular necrosis and excellent Range of motion (ROM) of the ankle on 2-year follow-up.

Keywords: Talus dislocation, pan talar dislocation

Introduction

Case presentation

A 26-year-old healthy male involved in Road Traffic Accident, presented to Accident & Emergency department, with severe pain, swelling and Deformity of the right ankle. Clinical examination of Right ankle revealed huge swelling, multiple abrasions, with tense skin over medial side of ankle joint, and restriction of all Range of movement of right ankle. Distal arterial pulsation was palpable with good capillary refill, neurological examination was normal, there was no other associated injury.

Plain AP and lateral X-ray view of the ankle (fig. 1) showed posterior total talar (pan- talus) dislocation and syndesmotic injury, with no fractures seen.

CT scan (fig.2) showed complete talar bone dislocation, with talar dome posteriorly and completely out of the tibial plafond with sever disruption of syndesmosis, and small extra articular fracture involving the inferior aspect of the calcaneal tuberosity.

Fig 1: Plain Radiograph Pre-Reduction

Fig 2: CT scan pre-reduction

Following failed closed manipulation under sedation in A/E, the patient was taken to theater for closed versus open reduction.

Under General anesthesia trials of closed reduction was done with manual traction and manipulation of dislocated talus, but all these maneuvers also were failed, than open reduction was performed by medial exposure, and medial malleolus osteotomy, reduction was done by traction by temporary Steinman pin placed into the calcaneus, and direct pressure on the talus, reduction was successful, and found stable intraoperatively. Medial malleolus was reduced anatomically and fixed with two screws.

Two screws were used to fixed syndesmotic injury. One Steinman pin was inserted from the calcaneus and directed proximally through the talus and distal tibia to hold the talus in place as temporal fixation that removed after 6 weeks.

Fig 3: Post-operative radiograph

Post-operative, the surgical wound was clean no evidence of necrosis, with good vascularity of the foot. Back slab, with non-weight –bearing mobilization. The Steinman pin was removed after six weeks; and continue non-weight- bearing with gradual weight bearing for next six weeks.

Fig 4: After removal of Steinman pin

The patient was followed in outpatient clinic, who showed good clinical and radiological healing (fig 4), and after about 4 months, all screws are removed and full weight bearing mobilization were started (fig5).

The patient was reviewed after one year, and he showed excellent ROM, both dorsiflexion and plantar flexion, (fig 6). A magnetic resonance imaging (MRI) fig 7, done, not showing any signs of avascular necrosis of the talus.

Fig 5: After removal of all hardware

Fig 6: follow up photo good dorsiflexion and planter flexion of ankle joint

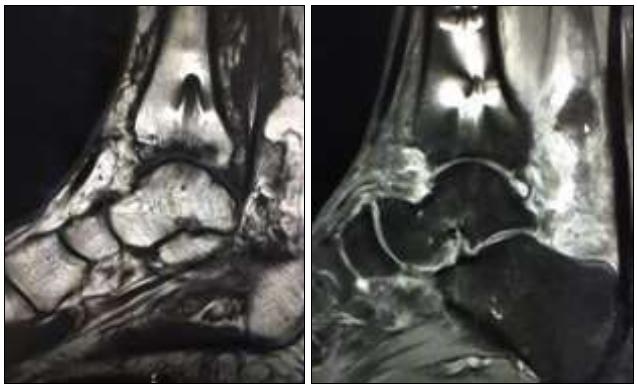

Fig 7: MRI

Discussion

Total pan talar dislocation is a rare injury, reported as 0.06%of all dislocations and 2% of all talar fractures, and commonly caused by high energy trauma, like fall from height or motor vehicle injuries, and usually associated with other fractures, like around the foot and ankle joint. [1, 2]. The mechanism of injury is by forced supination or

pronation in a plantar flexed ankle resulting in a medial or lateral subtalar dislocation. With continued force, the talus is forced out of its mortise and the surrounding soft-tissue covering, leading to pan talar dislocation [2, 3].

Open dislocations are more common about 25-40%, our case of closed dislocation without ankle or talar fractures that managed by open reduction after failure of closed maneuver.

This injury usually leads to degenerative arthritis of the ankle, persistent pain and functional limitations (ROM) of the ankle and avascular necrosis of the talus [5, 6].

The main aim of treating any dislocation is to achieve anatomic reduction either by closed or open method during golden time to avoid serious complications, like AVN and infection. Treatments options for total talus dislocation varied from primary talectomy or arthrodesis to closed reduction with cast. We report a novel closed pan-talar dislocation without ankle or talar fracture that required open reduction after failure of closed method.

Close reduction was not successful, because subtalar joint locked in dislocated position and trapped talar neck between flexor tendons. Open reduction was done through anteromedial approach and medial malleolus osteotomy with dislodgment of subtalar joint, then easily satisfactory reduction achieved, a closed reduction should be try initially, than an urgent open method should be done if the talus is not accurately reduced by closed maneuver [4].

There are many opinions regarding the best treating method for closed talar dislocations. Most of them suggest an open reduction for open talar dislocations [5, 6]. Talectomy and tibiocalcaneal fusion indicated as salvage procedures.

Conclusion

Total talar dislocations with no fractures are extremely rare. Few rare cases have been reported in literature. Closed reduction should be try first as best method of treatment, followed by open if its failed. Talectomy and arthrodesis are reserved for late complications. A close follow up is mandatory to pick up both early and late complication.

Consent

Written informed consent was obtained from the patients for publication of this case report.

Conflict of Interest

The authors declare that they have no relevant financial or non-financial interests.

Funding

None

References

1. Xarchas KC, Psillakis IG, Kazakos KJ, Pelekas S, Ververidis AN, Verettas DA. Total Dislocation of the Talus without a Fracture. Open or Closed Treatment? Report of Two Cases and Review of the Literature. 2009, 03. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707762/
2. Rhanim A, Zanati RE, Younes Ouchrif, Hassani ZA, Kharmaz M, Berrada MS. Nonoperative treatment of closed total talus dislocation without fracture: A case report and literature review. 2014. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4223801/
3. Alrashidi YA, Wali ZA, Khoshhal KI. Closed anterolateral total talar dislocation: A case report and techni: ORR. 2014, 22. Retrieved from https://www.dovepress.com/closed-anterolateral-total-talar-dislocation-a-case-report-and-technic-peer-reviewed-fulltext-article-ORR
4. Vosoughi AR, AV. Closed Pantalar Dislocations: Characteristics, Treatment Approaches, and Outcomes. 2021, 1. Retrieved from https://pubmed.ncbi.nlm.nih.gov/33475300/
5. Stephen Duncan T, Raymond Wright D, Steven Lawrence. Pantalar Dislocation without Extrusion, case report, Journal of Orthopaedic and Trauma. 2011, 1.
6. Haverkort JJM, Leenen LPH, Van Wessem KJP. Diagnosis and treatment of talar dislocation fractures illustrated by 3 case reports and review of literature, Int J Surg Case Rep. 2015;16:106-111.