IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 14, Issue 10 Ver. V (Oct. 2015), PP 48-50
www.iosrjournals.org

Delayed presentation of displaced fracture Neck of Talus-Union by minimal soft tissue dissection and rigid internal fixation.

[1]Dr.Kumar Anshuman, MBBS, DNB (Ortho), [2]Dr Chinmay Sahu MBBS , MS(Orth), [3]Gourishankar Patnaik MBBS,MS(Orth)FAOI(USA)Ph.D

[1,2]Assistant Professor Orthopedic Surgery,Narayan Medical College Hospital Jamuhar, Bihar
[3]Professor and Head, Dept of Orthopedics, Trauma and Rehabilitation, Narayan Medical College Jamuhar, Sasaram, Bihar

Abstract: *We are reviewing a rare case of a displaced fracture neck of talus, who presented to us after 48 hours. The incidence of avascular necrosis is alarmingly high with fractures neck of talus because of peculiar precarious blood supply. We present a rare case of fracture neck of talus which presented to us after 48 hours. We discuss the treatment protocol and the results of this patient.*

Keywords*: Fracture Neck Talus, delayed presentation, K-wires, TBW, avascular necrosis.*

I. Introduction:

The talus is a uniquely-shaped bone divided into three anatomic regions.[1] The dome, or body of the talus, articulates with the tibia and fibula on its superior, medial, and lateral surfaces to form the ankle joint. The transverse diameter of the body is greater anteriorly than posteriorly. This corresponds with the width of the tibial plafond to effect increased joint stability with dorsiflexion.[2] Inferiorly, the body articulates with the posterior facet of the calcaneus and together with the underside of the head and neck of the talus forms the subtalar joint.[3,4]

Fractures of the Neck of the talus encompass a wide variety of injuries and account for over 60% of all injuries to the talus.[5] No classification scheme categorizes them with clinical significance. The injuries can be divided anatomically into osteochondral, lateral process, posterior process, and true body (dome) fractures. Fractures of the talar dome may be further classified into coronal, sagittal, horizontal, or crush fractures. The mechanism of injury, diagnosis, and management reflect those of talar neck fractures; however the incidence of avascular necrosis is higher in fractures of the talar neck.

Reduction and immobilization displaced fractures should not be delayed. As conditions allow, open reduction with stable internal fixation must rapidly follow initial management to limit further insult to the blood supply of the talus.

Open reduction and internal fixation of high-grade fractures of the talar neck can be challenging. The preoperative assessment includes planning the surgical approach, the reduction, and the method of stabilization. Each case is unique and the variety of soft-tissue and bony injuries associated with these fractures demands a thoughtful, organized, and individualized surgical plan [6-9].

II. Case Presentation:

We present the case of a 45 year old male P.J. who presented to our A&E dept 48 hours after having sustained injuries to his right foot following RTA .He had a fall from a moving bike after it was hit by a tractor.

As this happened in a remote area patient took two days to reach the hospital. After initial assessment a diagnosis of displaced fracture of neck of talus and medial malleolus was made. As 48 hours had already passed patient was taken to OT and ORIF was done. AO 4 mm cancellous screw fixation was done after achieving anatomical reduction without causing much damage to soft tissues. T.B.W fixation for medial malleolus was done in the same sitting .Patient had an uneventful recovery.Patient was put on BK POP cast for 6 weeks and was allowed non weight bearing crutch walking . After six weeks pop was removed and patient was put on physiotherapy for acive ankle and subtalat joint function restoration . He was allowed partial weight bearing after 9 weeks and full weight bearing was allowed at 12 weeks .Patient was regularly followec up till six month and full radiological union was seen .The subtalar joint movements were marginally restricted. Patient was put on full weight bearing after three months and he walks without pain.

Fig 1:Pre-op X-Ray AP/Lat view

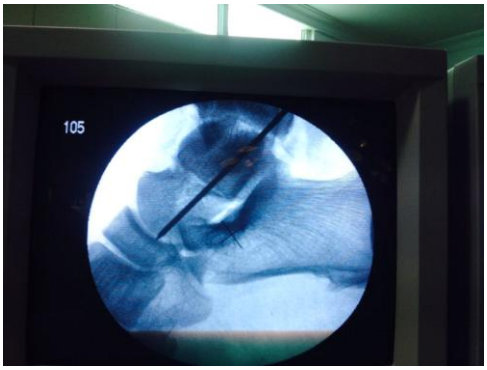

Fig 2:Intra op Images of K-wires

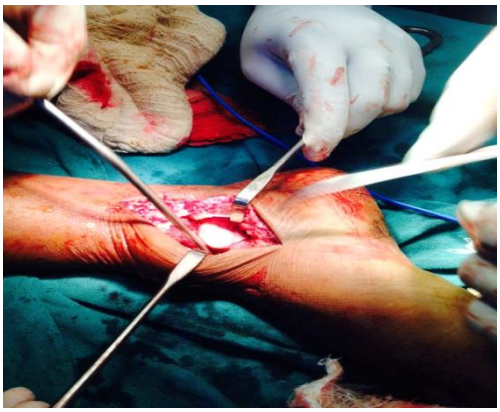

Fig 3: Intra op surgical image

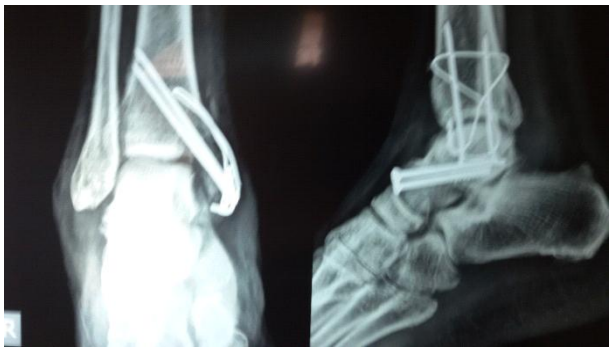

Fig 4: Follow up X-ray after 3 months

III. Discussion:

Displaced fractures of the talus neck are complex and a challenging clinical entity. Understanding the unique patterns of injury associated with the talus and approaching each case with a individualized plan of treatment based on a thorough workup will produce the best outcome possible. Operative management includes reduction and stable internal fixation to justify the added risk of surgical morbidity.

Displaced talar neck fractures remain a therapeutic challenge for orthopaedic surgeons. According to the literature, these fractures are often associated with a high complication rate, including malunion, osteonecrosis or osteoarthritis [10, 11, 12,13]. The operative treatment of such fractures seems to require a balance between an aggressive treatment with a strictly anatomical reduction and essential respect of soft tissues to limit skin complications or osteonecrosis.

Fig 5: Plantar Flexion at 6 weeks

Fig 6: Dorsiflexion at 6 weeks

We present a case report of a patient who came to us 48 hours after injury and meticulous ORIF and supportive treatment patient had an uneventful recovery with displaced fracture neck talus uniting well without evidence of avascular necrosis till date.

References

[1]. Sarrafin SK: Anatomy of the Foot and Ankle, ed. 2, Philadelphia: JB Lippincott; 1993:47-54, 295-297.
[2]. Adelaar RS: Complex fractures of the talus. In: Springfield DS ed. Instructional Course Lectures, Vol. 46, Rosemont, American Academy of Orthopaedic Surgeons; 1997:323-338.
[3]. Hicks JH: The mechanics of the foot: I. the joints. Anatomy 87:345, 1953.
[4]. Kleiger B, Ahmed M: Injuries of the talus and its joints. Clin Orthop 121:243-262, 1976.
[5]. Adelaar RS: Fractures of the talus. In: Operative Foot Book. Philadelphia: WB Saunders; 1990:147-156.
[6]. Alvarez RG: Talar neck fractures. In: Myerson MS, ed. Current Therapy in Foot and Ankle Surgery. St. Louis: CV Mosby; 1993:243-248.
[7]. Mayo KA: Fractures of the talus: Principles of management and techniques of treatment. Techniques Orthop 2:42-54, 1987.
[8]. Hoppenfeld S, deBoer P: Surgical Exposures in Orthopaedics: The Anatomic Approach. Philadelphia: JB Lippincott; 1984:469-530.
[9]. Sangeorzan BJ, Hansen ST: Early and late post-traumatic foot reconstruction. Clin Orthop Rel Res 243:86-91, 1989.
[10]. Thordarson DB. Talar body fractures. Orthop Clin North Am. 2001;32:65–77. doi: 10.1016/S0030-5898(05)70194-2. [PubMed] [Cross Ref]
[11]. Cyteval C, Sarrabere-Baron M, Cottin A, Benis J, Assi C, Bonnel F (2001) Radioanatomie du pied. In Encyclopédie Médico-Chirurgicale, Elsevier, Paris. 30-400-A-410
[12]. Adelaar RS, Madrian JR. Avascular necrosis of the talus. Orthop Clin North Am. 2004;35:383–395. doi: 10.1016/j.ocl.2004.02.010. [PubMed] [Cross Ref]
[13]. Sanders DW, Busam M, Hattwick E, Edwards JR, McAndrew MP, Johnson KD. Functional outcomes following displaced talar neck fractures. J Orthop Trauma. 2004;18:265–270. doi: 10.1097/00005131-200405000-00001.[PubMed] [Cross Ref]