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PARTICULAR CASE OF TYPE I HAWKINS TALAR NECK FRACTURE – CASE PRESENTATION

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ABSTRACT. This article presents a case study of a 29-year-old male who sustained a Type I Hawkins talus neck fracture resulting from a fall from a ladder. Given the nature of the fracture, a conservative treatment approach was adopted, involving cast immobilization for a recommended period of 8 weeks. Upon removal of the immobilization and commencement of weight bearing, the patient reported persistent pain, necessitating further evaluation via CT scan. The imaging revealed partial union of the fracture with a comminutive aspect of the talar neck. Subsequently, the patient underwent a regimen of partial weight bearing and kinetotherapy for an additional 2 months. This case highlights the challenges and considerations in managing Type I Hawkins talus neck fractures conservatively, including the decision-making process regarding treatment approach, the importance of imaging in assessing fracture healing, and the role of kinetotherapy in rehabilitation. Ultimately, the patient achieved full recovery, regaining the ability to walk without pain, underscoring the potential effectiveness of conservative treatment strategies in certain fracture cases.
Keywords: hawkins talus neck fracture, conservative treatment, cast immobilization, ct scan, kinetotherapy

INTRODUCTION

Talus neck fractures are critical injuries within the spectrum of foot trauma, accounting for a small but significant portion of ankle injuries. The talus bone, crucial for the movement and stability of the ankle joint, articulates with the tibia, fibula, and calcaneus, playing a pivotal role in the transmission of weight from the lower limb to the foot. Due to its unique anatomical position and limited blood supply, fractures of the talus neck pose significant challenges in terms of management and potential complications, including avascular necrosis and post-traumatic arthritis.

Hawkins classification, a widely recognized system, categorizes talus fractures into four types based on the severity of the fracture and its relationship with adjacent structures. Type I Hawkins fractures are characterized by a nondisplaced fracture of the talus neck, with no subluxation or dislocation of the subtalar or ankle joints, making them the least severe but nonetheless requiring careful management to prevent complications.

The epidemiology of talus neck fractures reflects their common association with high-energy traumas, such as falls from height and motor vehicle accidents, highlighting the importance of a nuanced approach to diagnosis and treatment. While conservative treatment options, including cast immobilization, are often considered for Type I fractures, the decision-making process must be underpinned by a thorough understanding of the injury's biomechanics, potential for healing, and the patient's overall health and activity level.

Figure 1. Frontal view of talar neck fracture

CASE PRESENTATION

This case study focuses on a single patient, a 29-year-old male, who sustained a Type I Hawkins talus neck fracture as a result of a fall from a ladder. Upon presentation, the patient was evaluated clinically

and radiographically. Initial assessment involved physical examination and standard radiographs (anteroposterior and lateral) of the ankle to confirm the diagnosis of a Type I Hawkins talus neck fracture, characterized by a nondisplaced fracture without subluxation or dislocation of the subtalar or ankle joints. Conservative treatment was chosen based on the Hawkins classification of the fracture and the absence of displacement. The patient's foot was immobilized in a short-leg cast for a period of 8 weeks. The cast was applied with the foot in a neutral position to minimize stress on the talus and promote healing.

Figure 2. Lateral view of the talar neck fracture

Regular follow-up visits were scheduled to monitor the patient's progress and to adjust the treatment plan as necessary. A computed tomography (CT) scan was performed 3 weeks after cast removal when the patient reported persistent pain upon weight bearing. Following the initial immobilization period, and based on the CT scan results showing partial union with a comminutive aspect of the talar neck, the treatment plan was adjusted to include.

The patient was advised to gradually increase weight bearing as tolerated, using crutches for assistance.

A tailored kinetotherapy program was initiated to enhance range of motion, strength, and functional recovery of the ankle. The primary outcome measure was the patient's ability to resume walking without pain. Secondary outcomes included the degree of fracture healing as assessed by CT imaging and the patient's satisfaction with the treatment outcome. Given the nature of this case study, descriptive analysis was employed to detail the treatment process, the patient's response to the conservative management strategy, and the ultimate clinical outcome.

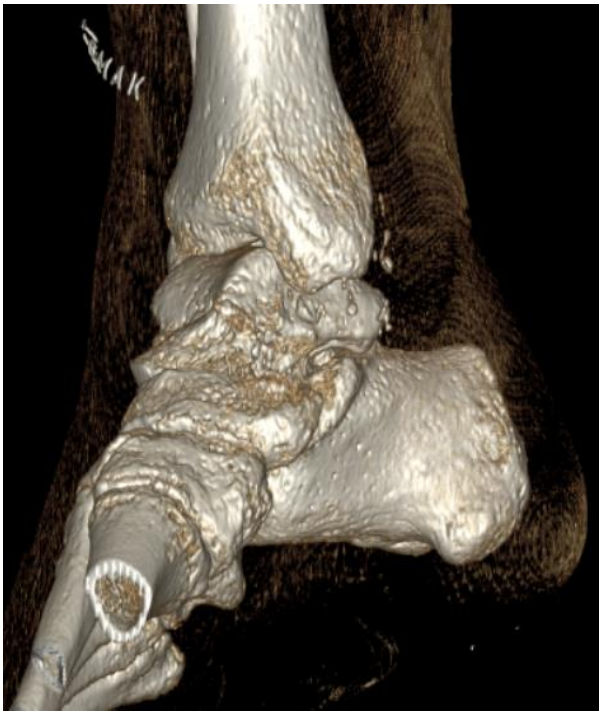

Figure 3. CT Scan reveals a comminutive aspect of the talar neck fracture and partial union

DISSCUTION

The management of Type I Hawkins talus neck fractures remains a subject of clinical debate, primarily due to the potential complications associated with these injuries, such as avascular necrosis and nonunion. This case report of a 29-year-old male who sustained a Type I Hawkins fracture and underwent conservative treatment sheds light on several important aspects of managing such fractures.

Conservative management, characterized by cast immobilization and subsequent kinetotherapy, proved effective in this case, aligning with studies suggesting that nondisplaced fractures can achieve good outcomes without surgical intervention. However, the patient's experience of persistent pain post-cast removal and the CT findings of partial union and comminutive aspects underscore the importance of vigilant follow-up and the potential need for adjusting treatment plans based on individual healing progress.

The utilization of CT scans for evaluating the healing process in talus fractures is critical, as standard radiographs may not adequately reveal the extent of bone healing or the presence of complications. In this case, the CT scan was instrumental in identifying partial union and guiding the decision to implement partial weight bearing and kinetotherapy, highlighting

the role of advanced imaging in the management of talus fractures.

The significant improvement in function and pain resolution following a tailored kinetotherapy program underscores the value of physical therapy in the rehabilitation of talus neck fractures. This is consistent with literature emphasizing rehabilitation's role in enhancing joint mobility, strength, and proprioception, facilitating a return to pre-injury activities.

While this case supports the viability of conservative treatment for Type I Hawkins fractures, literature suggests that surgical intervention may be preferred for higher-grade fractures due to the increased risk of complications. The decision between conservative and surgical management should be based on fracture severity, patient health, and lifestyle factors, underscoring the need for a personalized approach to treatment.

CONCLUSSION

The management of Type I Hawkins talus neck fractures highlights the essential role of early diagnostic interventions. This case report emphasizes the significant benefit of utilizing computed tomography (CT) scans immediately upon diagnosing talus fractures in the emergency room setting. Early CT imaging provides a comprehensive assessment of the fracture, revealing details that standard radiographs may miss, such as comminution or subtle displacement, which are critical for informing treatment decisions.

The experience of managing a 29-year-old male with a Type I Hawkins fracture underlines the necessity of advanced imaging for guiding conservative treatment strategies effectively. Early and accurate CT scans can facilitate a more informed evaluation of the injury, potentially leading to improved treatment outcomes and a reduction in the risk of complications associated with talus neck fractures.

In summary, incorporating CT scans into the initial evaluation process for talus fractures can significantly enhance the accuracy of diagnoses and the effectiveness of subsequent management plans, underscoring the pivotal role of advanced imaging in optimizing patient care.

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