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LETTER TO THE EDITOR

Beyond the imaging evaluation of fractures of the lateral process of the talus: Let's not forget concomitant injuries

Cristian Lindner, Pedro Reyes, Eduardo Molina, Andrés Olave

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Abstract

Fractures of the lateral process of the talus (FLPT) are uncommon fractures that represent a clinical challenge. Traditional radiological classification systems rely predominantly on radiographic findings. However, due to the high rate of FLPT misdiagnosis and the limited accuracy in evaluating concomitant talar injuries through plain radiographs, novel imaging classification systems have been developed that aim to enhance the diagnosis of concomitant talar injuries, thereby optimizing patient management and reducing the incidence of long-term complications.

Key Words: Talus; Bone fracture; Subtalar joint; Hindfoot injuries; Fracture of the talus; Intraarticular fracture

Core Tip: The development of novel imaging classification systems to improve the diagnosis of fractures of the lateral process of the talus and concomitant talar injuries is imperative. Traditional radiographic methods, if relied upon solely, can result in misdiagnosis, leading to untreated long-term complications and functional consequences for patients.

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TO THE EDITOR

The recent article titled "Management and classification of fractures of the lateral process of the talus: An overview and literature update"[1] provides a comprehensive review of the clinical classification, management, and prognosis of fractures of the lateral process of the talus (FLPT) and offers valuable insights for clinicians involved in diagnosing and managing this complex fracture.

We have read the article with great interest and concur with the presentation of clinical features and management aspects of this uncommon fracture. However, we aim to complement this study by highlighting the importance of imaging for detecting concomitant injuries to the FLPT and promote the use of updated classification systems to better guide patient management and prognosis.

The talus is a pivotal bone that plays a critical role in transferring body weight from the leg to the foot. Its lateral process forms the anterolateral part of the posterior subtalar joint facet, and it is supported by talocalcaneal and talofibular ligaments, which originate from the lateral process of talus to insert on the calcaneal anterior process and peroneal tip, respectively[2]. Despite its small size, fractures of the talus often lead to various long-term complications that cause significant functional limitations for patients. Therefore, timely and accurate radiological diagnosis of talus fractures is essential for effective management planning and prognosis[3]. The lateral process of the talus is an important anatomical reference for accurately classifying talar fractures.

Inokuchi *et al*[4] describe talar neck fractures as those occurring in front of the lateral talar process within the tarsal sinus, while talar body fractures extend into or behind this process. FLPT are relatively rare injuries, often resulting from forced axial-loaded dorsiflexion of the foot combined with external rotation. The occurrence of FLPT is relatively high among snowboarders[5,6].

Currently, a plain radiographic series of the ankle is the first imaging technique to be obtained when an FLPT diagnosis is suspected[3]. However, the complex anatomy of the ankle can hinder the detection of FLPT, leading to a high rate of misdiagnosis and untreated cases, which may increase the risk of post-traumatic arthritis and long-term instability of the subtalar joint[7]. Therefore, computed tomography (CT) scans should be performed in every patient with a clinical suspicion of FLPT to provide valuable imaging information on concomitant bone injuries[8].

As mentioned in the article by Wang *et al*[1], several authors have developed different classification systems for FLPT over the last few decades, including the Hawkins[9] and McCrory *et al*[10] classifications. However, these systems primarily rely on radiographic findings and often overlook the presence of concomitant injuries, potentially underestimating the complexity of FLPT.

Recently, an interesting classification system for FLPT based on CT imaging findings was developed by Wang *et al*[11]. They conducted a retrospective review of of the clinical and radiological evaluations of 42 patients with FLPT and proposed a new classification based on their CT findings of FLPT and concomitant injuries. They divided FLPT into two main types: Type I, representing isolated FLPT, which has different subtypes according to the grade of fracture fragmentation, and type II, which includes FLPT associated with other fractures of the same talus. Type II was further divided into five subtypes depending on the extent and location of additional injuries, such as fractures of the talar head, talar neck, posterior talar process, or extension into other parts of the talar body.

Notably, concomitant injuries are reported in more than 80% of patients with FLPT[12,13]. These injuries are closely linked to osteochondral lesions of the posterolateral calcaneal facet, bony avulsion of the medial talocalcaneal ligament, subtalar joint instability, and symptomatic post-traumatic subtalar osteoarthritis, which is considered an independent factor associated with impaired patient-rated outcomes[13,14]. This highlights the key role of an accurate imaging diagnosis of these fractures to improve surgical planning and patient outcomes.

In this regard, we consider that the article published by Wang *et al*[1] appropriately highlights the ongoing advances in the imaging diagnosis of FLPT and considers the detection of associated lesions as one of the main prognostic factors to be considered in the radiology report. The report should provide meticulous descriptions and analyses of the fractures in their entirety with the aim of guiding orthopedic surgeons in achieving optimal surgical planning

FOOTNOTES

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