



QUESTION | I HAVE A PATIENT WHO HAD AN ANKLE INJURY WHILE SNOWBOARDING. THE REPORT OF HIS CT SCAN READS A “LATERAL PROCESS OF THE TALUS FRACTURE”. WHAT IS THE PROPER TREATMENT FOR THESE TYPES OF INJURIES?

ANSWER | The lateral process of the talus fracture is another member of the special group of foot and ankle injuries (Lisfranc injuries, Syndesmosis ruptures) that can be easily missed, and, if left untreated, can lead to irreversible deterioration in function. A heightened awareness of this injury is especially necessary during the ski season, when this fracture most commonly occurs. As this fracture occurs fifteen times more frequent in snowboarding than in any other sport, the lateral process of the talus fracture has come to be known as the “Snowboarder’s Ankle.”

The lateral process of the talus articulates with the fibula as well as the calcaneus. Biomechanical studies have shown that the mechanism of injury most commonly occurs when the foot is held in fixed dorsiflexion and with an eversion force. Snowboarders have their feet fixed to the board in a dorsiflexed position. During a fall, the dorsiflexed foot can be forced into external rotation, resulting in a fracture to the lateral talus.

The lateral process of the talus fracture is commonly missed. In fact, it is thought that 50% of these injuries are missed at initial presentation. The injury looks similar to a lateral ankle sprain. Patients will present with lateral sided ankle pain and swelling, but in close proximity. Point tenderness is slightly lower with this fracture than with an ankle sprain. Routine ankle radiographs are often reported as normal as this injury is difficult to recognize.

The danger in missing these fractures is that displaced and comminuted injuries can result in painful non-unions, persistent pain, and arthritis of the subtalar joint. Fractures that are recognised early can be properly treated to avoid these complications.

Recognition of this injury begins with an astute awareness of the fracture. Any snowboarder with an ankle injury should be assumed to have this fracture until proven otherwise. Local tenderness will be present slightly distal and anterior to the fibula. Although, when seeing a patient several days after an injury, point tenderness may be too broad to differentiate a fracture from a ligamentous injury.

Radiographs of the ankle should always be ordered, but often the lateral process fracture is difficult to see on plain radiographs. The best view to see the lateral process is the mortise, or oblique view. With a strong clinical suspicion, a CT scan is the best test to demonstrate a lateral process of the talus fracture. A CT scan will give the better detail of the bone than an MRI or ultrasound, and can be very helpful in surgical planning.

Studies have shown that the best results for lateral process fractures occurred in patients with large fracture fragments that were completely nondisplaced or rigidly fixed with surgery. 50% of patients treated non-operatively required secondary debridement due to nonunion or impingement. 20% of patients were unable to return to their pre-injury level of sport. Other reports have shown that 15 to 25% of patients develop subtalar joint arthritis, occurring more frequently in high energy injuries and those managed non-operatively. Non-union, while rare after surgery, is often seen in patients managed non-operatively.

Treatment of these injuries depends upon the fracture pattern and degree of displacement. For completely non-displaced fractures, immobilisation in a boot and non-weight bearing is done for six weeks. Any large fragment that is displaced should be treated with surgical fixation. For smaller or comminuted fragments, these can be treated with excision of the fragments.

In summary, one must have a high suspicion for this type of injury, especially in snowboarder's presenting with an ankle injury. A CT scan should be ordered when radiographs are normal to rule out this fracture when suspicious. Early detection is crucial to make the diagnosis, give proper counseling, and provide the appropriate treatment. Completely non-displaced fractures can be treated with immobilisation and non-weight bearing for six weeks. Early surgery may help to prevent problems of arthritis and painful non-union.

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