The Lisfranc injury is one of the most misdiagnosed injuries in sports because it tends to have similar presentation to less serious injuries and it usually does not show up well on initial CT scans. These injuries are not considered Lisfranc injuries that are nondisplaced or injuries that occur from low-energy mechanisms. With improved imaging technology and techniques like the weight bearing scans or the stress fluoroscopy, there is now more awareness of Lisfranc injuries occurring from low-energy mechanisms. This newfound ability to quickly diagnose patients and less invasive surgical techniques means that those patients can receive timely treatment, meaning that there is a higher chance of success in their recovery. Timely diagnosis, higher awareness, and appropriate management (including surgical or non-surgical techniques) means the difference between an athlete remaining out of practice for a few months or indefinitely. There is a lack of what conservative treatment and rehabilitation entailing, and because of this, more research and reports need to be completed to prove the effectiveness of functional progression and establishment a return to sport criteria.

Discussion and Summary

The Lisfranc is one of the most common foot injuries in sports and because it tends to have similar presentation to less serious injuries and it usually does not show up well on initial CT scans. These injuries are not considered Lisfranc injuries that are nondisplaced or injuries that occur from low-energy mechanisms. With improved imaging technology and techniques like the weight bearing scans or the stress fluoroscopy, there is now more awareness of Lisfranc injuries occurring from low-energy mechanisms. This newfound ability to quickly diagnose patients and less invasive surgical techniques means that those patients can receive timely treatment, meaning that there is a higher chance of success in their recovery. Timely diagnosis, higher awareness, and appropriate management (including surgical or non-surgical techniques) means the difference between an athlete remaining out of practice for a few months or indefinitely. There is a lack of what conservative treatment and rehabilitation entailing, and because of this, more research and reports need to be completed to prove the effectiveness of functional progression and establishment a return to sport criteria.

Lisfranc Injury Operative and Rehabilitation Protocol

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Abstract

Background: Athlete is a twenty-one-year-old male football player and inpatient at the university hospital. He was able to return to his team and play. The athlete reported that he rolled his ankle while playing football in the game against another team. The athlete was diagnosed with a Lisfranc injury, which is one of the most common injuries in athletes. The athlete was referred to a surgeon for further evaluation and treatment. The surgeon recommended a surgical approach for the treatment of this injury.

Objective: The objective of this case study is to provide a detailed description of the surgical and rehabilitation protocol for Lisfranc injury patients. The protocol is designed to ensure a successful recovery and return to sports.

Methods: The protocol includes the following steps:

1. Evaluation and diagnosis by a surgeon and a physical therapist.
2. Surgical intervention to repair the injured ligaments and bones.
3. Rehabilitation therapy to improve strength, flexibility, and mobility.
4. Return to play progression.

Results: The athlete was able to return to football within 12 to 18 months after surgery. He graduated from therapy by the 6th month. The athlete was able to return to full activity by the 2nd year after surgery.

Conclusion: The protocol provided a successful outcome for the patient, allowing him to return to his sport. This protocol can be used as a guideline for other athletes and healthcare professionals to manage Lisfranc injuries.

Introduction

Lisfranc injury is one of the most common foot injuries in athletes. It is a result of indirect trauma to the midfoot. The injury is caused by an axial load applied to the foot, which can occur during a fall, a slip, or a twist. The injury is characterized by pain, swelling, and inability to bear weight. The injury is usually seen in contact sports such as football, soccer, and basketball.

Proper management is dependent upon when the injury is diagnosed. In a study by the American Journal of Sports Medicine, in NCAA athletes, 10% of Lisfranc injuries were missed during the initial assessment (Hyojeong, 2018). If the injury is not diagnosed appropriately, the athlete may continue to play with an untreated injury, which can lead to further damage and long-term complications.

Injury Classification

The Lisfranc injury is classified based on the degree of displacement and the presence of diastasis. The classification system is based on the following stages:

- Stage 1: Lisfranc diastasis <2 mm on antero-posterior (AP) weight-bearing radiographs.
- Stage 2: Lisfranc diastasis 2-5 mm with no loss of mid-foot arch on lateral radiographs.
- Stage 3: Lisfranc diastasis >5 mm with loss of mid-foot arch or height on lateral radiographs.

Radiographic assessment is crucial for the diagnosis of Lisfranc injuries. The primary mechanism of injury is thought to be high-energy trauma, such as a fall or a twist of the foot. The injury is often missed during the initial assessment due to the similarity of symptoms with other foot injuries.

Rehabilitation and Results

An interesting note about management of Lisfranc injuries is that an injury was not reported to the head athletic trainers during practice. He was unable to return to play due to pain and swelling. An athlete should be educated on the importance of reporting any foot or ankle pain, as it may indicate an injury that could lead to permanent damage.

In a study by the Journal of Sport & Society described the difference by stating that a direct stress testing can cause a false positive result. A direct stress test is not recommended for the diagnosis of Lisfranc injuries. A literature review of 34 patients, none of the screws were found to be broken (Wang, 2017). Literature that does mention broken screws, occurred in 4% of patients and not in the study. The screws are removed approximately 4 to 6 months after surgery. This technique as outlined in the Journal of Sport & Society as a beneficial technique because it protects soft tissue, is less painful, there are less secondary deformities, and, in the case of acute crush injuries, prevents nonunion and malunion of Lisfranc injuries.

The Lisfranc injury is one of the most misdiagnosed injuries in sports. In 56% of injuries can be missed during the initial assessment (Hyojeong, 2018). If the injury is not diagnosed appropriately, the athlete may continue to play with an untreated injury, which can lead to further damage and long-term complications.

Dangers of Misdiagnosis

Misdiagnosis can lead to delayed treatment, increased pain and swelling, and prolonged recovery time. The most common misdiagnosis is confusion with other foot injuries such as plantar fasciitis. This can be avoided by a thorough assessment of the athlete’s history and symptoms. The athlete should be assessed for any history of previous foot injuries, which can indicate a recurrent injury. The athlete should also be assessed for any history of diabetes, which can increase the risk of delayed healing.

Anatomy

The Lisfranc joint is a complex structure located at the base of the first metatarsal bone and the tarsal bones. It is a synovial joint that is involved in the mobility of the foot. The Lisfranc joint is a pivotal point in the foot as it is the connection between the hindfoot and the forefoot. It is a hinge joint that allows for dorsiflexion and plantarflexion of the foot. The Lisfranc joint is also involved in the stability of the foot and the maintenance of the arches. The Lisfranc joint is a critical component in the foot’s ability to bear weight and maintain balance.

Proper surgical intervention is crucial to ensure a successful outcome. The surgery involves the repair of the ligaments and the bone fixation. The bone fixation is typically done using screws or plates. The screws are placed into the bone to hold it in place and allow for bone healing. The screws are removed approximately 4 to 6 months after surgery.

The Lisfranc joint is a complex structure located at the base of the first metatarsal bone and the tarsal bones. It is a synovial joint that is involved in the mobility of the foot. The Lisfranc joint is a pivotal point in the foot as it is the connection between the hindfoot and the forefoot. It is a hinge joint that allows for dorsiflexion and plantarflexion of the foot. The Lisfranc joint is also involved in the stability of the foot and the maintenance of the arches. The Lisfranc joint is a critical component in the foot’s ability to bear weight and maintain balance.

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