

Effective Treatment and Rehabilitation Techniques for a Male Collegiate Football Player with an Achilles Tendon Rupture

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Abstract

A 20-year-old male collegiate football player with no prior medical history presented with pain in the musculotendinous junction of his achilles tendon on his right foot. An immediate Thompson Test was used. He was referred to the physician for a X-ray and MRI which revealed an achilles tendon rupture. He also presented with a high-grade avulsion of the achilles tendon at its insertion on the calcaneus. Surgery was recommended and conducted. Treatment and rehabilitation protocols were designed and performed.

Purpose

This case demonstrates methods used along with examples of other treatment and rehabilitation techniques that have been researched for an achilles tendon rupture. Interpreting current techniques of treatment and rehabilitation can significantly increase the effectiveness of returning to activity, and also prevent the onset of secondary pathologies.

Background

- 20-year old male
- Right foot dominant
- Sophomore collegiate football wide receiver
- No history of achilles tendon injuries

Differential Diagnosis

- Achilles tendon rupture
- High-grade avulsion of the achilles tendon on the insertion of calcaneus
- Triceps surae strain



Clinical Evaluation

- Point tenderness on distal third of posterior right leg
- Palpable defect of the right achilles tendon
- Unable to perform active plantar flexion
- Positive Thompson Test for a complete rupture
- Significant swelling in lower right leg
- Antalgic gait was apparent

Treatment

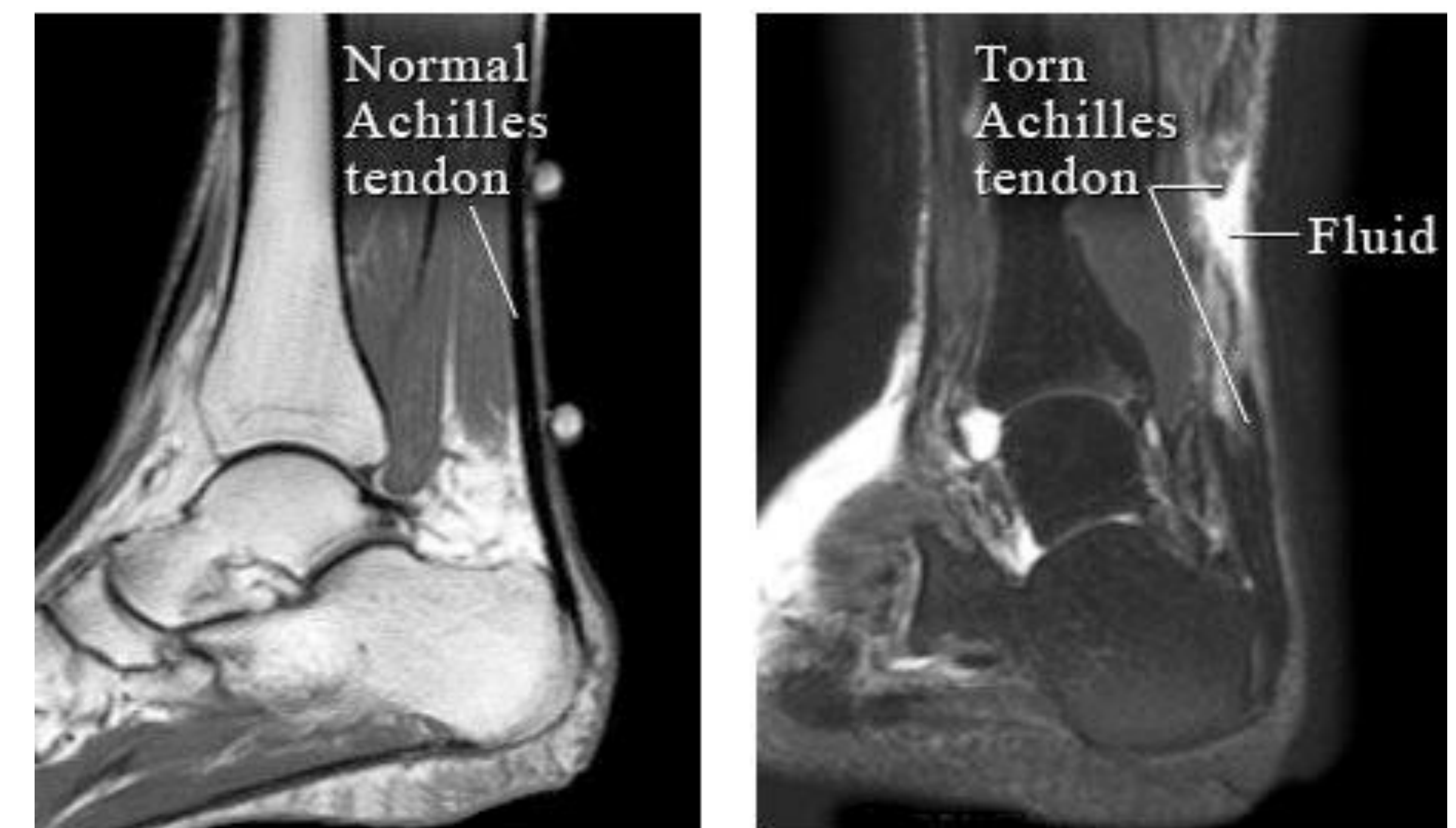
Under general anesthesia, athlete underwent a Krakow method achilles tendon rupture fixation. A Number-2 FiberWire suture was placed in a Krakow fashion at the proximal and distal ends. No complications occurred during surgery. Post-operative rehabilitation included specific phases and goals over the course of 8 months.

Uniqueness

The most common mechanism of an achilles tendon rupture is a sudden acceleration, or change of direction. Instead, this athlete's unique rupture mechanism occurred during the middle of a straight line sprint.

Implication

The incidence rate of an achilles tendon rupture is increasing and has been reported to be as high as 18 per 100,000 people, with the vast majority of these occurring in athletes. Despite the frequency at which orthopaedic surgeons encounter this injury, there is no obvious consensus regarding optimal management.



Conclusion

This athlete presented a common case of an achilles tendon rupture in the athletic population. Educating healthcare professionals about methods and techniques regarding treatment, along with effective rehabilitation, can decrease the onset of secondary injuries. Exercise prescriptions should be sport-specific and personalized for the athlete. In order for healthcare professionals to familiarize themselves with optimal exercise prescription, they should research copious literature regarding achilles tendon ruptures.