

CASE REPORT / OLGU SUNUMU

Atraumatic Partial Plantar Fascia Rupture in an Elite Football Player

Elit Bir Futbolcuda Atravmatik Kısmi Plantar Fasya Yırtığı

Hakan Kazaz¹ , Atilla Çağatay Sezik² , Mehmet Mesut Çelebi¹ 

¹Department of Sports Medicine, Faculty of Medicine, Ankara University, Ankara, Türkiye

²Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences, Yüksek İhtisas University, Ankara, Türkiye

ABSTRACT

Partial or complete plantar fascia ruptures are rare and typically associated with acute trauma or chronic plantar fascia pathologies. Plantar fascia rupture in athletes without risk factors, such as plantar fasciopathy or corticosteroid injections, are uncommon. A 32-year-old professional football (soccer) player who developed a plantar fascia rupture without a history of acute trauma has been presented. Plantar fascia ruptures should be considered in the differential diagnosis of heel pain, particularly in athletes with intense training and competition schedules.

Keywords: Football, heel pain, plantar fascia, rupture, elite athletes

ÖZ

Plantar fasya rüptürü nadir görülür ve genellikle akut travma veya kronik plantar fasya patolojileri ile ilişkilidir. Plantar fasyopati veya kortikosteroid enjeksiyonları gibi risk faktörleri bulunmayan sporcularda plantar fasya rüptürü nadirdir. Akut travma öyküsü olmaksızın plantar fasya rüptürü gelişen 32 yaşındaki profesyonel futbol oyuncusu sunulmuştur. Plantar fasya rüptürleri, özellikle yoğun antrenman ve yarışma programına sahip sporcularda, topuk ağrısının ayırıcı tanısında göz önünde bulundurulmalıdır.

Anahtar Sözcükler: Futbol, topuk ağrısı, plantar fasya, rüptür, elit sporcu

INTRODUCTION

The plantar aponeurosis, or fascia, is a strong fibrous structure composed of longitudinally oriented bands that contribute to the stabilization of the foot. It originates from the anteromedial aspect of the calcaneus and extends distally in three bands: central, medial, and lateral. The central band is the thickest and functionally most critical component, bearing most of the mechanical load. During weight-bearing, the plantar fascia con-

tributes to the stabilization of the medial longitudinal arch and prevents its collapse [1].

Atraumatic plantar fascia ruptures are rare in the literature. These rupture cases, occurring without identified risk factors, are particularly observed in athletes, often following traumatic events [2,3]. In this report, we present a case of a partial plantar fascia rupture in a professional football player with no history of trauma or known risk factors. We aim to highlight the existing gap

Received: 12.03.2026 · Accepted: 20.05.2026 · Published: 20.10.2026

Correspondence: Hakan Kazaz · Department of Sports Medicine, Faculty of Medicine, Ankara University, Ankara, Türkiye · drhakankazaz@gmail.com

Cite as: Kazaz H, Sezik AÇ, Çelebi MM. Atraumatic partial plantar fascia rupture in an elite football player. *Turk J Sports Med.* 2026; <https://doi.org/10.47447/tjism.1019>

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes (<http://creativecommons.org/licenses/by-nc/4.0/>).

in the literature regarding the treatment and biomechanical risk factors of plantar fascia ruptures in athletes by describing the clinical presentation, magnetic resonance imaging (MRI) findings, and treatment protocols.

CASE PRESENTATION

A 32-year-old professional football player competing in the First League presented to the team physician with severe plantar foot pain on the morning after a match, during which no identifiable traumatic event had occurred. On physical examination, a palpable, tender swelling was identified approximately 3-4 cm distal to the calcaneal insertion of the plantar fascia. No ecchymosis was observed. Pain was provoked during passive

dorsiflexion of the metatarsophalangeal joints, whereas resisted flexion of the first metatarsophalangeal joint did not reproduce symptoms. No additional abnormalities were detected during the physical examination.

The patient had no history of plantar fasciopathy or corticosteroid injection. However, he had been diagnosed with stress fractures involving the bones of the foot on several occasions during his athletic career.

Based on the clinical findings and patient history, differential diagnoses included acute stress fracture, plantar fasciopathy, and ligamentous injury. Plain radiographs revealed no abnormalities. MRI demonstrated a partial rupture in the central band of the plantar fascia, accompanied by perilesional soft tissue edema (Figure 1). A conservative treatment protocol was immediately initiated.

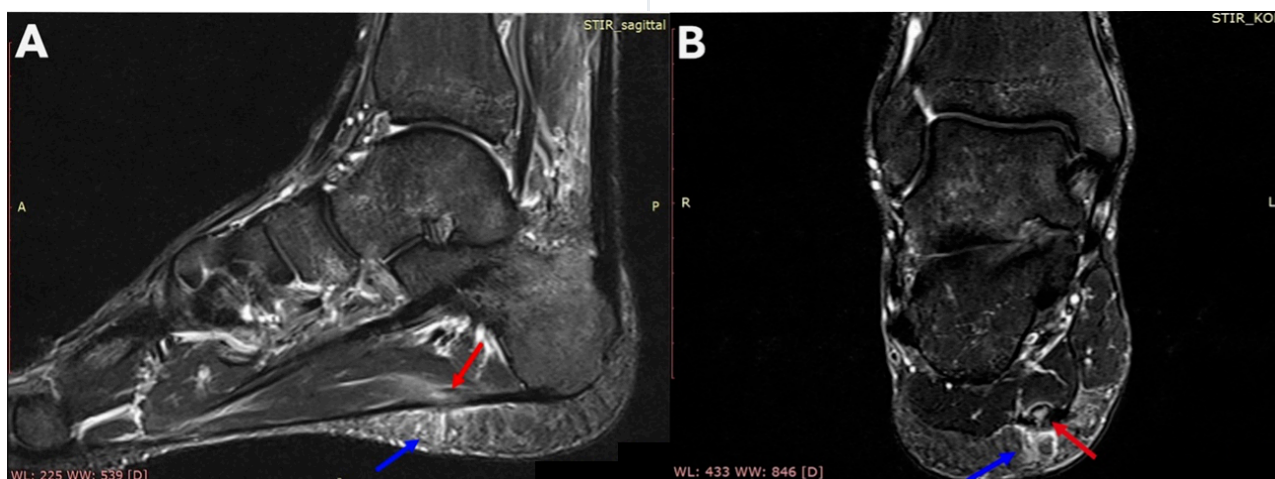


Figure 1. STIR (Short Tau Inversion Recovery) T2 weighted MRI sagittal (A) and coronal (B) sections, partial discontinuity of the central band of the plantar fascia is observed with high signal intensity (red arrow), along with surrounding soft tissue edema (blue arrow).

During the first two weeks of conservative therapy, a cold and compression system (Game Ready GRPro® 2.1) and ice-based cryotherapy were applied. To promote analgesia and healing, transcutaneous electrical nerve stimulation (TENS), magnetotherapy, capacitive and resistive electric transfer therapy (TECAR), and extracorporeal shock wave therapy (ESWT) were administered in alternating sessions. In the first days, three ultrasound-guided injections of autologous cytokine-rich serum

(Sanakin BioScience SA, La Tour-de-Trême, Switzerland) were administered at three-day intervals.

In the following weeks, eccentric strengthening exercises and stretching protocols targeting the ankle and foot muscles were implemented. Proprioceptive, balance, and motor coordination training were integrated throughout the rehabilitation. The final phase of therapy included plyometric and sport-specific drills. Table 1 summarizes the treatment protocol.

Table 1. Summary of conservative treatment program

	Weight bearing status	Physical therapy modalities	Exercises
Week 1	Full immobilization	Cold therapy and compression systems, TENS ¹	Pelvic and core stabilization exercises
Week 2	Full immobilization	Cold therapy and compression systems, TENS, Magnetotherapy, TECAR ² therapy	Pelvic and core stabilization exercises, Lower extremity strengthening exercises without weight-bearing
Week 3	Partial immobilization	TENS, Magnetotherapy, TECAR therapy, Manual therapy techniques for joint mobilization and myofascial release	Progressive strengthening exercises targeting intrinsic and extrinsic foot muscles in addition to ongoing exercises
Week 4	Partial immobilization	ESWT ³ , TECAR therapy, Manual therapy	Static stretching exercises for the Achilles tendon and plantar fascia in addition to ongoing exercises, Proprioception training with body weight
Week 5	Full weight-bearing	ESWT, TECAR therapy, Manual therapy	Light running and plyometric exercises in addition to ongoing exercises
Week 6	Full weight-bearing	ESWT, TECAR therapy, Manual therapy	Return to team training

¹ Transcutaneous electrical nerve stimulation; ² Capacitive and resistive electric transfer; ³ Extracorporeal shock wave therapy

A follow-up MRI was performed at three weeks due to reduced pain and functional improvement. Imaging revealed early fibrosis and resolution of edema in the affected area, consistent with healing (Figure 2). Concurrently, functional recovery progressed, allowing the athlete to begin individual field training in the fifth week. Owing to the rapid clinical response, team training was resumed in the sixth week, and full match participation was achieved by the seventh week. Return to

play was based on a combination of clinical recovery, tolerance to progressive sport-specific rehabilitation, and interval imaging findings, as a standardized objective return-to-play test battery had not been prospectively documented in a reportable format in this case. The athlete reported minimal sensitivity unrelated to activity or training, which gradually resolved and disappeared by the twelfth week. No complications or recurrences were observed during a one-year follow-up.

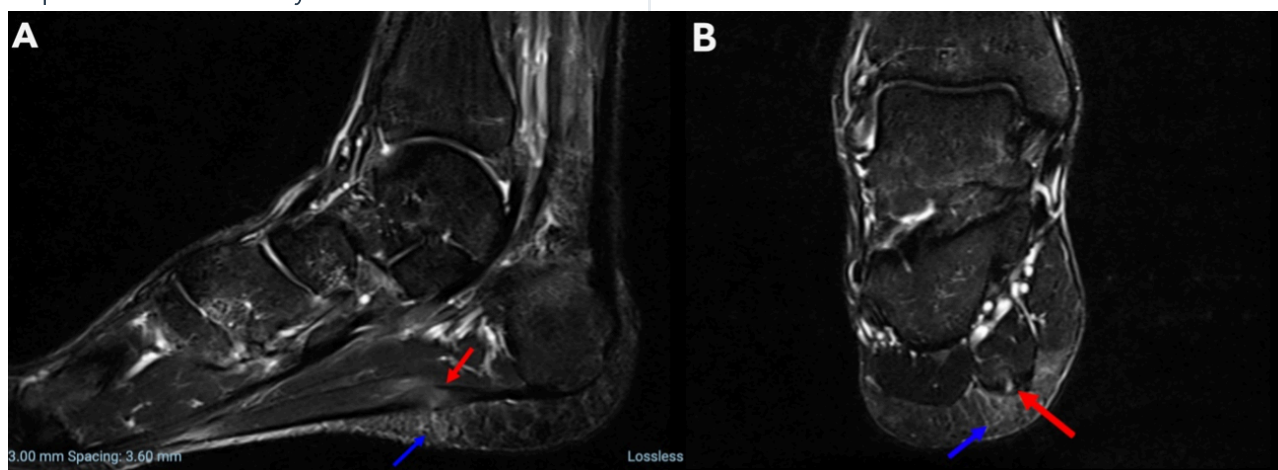


Figure 2. MRI obtained after three weeks of conservative treatment demonstrates a decrease in fluid signal intensity and the onset of fibrosis in STIR (Short Tau Inversion Recovery) T2 weighted sagittal (A) and coronal (B) sections, suggesting healing (red arrow). Note the regression of edema in the surrounding soft tissues (blue arrow).

DISCUSSION

Plantar fascia ruptures may result from a single traumatic event or develop over time due to repetitive microtrauma in the setting of pre-existing plantar fasciopathy. The risk of rupture increases with corticosteroid injections commonly administered for plantar fasciopathy [2]. However, plantar fascia ruptures in individuals without prior fasciopathy are uncommon and are typically reported in athletes during high-stress plantar flexion activities such as sprinting, cutting maneuvers, or jumping [3]. As in our case, plantar fascia rupture without trauma, corticosteroid injection, or known fasciopathy has rarely been reported [4,5].

Previous injury in a specific anatomical region has been associated with increased risk of future injury to adjacent structures [6,7]. Considering the biomechanical relationship between the metatarsal bones and the plantar fascia, the athlete's history of metatarsal stress fractures may have acted as a predisposing factor. Notably, three months prior, the patient sustained a fifth metatarsal stress fracture and used a custom orthotic with reduced medial arch support to offload the lateral aspect of the foot. Although MRI performed at that time showed no evidence of plantar fascia injury, the resulting biomechanical changes may still have increased strain on the plantar fascia and contributed to the subsequent rupture.

The heterogeneity in treating plantar fascia ruptures can be attributed to the lack of standardized protocols and high-level evidence. Most reported cases in the literature are treated conservatively, and surgical intervention is seldom required [8]. Conservative management aims to reduce pain and inflammation, support tissue healing, and facilitate the gradual return of function. This approach typically involves rest, partial or full immobilization, cryotherapy, physical therapy, and progressive loading. Case reports have also described the

use of platelet-rich plasma and ESWT as adjunct therapies [8-10]. A structured, multimodal rehabilitation plan, including orthobiologic injections, was implemented in this case. Autologous cytokine-rich serum was chosen as an adjunctive orthobiologic mainly because of local clinical preference and availability, rather than due to established evidence of superiority over other orthobiologic agents for this indication. Moreover, the available literature on autologous conditioned/cytokine-rich serum has focused mainly on osteoarthritis and tendinopathies, with evidence specific to plantar fascia rupture still lacking [11]. Accordingly, the potential contribution of this intervention to healing in the present case should be interpreted with caution.

In modern football, increased intensity and frequency of matches and training sessions have been associated with higher overall injury rates [12,13]. During congested match schedules, cumulative fatigue can alter running mechanics and reduce neuromuscular control, increasing the risk of injury to bones, joints, and soft tissues [13]. Athlete evaluations must consider both general and individual biomechanical risk factors. Nevertheless, most plantar fascia risk factor studies have been conducted in sedentary populations [2]. Future athlete-specific studies evaluating the biomechanical properties of the foot and plantar fascia are crucial for advancing preventive strategies.

This case highlights the need to consider plantar fascia ruptures in the differential diagnosis of acute heel pain in athletes, even in the absence of trauma or predisposing plantar fascia pathology. It also emphasizes that return-to-play decisions in foot and ankle injuries should ideally incorporate objective functional assessment in addition to symptom progression and imaging. Further athlete-specific studies are needed to better define biomechanical risk factors, treatment strategies, and return-to-play criteria for plantar fascia rupture.

Informed Consent / Bilgilendirilmiş Onam

Verbal informed consent was obtained from the patient for publication of this case report and any accompanying images.

Conflict of Interest / Çıkar Çatışması

The authors declared no conflicts of interest with respect to authorship and/or publication of the article.

Financial Disclosure / Finansal Destek

The authors received no financial support for the research and/or publication of this article.

Author Contributions / Yazar Katkıları

Concept: HK, MMÇ; design: HK, AÇS; supervision: MMÇ; materials: HK, AÇS; data collection and/or processing: HK, AÇS; analysis and interpretation: HK; literature review: HK; writing manuscript: HK; critical reviews: MMÇ. All authors contributed to the final version of the manuscript and discussed the results and contributed to the final manuscript.

REFERENCES

1. Flores DV, Goes PK, Damer A, Huang BK. The heel complex: anatomy, imaging, pathologic conditions, and treatment. *Radiographics*. 2024 Apr;44(4):e230163. doi: 10.1148/rg.230163.
2. Lee HS, Choi YR, Kim SW, Lee JY, Seo JH, Jeong JJ. Risk factors affecting chronic rupture of the plantar fascia. *Foot Ankle Int*. 2014 Mar;35(3):258-63. doi: 10.1177/1071100713514564.
3. Mosca M, Fuiano M, Massimi S, Censoni D, Catanese G, Grassi A, et al. Ruptures of the plantar fascia: a systematic review of the literature. *Foot Ankle Spec*. 2022 Jun;15(3):272-282. doi: 10.1177/1938640020974889.
4. Gitto S, Draghi F. Spontaneous distal rupture of the plantar fascia. *J Clin Ultrasound*. 2018 Jul;46(6):419-420. doi: 10.1002/jcu.22531.
5. Venosa M, Romanini E, Vitale L, Logroscino G. Spontaneous rupture of the plantar fascia: a case report. *Front Rehabil Sci*. 2024 Aug 27;5:1470002. doi: 10.3389/fre.2024.1470002.
6. Argibay-González JC, Vázquez-Estévez C, Gutiérrez-Santiago A, Paramés-González A, Reguera-López-de-la-Osa X, Prieto-Lage I. Analysis of injury patterns in men's football between the English League and the Spanish League. *Int J Environ Res Public Health*. 2022 Sep 8;19(18):11296. doi: 10.3390/ijerph191811296.
7. Häggglund M, Waldén M, Ekstrand J. Risk factors for lower extremity muscle injury in professional soccer: the UEFA Injury Study. *Am J Sports Med*. 2013 Feb;41(2):327-35. doi: 10.1177/0363546512470634.
8. Debus F, Eschbach D, Ruchholtz S, Peterlein CD. Rupture of plantar fascia: current standard of therapy: a systematic literature review. *Foot Ankle Surg*. 2020 Jun;26(4):358-362. doi: 10.1016/j.fas.2019.05.006.
9. Suzue N, Iwame T, Kato K, Takao S, Tateishi T, Takeda Y, et al. Plantar fascia rupture in a professional soccer player. *J Med Invest*. 2014;61(3-4):413-6. doi: 10.2152/jmi.61.413.
10. Öztürk GT, Ulaşlı AM. Ultrasound-guided platelet-rich plasma injection in a patient with a plantar fascia tear. *J Am Podiatr Med Assoc*. 2017 Nov;107(6):565-567. doi: 10.7547/16-153.
11. Raeissadat SA, Rayegani SM, Jafarian N, Heidari M. Autologous conditioned serum applications in the treatment of musculoskeletal diseases: a narrative review. *Future Sci OA*. 2022 Jan 12;8(2):FSO776. doi: 10.2144/fsoa-2021-0088.
12. Ekstrand J, Häggglund M, Waldén M. Injury incidence and injury patterns in professional football: the UEFA injury study. *Br J Sports Med*. 2011 Jun;45(7):553-8. doi: 10.1136/bjsm.2009.060582.
13. Page RM, Field A, Langley B, Harper LD, Julian R. The effects of fixture congestion on injury in professional male soccer: a systematic review. *Sports Med*. 2023 Mar;53(3):667-685. doi: 10.1007/s40279-022-01799-5.