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Case Report

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Resolution of Bilateral Achilles Tendinosis Following High-Concentration Platelet-Rich Plasma Therapy: A Case Report

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ABSTRACT

Background: Achilles tendinosis is a chronic degenerative tendon disorder that may be resistant to conservative treatment. Platelet-rich plasma (PRP), a concentrated source of platelet-derived growth factors and signalling proteins, has emerged as a biological treatment option for chronic tendon pathology.

Case Presentation: A 56-year-old woman with a background of Crohn's disease treated with Pentasa presented with a 5-month history of symptomatic bilateral Achilles tendinopathy following an injury, involving the left mid-portion and right distal Achilles tendon. Symptoms persisted despite extensive conservative management, including analgesia, anti-inflammatory medication, physiotherapy, footwear and orthotic measures, and extracorporeal shock-wave therapy.

Baseline musculoskeletal ultrasound demonstrated significant tendinopathic changes, with marked thickening of the left mid-portion and right distal Achilles tendons, each measuring approximately 11.2 mm. Given the persistence of symptoms despite conservative treatment, the patient underwent ultrasound-guided PRP therapy, with PRP precisely administered into the pathological tendon substance and surrounding paratenon. PRP was prepared using the Arthrex ACP® Double-Syringe System, with centrifugation at 1,500 RPM for 5 minutes, producing a platelet concentrate of up to approximately three times the patient's baseline platelet concentration.

Outcome: Clinical improvement became evident approximately two months after treatment and progressed thereafter. At nine-month follow-up, the patient reported complete resolution of bilateral Achilles symptoms, restoration of function, and no recurrence. Follow-up ultrasound demonstrated marked structural improvement, with reduction in tendon thickening and resolution of the previously abnormal morphology. Most notably, the right distal Achilles tendon decreased from approximately 11.2 mm before treatment to 7 mm after treatment, consistent with normalization of tendon thickness.

Conclusion: This case demonstrates an excellent clinical and ultrasonographic outcome following precisely targeted ultrasound-guided intratendinous and paratenon PRP therapy for bilateral Achilles tendinosis refractory to extensive conservative management. The findings support the potential role of targeted PRP therapy as a biological treatment option for persistent Achilles tendinopathy. Future prospective studies involving larger patient cohorts, standardized PRP preparation and injection protocols, objective clinical and ultrasound outcome measures, and longer-term follow-up are recommended to confirm treatment efficacy, durability of response, and optimal patient selection.

Keywords: Platelet-Rich Plasma, PRP, Achilles Tendinosis, Achilles Tendinopathy, Ultrasound-Guided Injection, Paratenon, Regenerative Medicine

Introduction

Bilateral Achilles tendinopathy is an important cause of posterior ankle pain, stiffness, swelling and functional limitation and may affect different anatomical regions in the same patient. Chronic Achilles tendinosis is predominantly a degenerative process characterized by collagen disorganization, altered tenocyte activity, increased ground substance and tendon thickening [1-3]. Repetitive loading and inadequate recovery may contribute to progressive structural degeneration [4].

Conservative treatment for bilateral Achilles tendinopathy commonly includes analgesia, anti-inflammatory medication, activity modification, heel raises, physiotherapy with progressive eccentric/concentric loading, podiatry assessment, appropriate footwear and extracorporeal shock-wave therapy [5-8]. Surgery may be considered for persistent bilateral disease

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after appropriate non-operative measures have been exhausted [8].

PRP has emerged as a biological approach for chronic tendon pathology. Platelets contain growth factors and signalling proteins that may support cell recruitment, collagen production, extracellular matrix remodelling and tendon repair [9]. In a previously published case from our clinic, a patient with longstanding recalcitrant mid-portion Achilles tendinopathy achieved complete clinical recovery with ultrasound evidence of tendon thickness reducing from 10 mm to 7 mm following a single ultrasound-guided PRP treatment [10]. The present report extends this clinical experience to bilateral Achilles tendinosis, with simultaneous involvement of the left mid-portion and right distal Achilles tendon and evaluates both clinical and ultrasonographic recovery following targeted PRP therapy.

Case Report

A 56-year-old woman with a background of Crohn's disease, treated with Pentasa, presented with a 5-month history of symptomatic bilateral Achilles tendinopathy that developed following an injury sustained while walking through paddocks in gumboots. Clinical examination demonstrated visible and palpable swelling of both Achilles tendons, more pronounced on the right side.

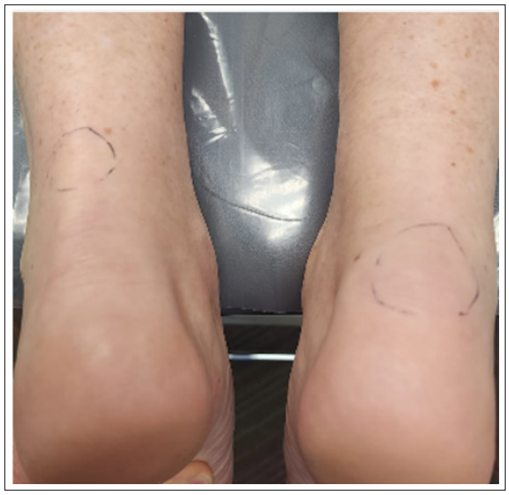

Figure 1: Right distal and left mid-portion Achilles tendinosis

Prior to PRP therapy, she had undergone extensive conservative management without satisfactory clinical resolution, including analgesia, anti-inflammatory medication, physiotherapy with structured rehabilitation, podiatry management, and extracorporeal shock-wave therapy.

Musculoskeletal ultrasound demonstrated bilateral Achilles tendinosis. The left Achilles tendon showed predominantly mid-portion tendinosis, while the right demonstrated predominantly distal tendinosis. Both tendons were substantially thickened, measuring up to 11.2 mm, with abnormal tendon architecture and areas of increased Doppler vascularity consistent with hyperaemia and neovascularity associated with active tendinopathy.

Following discussion of treatment options and informed consent, ultrasound-guided PRP therapy was undertaken.

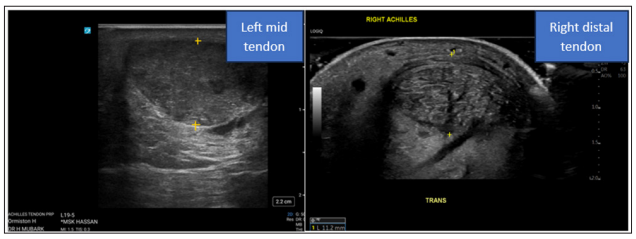

Figure 2: Pretreatment Ultrasound Demonstrating Thickening and Hyperaemia of the Right Distal and Left Mid-Portion Achilles Tendon

PRP Preparation and Injection Technique

PRP was prepared using the standard Arthrex ACP® Double-Syringe System. The centrifuge was set at 1,500 RPM for 5 minutes. This preparation can produce a platelet concentration of up to approximately three times the patient's baseline platelet concentration. The PRP was prepared immediately before injection and administered using a strict aseptic technique.

Each pathological Achilles region was identified using real-time musculoskeletal ultrasound. Under continuous ultrasound guidance, the needle was advanced into the abnormal tendon substance. Local anaesthesia with 0.2% ropivacaine was administered to both the tendon substance and surrounding paratenon. PRP was then distributed intratendinously throughout the areas of tendinosis and deposited into the surrounding paratenon, thereby treating both the structurally abnormal tendon and its adjacent tendon environment. Ultrasound guidance enabled precise needle placement while avoiding neighbouring neurovascular structures. The accompanying procedural ultrasound images demonstrate needle placement within the pathological Achilles tendon during intratendinous PRP administration and needle positioning within the paratenon during peritendinous/paratenon PRP administration.

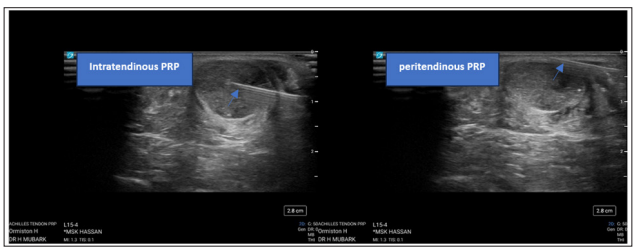

Figure 3: Ultrasound-guided Needle Placement for Intratendinous PRP Injection into the Pathological Achilles Tendon and Peritendinous PRP Injection

Clinical and Ultrasound Outcome

The response was progressive. Clear symptomatic improvement was first noticed approximately two months following PRP treatment and continued over subsequent months. At nine-month follow-up, the patient reported complete resolution of bilateral Achilles pain and associated symptoms, restoration of normal function and no recurrence. The previously prominent Achilles swelling had resolved clinically.

Follow-up ultrasound demonstrated marked structural improvement and near-normalization of the previously abnormal Achilles tendon morphology. On the right, the maximal anteroposterior (AP) diameter decreased from approximately

11.2 mm before treatment to 7.0 mm after treatment, with no inflammatory change identified on Doppler assessment. The left mid-portion Achilles tendon also demonstrated substantial improvement, with the maximal AP diameter decreasing from 11.2 mm to 8.5 mm, again with no inflammatory change on Doppler assessment. These sonographic improvements closely paralleled the patient's complete clinical recovery.

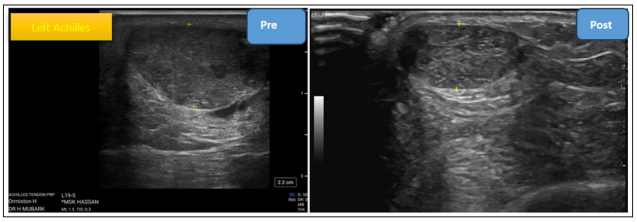

Figure 4: Pre- and post-PRP Ultrasound Demonstrating Reduced Left Mid-Portion Achilles Tendon Thickness with Resolution of Hyperaemia.

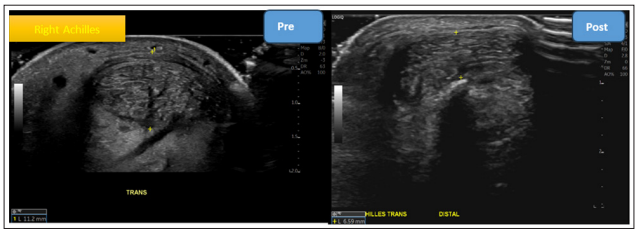

Figure 5: Pre- And Post-PRP Ultrasound Demonstrating a Reduction in Right Distal Achilles Tendon Thickness from 11.2 mm to 7.0 mm.

Discussion

This case demonstrates a striking concordance between clinical recovery and objective ultrasound improvement after ultrasound-guided PRP therapy for bilateral Achilles tendinosis. Importantly, the bilateral disease involved two distinct anatomical regions the left mid-portion and the right distal Achilles tendon and both sides remained symptomatic despite multiple established conservative therapies before PRP was undertaken. The subsequent resolution of bilateral symptoms, restoration of function and improvement in ultrasound morphology suggest that a targeted biological approach may have potential across different regions of Achilles tendinopathy within the same patient.

Objective ultrasound findings supported the bilateral clinical response. The right distal Achilles tendon decreased from approximately 11.2 mm to 7.0 mm, while the left mid-portion Achilles tendon decreased from 11.2 mm to 8.5 mm, with resolution of Doppler inflammatory change on both sides. The right-sided reduction to 7 mm provides a particularly clear structural marker accompanying clinical recovery. These bilateral findings are relevant when considered alongside our previously published case of recalcitrant chronic mid-portion Achilles tendinopathy, in which ultrasound thickness similarly reduced from 10 mm to 7 mm with complete functional recovery after PRP [10]. Together, these observations support further investigation of whether carefully targeted ultrasound-guided PRP can produce reproducible clinical and sonographic improvement in persistent Achilles tendinosis.

A key technical feature in the management of this bilateral Achilles tendinosis was precise ultrasound-guided delivery to each pathological region. PRP was delivered intratendinously into the sonographically abnormal tendon substance and into the surrounding paratenon on both sides. This combined approach allowed treatment to address the structural tendon abnormality as well as the adjacent tendon environment. The Arthrex ACP® Double-Syringe System provided a standardized preparation protocol using centrifugation at 1,500 RPM for 5 minutes, with a platelet concentration of up to approximately three times baseline.

The wider clinical evidence remains mixed and should be considered when interpreting this favorable case outcome. Recent systematic reviews and meta-analyses of randomized trials have not demonstrated a consistent superiority of PRP over placebo for pain, VISA-A functional scores, or ultrasound-measured tendon thickness in chronic Achilles tendinopathy [11,12]. These studies also highlight substantial heterogeneity in PRP composition, preparation methods, injection technique, rehabilitation protocols and patient selection [11,12]. The present case therefore should not be interpreted as proof of efficacy; rather, its value lies in the concordant bilateral clinical and sonographic response following a standardized, precisely ultrasound-guided intratendinous and paratenon protocol, supporting further study of whether treatment standardization and anatomical targeting influence outcomes.

The bilateral response was progressive rather than immediate. Symptomatic improvement became evident at approximately two months and continued through nine months, consistent with a gradual tissue-remodelling response rather than an immediate analgesic effect. At nine months, the sustained resolution of bilateral pain and swelling, restoration of function, absence of recurrence, reduction in tendon thickness on both sides and disappearance of Doppler inflammatory change provided concordant clinical and imaging evidence of recovery.

Although the outcome in this single patient was excellent, a case report cannot establish treatment efficacy or determine which component of the intervention produced the observed bilateral improvement. Future prospective studies should specifically evaluate bilateral as well as unilateral Achilles tendinosis using larger patient cohorts, standardized PRP preparation and platelet characterization, clearly defined ultrasound-guided intratendinous and paratenon injection protocols, validated pain and functional outcome measures, serial ultrasound assessment of tendon thickness, architecture and Doppler vascularity, and longer-term follow-up. Comparative studies are also recommended to determine optimal patient selection, the relative contribution of intratendinous versus paratenon delivery, the need for single versus repeated PRP treatment, and whether outcomes differ between mid-portion and distal Achilles tendinosis.

Conclusion

Ultrasound-guided platelet-rich plasma (PRP) therapy offers a promising minimally invasive biological approach for persistent bilateral Achilles tendinosis when conventional conservative treatment has failed. Precise delivery of standardized PRP into the pathological tendon and surrounding paratenon may promote

tendon recovery, improve function, and provide sustained clinical benefit while potentially reducing the need for more invasive interventions.

PRP therefore warrants further consideration within the treatment pathway for appropriately selected patients with refractory Achilles tendinosis. Well-designed prospective controlled studies with larger cohorts, standardized PRP preparation and injection techniques, validated clinical and ultrasound outcome measures, and long-term follow-up are needed to confirm efficacy, define optimal treatment protocols, and establish the durability of tendon recovery.

Patient Consent

Written informed consent was obtained from the patient for publication of this case report and the accompanying clinical and imaging information.

Acknowledgements

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References

1. Khan KM, Cook JL, Kannus P, Maffulli N, Bonar SF. Time to abandon the "tendinitis" myth: painful, overuse tendon conditions have a non-inflammatory pathology. BMJ: British Medical Journal. 2002. 324: 626.
2. Khan KM, Cook JL, Taunton JE, Bonar F. Overuse tendinosis, not tendinitis: part 1: a new paradigm for a difficult clinical problem. The Physician and Sportsmedicine. 2000. 28: 38-48.
3. Bass E. Tendinopathy: why the difference between tendinitis and tendinosis matters. International journal of therapeutic massage & bodywork. 2012. 5: 14.
4. Murrell GA. Understanding tendinopathies. British Journal of Sports Medicine. 2002. 36: 392-393.
5. Malliaras P, Barton CJ, Reeves ND, Langberg H. Achilles and patellar tendinopathy loading programmes: a systematic review comparing clinical outcomes and identifying potential mechanisms for effectiveness. Sports medicine. 2013. 43: 267-286.
6. Sussmilch-Leitch SP, Collins NJ, Bialocerkowski AE, Warden SJ, Crossley KM. Physical therapies for Achilles tendinopathy: systematic review and meta-analysis. Journal of foot and ankle research. 2012. 5: 15.
7. Al-Abbad H, Simon JV. The effectiveness of extracorporeal shock wave therapy on chronic achilles tendinopathy: a systematic review. Foot & ankle international. 2013. 34: 33-41.
8. De Vos RJ, Van Der Vlist AC, Zwerver J, Meuffels DE, Smithuis F, et al. Dutch multidisciplinary guideline on Achilles tendinopathy. British journal of sports medicine. 2021. 55: 1125-1134.
9. Kaux JF, Crielaard JM. Platelet-rich plasma application in the management of chronic tendinopathies. Acta Orthopaedica Belgica. 2013. 79.
10. Mubark H. Dramatic Clinical and Ultrasound Outcomes Post Platelet-Rich Plasma for Recalcitrant Chronic Mid-portion Achilles Tendinopathy: Case Report. J Ortho Bone Disord 2023. 7: 000244.
11. Ling SK, Mak CT, Lo JP, Yung PS. Effect of platelet-rich plasma injection on the treatment of Achilles tendinopathy: a systematic review and meta-analysis. Orthopaedic Journal of Sports Medicine. 2024. 12: 23259671241296508.
12. Assi A, Hamyeh A, Mohanna R, Boutros M, Boueri W, et al. Platelet-rich plasma vs. placebo injections in achilles tendinopathy: A systematic review and meta-analysis of randomized controlled trials. The Journal of Foot and Ankle Surgery. 2026.