

Ultrasound-guided injections for plantar fasciitis

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We read with great attention the recently published article, “Pain relief and functional improvement provided by extracorporeal shock wave therapy in plantar fasciitis is better than corticosteroid injection and kinesiio taping: A randomized trial,” by Orhan et al.^[1] We would like to commend the authors for aiming to compare the effectiveness of corticosteroid injections with kinesiio taping in the management of plantar fasciitis (PF). However, we have concerns regarding the use of corticosteroid injections.

To begin, we agree that PF is a common etiology of heel pain, and due to their efficacy and delivery of

rapid pain relief, local injections have been considered efficient.^[2] However, as demonstrated in numerous studies, ultrasound guidance has been proven to be optimal during the procedure.^[3-5] In the aforementioned study, the exact location where the corticosteroid was injected was not specified. However, palpation of the most painful area does not guarantee that the needle tip precisely targets the pathological site.

Until recently, despite the diversity of commonly used injectables, such as corticosteroids, local anesthetics, platelet-rich plasma, and botulinum toxin, the literature lacked an answer to the precise location for injection. Since the main pathogenesis



Figure 1. Photograph shows the needle insertion from the medial plantar side during injection of the plantar fascia (double arrow) under short-axis ultrasound imaging. Arrow, needle.

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of PF is related to the attachment site, being more predominant on the deep aspect of the fascia, deeper fascial injections were warranted (Figure 1).^[4,5] In addition, such injections were also advocated owing to the concomitant proximal (flexor digitorum brevis muscle) tendinopathy, which is deep to the plantar fascia and associated with PF as well.^[4] Accordingly, it may be more accurate to target the deep compartment of the plantar fascia.

On the other hand, in contrast to the hypotheses on its pathology, the less painful superficial plantar fascia injections, where the injectate is placed between the superficial plantar fascia and the overlying heel pad, have also been advocated.^[4] However, this may lead to subcutaneous fat and heel pad atrophy, particularly if corticosteroids are used. Moreover, the most commonly described injection technique is intrafascial,^[4] which has the risk of fascial rupture, particularly with corticosteroids. However, given the occurrence of degeneration, micro tears, collagen necrosis, and angiofibroblastic hyperplasia, regenerative injections might be appropriate if injected peri- or intrafascially.^[5] Therefore, for improved efficacy, safety, and precision with corticosteroid injections, we once again emphasize the incontestable role of ultrasound guidance in daily clinical practice.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

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