

## Comment to the article: Where and how should prolotherapy and steroid injections be administered for optimal outcomes in plantar fasciitis?

Alper Mengi

Department of Pain Management, Edirne Sultan 1. Murat State Hospital, Edirne, Türkiye

I read with interest the article by Teymouri et al.<sup>[1]</sup> titled “*Ultrasound-guided prolotherapy versus corticosteroid injections for the treatment of patients with plantar fasciitis: A randomized controlled trial.*” However, I have a concern regarding the methodology used for the injection procedures.

The article does not specify the exact location where the ultrasound-guided steroid or prolotherapy injections were administered. Ultrasound-guided injections for plantar fasciitis are typically performed either superficially or deeply around the plantar fascia rather than directly into the fascia itself due to the risk of complications such as plantar fascia rupture. It is important to note that the clinical outcomes may vary depending on whether the injection is applied superficially or deeply. In a study by Gurcay et al.,<sup>[2]</sup> deep steroid injections resulted in greater improvements in plantar fascia thickness, pain, disability, and quality of life compared to superficial injections.

In prolotherapy injections applied to the plantar fascia, although all are performed interfascially, the specific techniques vary considerably. In the study by Asheghan et al.,<sup>[3]</sup> the prolotherapy injection was administered interfascially, targeting the hypoechoic and mixed echogenic areas of the plantar fascia, without employing the peppering technique. In another study, a dextrose solution was injected both into the center and around the damaged area of the plantar fascia using the peppering technique.<sup>[4]</sup> In a study by Mansiz-Kaplan et al.,<sup>[5]</sup> prolotherapy injections were delivered to multiple sites: the

attachment points of the plantar fascia to the metatarsal bones and heel, as well as the midpoint of the fascia. In another study, ultrasound-guided plantar fascia injections were applied directly into the most tender point of the plantar fascia without using the peppering technique.<sup>[6]</sup> Currently, there is no established consensus regarding the optimal injection sites or techniques for dextrose prolotherapy in the treatment of plantar fasciitis.<sup>[7]</sup> Therefore, to enable a more accurate comparison with the existing literature, it is essential to provide detailed information regarding the injection sites and techniques used in your study.

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

**Conflict of Interest:** The author declared no conflicts of interest with respect to the authorship and/or publication of this article.

**Funding:** The author received no financial support for the research and/or authorship of this article.

## REFERENCES

1. Teymouri A, Alaei F, Fakheri M, Nasiri A. Ultrasound-guided prolotherapy versus corticosteroid injections for the treatment of patients with plantar fasciitis: A randomized controlled trial. *Turk J Phys Med Rehabil* 2024;71:139-45. doi: 10.5606/tftrd.2024.14631.
2. Gurcay E, Kara M, Karaahmet OZ, Ata AM, Onat ŞŞ, Özçakar L. Shall we inject superficial or deep to the plantar fascia? An ultrasound study of the treatment of chronic plantar fasciitis. *J Foot Ankle Surg* 2017;56:783-7. doi: 10.1053/j.fas.2017.03.004.

**Corresponding author:** Alper Mengi, MD. Edirne Sultan 1. Murat Devlet Hastanesi, Algoloji Kliniği, 22030 Edirne, Türkiye.

**E-mail:** a\_mengi22@hotmail.com

**Received:** June 10, 2025 **Accepted:** August 21, 2025 **Published online:** December 19, 2025

**Cite this article as:** Mengi A. *Comment to the article: Where and how should prolotherapy and steroid injections be administered for optimal outcomes in plantar fasciitis?* *Turk J Phys Med Rehab* 2026;72(x):i-ii. doi: 10.5606/tftrd.2026.16992.



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/>).

3. Asheghan M, Hashemi SE, Hollisaz MT, Roumizade P, Hosseini SM, Ghanjal A. Dextrose prolotherapy versus radial extracorporeal shock wave therapy in the treatment of chronic plantar fasciitis: A randomized, controlled clinical trial. *Foot Ankle Surg* 2021;27:643-9. doi: 10.1016/j.fas.2020.08.008.
4. Baykut AU, Bayraktar HEN, Arslan HB, Yalçın E, Poyraz İ. Chronic plantar fasciitis: Which is more effective? Prolotherapy/extracorporeal shock wave therapy? A randomized controlled trial. *Arch Orthop Trauma Surg* 2025;145:242. doi: 10.1007/s00402-025-05859-z.
5. Mansiz-Kaplan B, Nacir B, Pervane-Vural S, Duyur-Cakit B, Genc H. Effect of dextrose prolotherapy on pain intensity, disability, and plantar fascia thickness in unilateral plantar fasciitis: A randomized, controlled, double-blind study. *Am J Phys Med Rehabil* 2020;99:318-24. doi: 10.1097/PHM.0000000000001330.
6. Uğurlar M, Sönmez MM, Uğurlar ÖY, Adıyeke L, Yıldırım H, Eren OT. Effectiveness of four different treatment modalities in the treatment of chronic plantar fasciitis during a 36-month follow-up period: A randomized controlled trial. *J Foot Ankle Surg* 2018;57:913-8. doi: 10.1053/j.jfas.2018.03.017.
7. Chutumstid T, Susantitaphong P, Koonalinthip N. Effectiveness of dextrose prolotherapy for the treatment of chronic plantar fasciitis: A systematic review and meta-analysis of randomized controlled trials. *PM R* 2023;15:380-91. doi: 10.1002/pmrj.12807.