

Efficacy of Pulsed Radiofrequency Ablation for Chronic Plantar Fasciitis: A Case Series in Hospital Lahad Datu

INTRODUCTION:

Chronic plantar heel pain is one of the most painful foot conditions and is generally associated with plantar fasciitis. Most of the patients were satisfied with the conservative treatment, such as traction stretching exercise, splinting, bracing, extracorporeal shock wave, and oral administration of anti-inflammatory drugs. This study reports technique of pulsed radiofrequency nerve ablation (PRFA) of the calcaneal branches of the inferior calcaneal nerve in patients with chronic heel pain associated with plantar fasciitis.

MATERIALS & METHODS:

Three patients who were treated had been complaining of heel pain for more than 6 months and had failed conservative treatment. All of the patients were evaluated (quantitatively) using the average 10-point Visual Analog Scale (VAS) before treatment, as well as at their 1-month, 3-month, and 6-month follow-up after the procedure. In this study, we opted pulsed PRFA, a 420 kHz high-frequency alternating current of 200 mA is applied in short bursts, two per second, followed by a quiet phase for 240–480 s. In the quiet phase, the temperature is kept below 45°C, which is the neurodestruction threshold. This creates an electromagnetic field rather than thermal destruction and is thought to cause cellular changes that disrupt synaptic transmission, pain transmission, and signaling.

RESULTS:

The average VAS score of the feet was 9.2 ± 1.9 before treatment, 0.5 ± 1.3 at 1 month after the procedure, 1.5 ± 2.1 at 3-month follow-up, and 1.3 ± 1.8 at 6-month follow-up ($P < .001$). All patients were satisfied with the operation with a satisfaction rate of 99.88%.

CONCLUSION:

These findings suggest that PRFA of inferior calcaneal nerve was an effective pain treatment option for chronic heel pain associated with plantar fasciitis that did not respond to other conservative treatment options. We believe that the results of this study will be helpful for relevant design of prospective studies in the future.

REFERENCES:

1. Ordahan B, Karahan AY, Kaydok E. The effect of high-intensity versus low-level laser therapy in the management of plantar fasciitis: a randomized clinical trial. *Lasers Med Sci.* 2018; 33:1363–9