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LETTER

Regarding Treatment of Painful Diabetic Neuropathy With 10 kHz Spinal Cord Stimulation: Long-Term Improvements in Hemoglobin A1c, Weight, and Sleep Accompany Pain Relief for People With Type 2 Diabetes [Letter]

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Dear editor

We have had the pleasure of reading the article by Klonoff et al[1] entitled *"Treatment of Painful Diabetic Neuropathy with 10 kHz Spinal Cord Stimulation: Long-Term Improvements in Hemoglobin A1c, Weight, and Sleep Accompany Pain Relief for People with Type 2 Diabetes"* and would like to offer a critique of this clinical study of 10 kHz spinal cord stimulation (SCS) waveforms and share our clinical experience. We hope that these insights will further improve the design of subsequent studies and that SCS will lead to further promising advances in the treatment of painful diabetic neuropathy.

Klonoff et al reported that they implanted a high frequency (10kHz) spinal cord stimulation (SCS) system in 144 patients with painful diabetic neuropathy (PDN) and estimated changes in HbA1c, body weight, pain intensity (VAS) and sleep over 24 months.[1] We would like to point out that in their study, Klonoff et al neglected the washout period when patients crossed over to another group due to pain relief below 50% of baseline. In our clinic, we have used SCS to significantly reduce neuropathic pain in the lower limbs of patients with painful diabetic neuropathy (PDPN) and, more interestingly, we have also observed a significant analgesic effect in patients with PDPN who remained analgesic after the implanted SCS device was switched off, a phenomenon that illustrates the importance of the washout period. Secondly, we observed that SCS also showed a significant improvement in lower limb haemodynamics in patients with ischaemic diabetic foot ulcers, and we expect that the authors will focus on the improvement of target site blood flow with SCS in future studies.[2]

In summary, we applaud the researchers for conducting a long-term and novel study. We note that this is only a 24-month study report and look forward to seeing the results of long-term studies in the future and to addressing the comments above. Further exploration of the many beneficial modalities of SCS in clinical applications.

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References

1. Klonoff DC, Levy BL, Jaasma MJ, et al. Treatment of painful diabetic neuropathy with 10 kHz spinal cord stimulation: long-term improvements in hemoglobin A1c, weight, and sleep accompany pain relief for people with Type 2 Diabetes. *J Pain Res*. 2024;17:3063–3074. doi:10.2147/JPR.S463383
2. Zhou PB, Sun HT, Bao M. Comparative analysis of the efficacy of spinal cord stimulation and traditional debridement care in the treatment of ischemic diabetic foot ulcers: a retrospective cohort study. *Neurosurgery*. 2024;95(2):313–321. doi:10.1227/neu.0000000000002866

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