In Response

To the Editor:

Thank you for taking interest in reading our article and we appreciate for your valuable and thoughtful comments after the critical review of our study "Long-term Follow-up of Pulsed Radiofrequency Treatment for Trigeminal Neuralgia: Kaplan-Meier Analysis in a Consecutive Series of 149 Patients" (1). We would like to respond to the editor about some of our results of this review as follows.

In our previous study, we retrospectively analyzed the data of patients with idiopathic trigeminal neuralgia (TN) undergone pulsed radiofrequency (PRF) treatment and found that intraoperative PRF output voltage and electrical field intensity was significantly higher in the responsive group than in the nonresponsive group (2). Later, we evaluate the efficacy of high-voltage PRF treatment in comparison with standard-voltage PRF treatment for idiopathic TN patients who have failed to respond to medications and nerve blocks and found that high-voltage PRF treatment is more effective. In another study, we showed high voltage PRF was also an effective and safe technique for medically refractory TN patients. These findings suggested that increasing the intraoperative output voltage (electric field intensity) may therefore, provide better pain relief in TN patients. However, PRF treatment has a certain recurrence rate, and to date, no study has reported whether increasing intraoperative output voltage can reduce the recurrence rate.

According to your suggestion, we analyzed the intraoperative output voltage in the present study. In our study, the mean output voltage of all patients during the first PRF treatment was 54.27 ± 16.58V. Pain recurrence was reported in a total of 19 patients after the first PRF treatment and 12 of them selected repeat PRF treatment. The mean output voltage of the 19 relapsing patients who had the first PRF treatment was 56.84 ± 11.60V while in the 93 patients who got the initial pain relief and hadn't get pain relapse till now was 54.23 ± 16.24V. There was no statistical difference (P = 0.787) of the output voltage between the patients with and without pain recurrence. We really appreciate the suggestion to clarify the output voltage which was applied to the patients who underwent to a second PRF for clinical practice. Among the 12 patients who had the second PRF treatment, the mean output voltage was 62.08 ± 12.70V and was increased gradually according to the patient's tolerance.

Unfortunately, this study has many limitations. Due to the nature of retrospective analysis, small number of cases, we failed to conduct a stratified analysis on the effect of PRF treatment and the recurrence of TN for classic and idiopathic TN. In order to contributing to the management of TN, for example the correlation between the treatment parameter and the pain recurrence, more prospective randomized controlled clinical studies are needed.

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