Letters to the Editor

# Detailed Parameters and Accurate Description are Needed for Pulsed Radiofrequency

## To the Editor:

After intensively reading the recent article "Pulsed Radiofrequency Ablation for the Treatment of Glossopharyngeal Neuralgia Secondary to Oropharyngeal Carcinoma" written by Bharti et al (1), we were so excited to see the conclusion they made about the efficacy of pulsed radiofrequency (PRF), but we are really confused about the parameters of PRF treatment that they used during the procedure.

In the article, they described the process of PRF as "PRF treatment was performed for 3 cycles of 120 seconds at a constant temperature of 42°C. The rate was 2 Hz and the pulse rate was 20 ms." To this part, the first question we would like to ask what voltage parameter was used. According to our knowledge, voltage parameter is very important for PRF, because the heat generated by PRF relies on voltage fluctuation in the region of treatment (2). More and more physicians pay attention to voltage, as different voltage may have different influences on the therapeutic effects. Some physicians have even evaluated the efficacy and safety of high-voltage PRF in comparison with standard-voltage PRF (3). Therefore, we hold the opinion that it is necessary to emphasize the voltage parameters when talking about PRF. The second question is: Why were 3 cycles of 120 seconds of PRF selected? It is known that longer durations of PRF may result in better outcomes (4). According to the case report cited by the authors, Chua NH et al (5), the time parameter cited was 6 minutes. We wonder why the authors did not choose 6 minutes rather than 120 seconds and what the difference is between 3 cycles of 120 seconds and 6 minutes. Also, we think the description of the parameter the authors described may be not accurate, as 20 ms is associated with the duration of the application of PRF current, which could not be defined as pulse rate. It would be more appropriate to use the phrase "pulse width" instead of "pulse rate."

In addition, we believe that the word "ablation" should not be used to describe PRF. According to the review, Cahana et al (6), referenced by the authors, ablation has never been used to describe PRF. Conventional radiofrequency may cause clinical signs of nerve damage; however, PRF generates heat with high voltage electric current that dissipates between pulses without subsequent heat-induced nerve injury. So, "neuromodulation" might be better than the word "ablation," as we know that the effects of PRF are more reversible and less destructive than those of conventional radiofrequency.

PRF has been more and more used in pain management, especially in neuropathic pain. But from the articles published around the world, we found that physicians haven't reach an agreement on how to set up each parameters of PRF because the mechanism of PRF remains unclear. In the future, more research is needed to investigate the mechanism of PRF treatment.

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