

## In Response

### To the Editor:

We sincerely appreciate the interest expressed by Doan and Chang in our published article and are grateful for their insightful feedback regarding model selection in our meta-analysis (1). Their comments have helped us strengthen both the scientific value and clarity of our work.

We fully agree that providing a clear rationale for model selection enhances the transparency and reproducibility of meta-analytic methodologies. Although our rationale for using a random-effects model was implicit, it was not explicitly stated in the original article.

Given the expected heterogeneity among the included studies ( $I^2 > 50\%$ ), we determined that the random-effects model was the most appropriate analytical approach. This model accounts for both within-study and between-study variability, thereby capturing the uncertainty associated with heterogeneity across studies (2). Moreover, the random-effects model assumes that observed treatment effects may differ across studies due to real differences in treatment effects and sampling variability (3). Consequently, this approach provides a more generalizable pooled estimate than the fixed-effects model.

To further clarify our methodology, we would add a subheading titled "Rationale for Random-Effects Model", with the following explanatory text:

"A random-effects model was used to calculate the pooled standardized mean differences (SMD), as the forest plots indicated heterogeneity  $> 50\%$ . This heterogeneity may have arisen from differences in study participants, the severity of chronic pain, or responses to the intervention. The random-effects model assumes that the true effect size varies across

studies and incorporates both between-study and within-study variability, thus providing a more robust and generalizable estimate."

We also appreciate the comment regarding the lack of explicit reporting of the  $I^2$  thresholds used for heterogeneity classification. In response, we have added the suggested reference and clarified our interpretation as follows:

"Heterogeneity was assessed using the  $I^2$  statistic, which was interpreted as 25% (low), 50% (moderate), and 75% (high) heterogeneity (4). This classification was applied consistently in both the dual- and single-arm meta-analyses."

Once again, we thank Doan and Chang for their valuable feedback, which has helped us enhance the clarity and methodological rigor of our article.

Amol Soin, MD

Ohio Pain Clinic and Wright State University, Dayton, OH

Nebojsa Nick Knezevic, MD, PhD

Advocate Illinois, Masonic Medical Center and College of Medicine, University of Illinois, Chicago, IL

Laxmaiah Manchikanti, MD

Pain Management Centers of America, Paducah, KY; Anesthesiology and Perioperative Medicine, University of Louisville, Louisville, KY; Department of Anesthesiology, School of Medicine, LSU Health Sciences Center, Shreveport, LA

E-mail: drlm@thepainmd.com

### REFERENCES

1. Ren T, Xia L, Zheng Y, Yang Y, Ji N, Luo F. The efficacy and safety of applying the combination of pulsed radiofrequency and platelet-rich plasma to the Gasserian ganglion for the treatment of idiopathic trigeminal neuralgia: A protocol for a multi-center, prospective, open-label, propensity score match cohort study. *Pain Physician* 2025; 28:E263–E270.
2. Zipu J, Hao R, Chunmei Z, et al. Longterm follow-up of pulsed radiofrequency treatment for trigeminal neuralgia: Kaplan-Meier analysis in a consecutive series of 149 patients. *Pain Physician* 2021; 24:E1263–E1271.
3. Ren H, Zhao C, Wang X, Shen Y, Meng L, Luo F. The efficacy and safety of the application of pulsed radiofrequency, combined with low-temperature continuous radiofrequency, to the Gasserian ganglion for the treatment of primary trigeminal neuralgia: Study protocol for a prospective, open-label, parallel, randomized controlled trial. *Pain Physician* 2021; 24:89–97.
4. Jennings JW. Pulsed radiofrequency: An additional tool in the armamentarium for more effective and durable treatment of sciatica. *Radiology* 2023; 307:e230161.
5. Jia Y, Cheng H, Shrestha N, et al. Effectiveness and safety of high-voltage pulsed radiofrequency to treat patients with primary trigeminal neuralgia: A multicenter, randomized, double-blind, controlled study. *J Headache Pain* 2023; 24:91.