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Reply:

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REPLY:

We wish to thank Dr Suthar and colleagues for their interest in our work[1] on the sagittal angle of the trigeminal nerve at the porus trigeminus (SATNaPT) in patients with classic trigeminal neuralgia (cTN). Suthar and colleagues correctly point out that the degree of neurovascular compression (NVC) is an important predictor of surgical outcome in patients with cTN. We agree; in fact, our own work on this topic[2] confirms the importance of the degree of NVC as an imaging biomarker. The article by Sindou et al[3] as well as other intraoperative anatomic studies in patients with trigeminal neuralgia (TN) undergoing microvascular decompression[4] likely overestimate the incidence and degree of NVC because CSF drainage during the operative approach draws the vasculature into further contact with the trigeminal nerve. Preoperative high-resolution MR imaging is probably better at determining the degree of NVC of the trigeminal nerve.[2,5]

We did not intend to suggest that SATNaPT would replace the degree of NVC in the preoperative assessment of cTN. Rather, we believe that SATNaPT can be an additional biomarker that identifies a distinct subset of patients with cTN. Similarly, we are not suggesting that microvascular decompression be supplanted as the preferred surgical technique for patients with cTN. Perhaps, in patients without NVC but with decreased SATNaPT, other surgical techniques may be considered, either in combination with microvascular decompression or as an alternative.

In the discussion section of our article,[1] we acknowledge that severe displacement of the cisternal segment of the trigeminal nerve by a compressing artery could result in a decreased SATNaPT, but we note that subjective evaluation of the patients in our series did not support this theory. In our series, 83% of patients with cTN had a SATNaPT that was similar to that in healthy individuals, so we are trying to measure the effect of an anatomic difference in a small subset of patients. In this circumstance, the effect of the smaller group is often overwhelmed statistically by the larger cohort, so one should expect that the effect of SATNaPT would not be evident in a large series that did not take SATNaPT into account. Patients with a rare anomaly need to be studied separately, lest the effect of the novel finding be overwhelmed by the larger population without the predictive biomarker.

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We are grateful that Suthar and colleagues included a figure with their letter in which they demonstrate a diminished SATNaPT in conjunction with NVC. This gives us the opportunity to point out that the SATNaPT must be measured between the cisternal segment of the trigeminal nerve and the uppermost branch of the trigeminal nerve within the Meckel cave. Measurements made on the largest or most convenient branch will underestimate the SATNaPT and lead to false-positive results.

The underlying question of whether SATNaPT is truly an independent biomarker of surgical outcome, distinct from the degree of NVC, will require further research. These studies are ongoing, and we look forward to sharing the results of our research on the predictive value of the SATNaPT as an independent preoperative imaging biomarker.

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