Clinical Neurology and Neurosurgery 180 (2019) 61

Contents lists available at ScienceDirect

Clinical Neurology and Neurosurgery

journal homepage: www.elsevier.com/locate/clineuro

Success of treating medically refractory trigeminal neuralgia: Comparing apples to apples

By most accounts, medically refractory trigeminal neuralgia (TN) is one of the most debilitating conditions a patient can experience. Although the most traditional and evidence-based treatment for TN is microvascular decompression (MVD) [1], there has been increasing momentum for less invasive treatment modalities, including percutaneous radiofrequency rhizotomy (PRFR), balloon rhizotomy, and glycerol rhizotomy [2].

The least invasive modality is stereotactic radiosurgery (SRS); a recent manuscript reported a "freedom from pain" failure rate of 92% at 12-month follow-up; this was followed by a press release in which the senior author stated "I think people go and see their neurologist and get the pain under control with medication, but they don't realize how lousy this can make them feel. Using radiosurgery earlier on allows patients to get off the medications, improving their quality of life by allowing them to return to activities they used to do" [3,4].

Unfortunately the "freedom from pain" definition, which includes Barrow TN scale class II ("occasional pain, not requiring medication") and class III ("some pain, controlled with medication") is misleading as it does not specifically stratify the proportion of patients who are truly pain free and no longer require medications (class I patients) [5]. This lack of specificity has unfortunately been predominant throughout the SRS TN literature, where it has been difficult to discern the rate of patients who meet the gold standard following treatment: freedom from both pain ***and*** medications (Barrow class I). It is concerning that very few SRS TN studies have reported their findings according to these criteria, which are the very outcomes this patient population values most.

Comparing apples to apples, the rough historical rate of freedom from both pain and medications at minimum one year following TN procedures is 80% for MVD, 80% for PRFR, 70% for balloon rhizotomy, 60% for glycerol rhizotomy, and 50% for SRS [1,6–9]. Although many patients receiving SRS have either failed a previous surgical procedure or have multiple sclerosis-associated TN, there are also several who have chosen SRS over surgery due to its noninvasive nature; a recent decision analysis model examining studies published over a 16-year period found that the differences in prior surgical history between TN patients receiving SRS versus surgery were not statistically significant [10–12].

For SRS to truly supplant surgery as a preferable first-line TN treatment option from an efficacy as well as a noninvasive standpoint, the gap in Barrow class I outcomes at one year and beyond between these modalities must be narrowed. Otherwise, we risk providing false hope to TN patients regarding long-term cure when we compare SRS to surgery while counseling them, particularly since SRS is significantly less likely to result in a Barrow class I outcome than MVD [12,13].

Conflict of interests

No authors have any conflicts of interest.

Source of financial support/funding statement

This manuscript received no funding.

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https://doi.org/10.1016/j.clineuro.2019.03.009
Received 23 November 2018
Available online 16 March 2019
0303-8467/