

Current treatment strategies in patients with trigeminal neuralgia (TN) include trials of medical therapy and surgical intervention, when necessary. In some patients, pain is not adequately managed with these existing strategies.

To present a novel technique, ventral pontine trigeminal tractotomy via retrosigmoid craniectomy, as an adjunct treatment in TN when there is no significant neurovascular compression.

We present a nonrandomized retrospective comparison between 50 patients who lacked clear or impressive arterial neurovascular compression of the trigeminal nerve as judged by preoperative magnetic resonance imaging and intraoperative observations. These patients had intractable TN unresponsive to previous treatment. Trigeminal tractotomy was performed either alone or in conjunction with microvascular decompression. Stereotactic neuronavigation was used during surgery to localize the descending tract via a ventral pontine approach for descending tractotomy.

Follow-up was a mean of 44 months. At first follow-up, 80% of patients experienced complete relief of their pain, and 18% had partial relief. At the most recent follow-up, 74% of patients were considered a successful outcome. Only 1 (2%) patient had no relief after trigeminal tractotomy. Of those with multiple sclerosis-related TN, 87.5% experienced successful relief of pain at their latest follow-up.

While patient selection is a significant challenge, this procedure represents an option for patients with TN who have absent or equivocal neurovascular compression, multiple sclerosis-related TN, or recurrent TN ¹⁾.

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Ibrahim TF, Garst JR, Burkett DJ, Toia GV, Braca JA 3rd, Hill JP, Anderson DE. Microsurgical Pontine Descending Tractotomy in Cases of Intractable Trigeminal Neuralgia. Neurosurgery. 2015 Jul 31. [Epub ahead of print] PubMed PMID: 26237340.

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