

Sphenopalatine Ganglion Block compared with Stellate Ganglion Block in patients with Traumatic Trigeminal Neuralgia

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Objectives: Neuropathic trigeminal pain has responded to sympathetic blockade. Long term response to stellate ganglion block is inconsistent. Sphenopalatine ganglion block may offer a better outcome in neuropathic trigeminal pain because of the proximity to the face and because of the parasympathetic fibers and sensory fibers that can be targeted.

Methods: Patients diagnosed with traumatic trigeminal neuralgia were treated with stellate ganglion block. If they responded, a second block was performed. Response was determined as positive if the reduction in pain on visual analogue scale was greater than 60%. If they did not have long term relief greater than four months, they were given a sphenopalatine ganglion block. The sphenopalatine ganglion block was repeated if response was greater than 60% pain reduction.

Results: Twenty-six patients fulfilled the criteria for traumatic trigeminal neuralgia, which was defined as continuous pain localized to the distribution of injury, altered sensation, and the presence of allodynia or hyperalgesia. There were 17 females (65.3%) and 9 males (34.6%). The average duration of pain prior to evaluation was 7.8 years. Pain was localized to V1 in 42.3%, V2 in 42.3%, and V3 in 42.3%. Pain was in one division of the fifth cranial nerve in 61.5% of patients. Seventeen patients had stellate ganglion blocks, which were performed under fluoroscopic guidance. Twelve out of these 17 patients (70.5%) responded to the first block and 12/17 (70.5%) responded to the second block. The longest duration of relief was 4 months. Average duration of relief was 36 hours. Sphenopalatine ganglion blocks were performed fluoroscopically on the 12 that responded to stellate ganglion blocks and 14 additional patients. All 12 patients who responded to stellate blocks also responded to two sphenopalatine ganglion blocks, and 8 of the additional 14 responded as well, with a total of 20 out of 26 responding (76.9%) to sphenopalatine ganglion blocks.

Conclusion: Sphenopalatine ganglion block provides as much relief, if not better, for traumatic trigeminal neuralgia as compared to stellate ganglion block. The advantage of sphenopalatine ganglion block may be to offer a permanent treatment option with gamma knife radiation targeting the sphenopalatine ganglion, which can not be performed with the stellate ganglion.