CNS 2018 ANNUAL MEETING
HOUSTON, TEXAS
OCTOBER 6-10, 2018

Case Series: Outcomes in Peripheral Nerve Stimulation for Medically Refractory Atypical Facial Pain

James Tanner McMahon BS; Muhibullah S Tora BS; J. Nicole Bentley MD; Melissa A Campbell NP; Orion P Keifer MD, PhD; Nicholas M. Boulis MD
Emory University Department of Neurosurgery

EMORY UNIVERSITY

Introduction

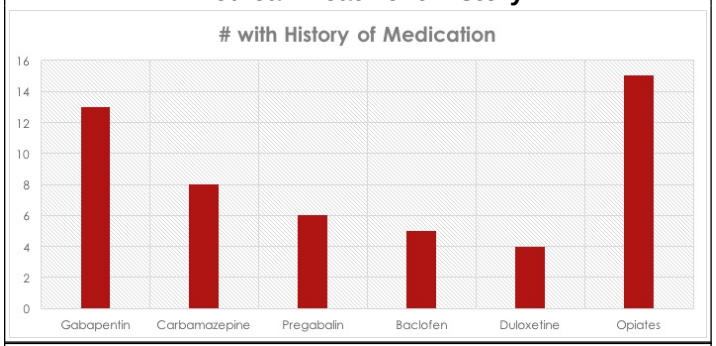
Percutaneous Trigeminal Stimulation may be an effective treatment for persistent idiopathic facial pain/atypical facial pain (PIFP/AFP). This study examined visual analog scale (VAS) scores before and after the use of neuromodulatory devices on the trigeminal and occipital nerves.

Pain Characteristics

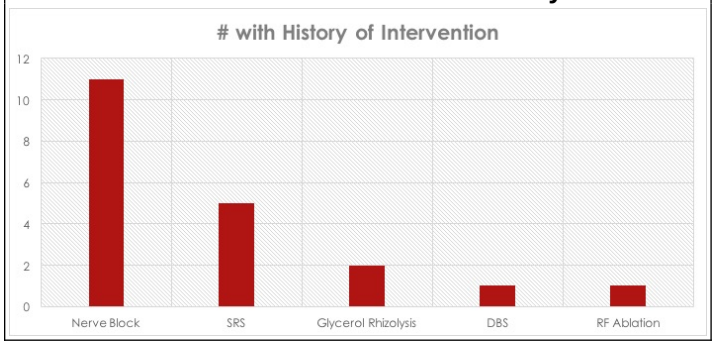
Duration	**7 years ± 8 years** **- Range 0.75 – 40** **- Median 5**
Lancinating*	15/28 = 54%
Distribution**	V1 = 64% V2 = 79% V3 = 57%

*Lancinating pain is superimposed on chronic pain **Most common combination: V1, V2, V3 = 25%

Medical Treatment History



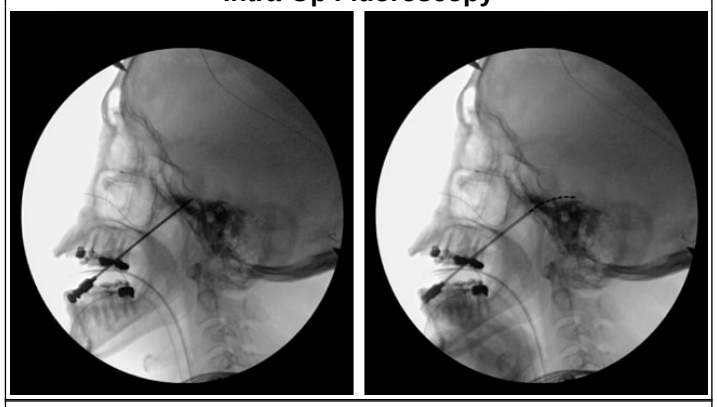
Interventional Treatment History



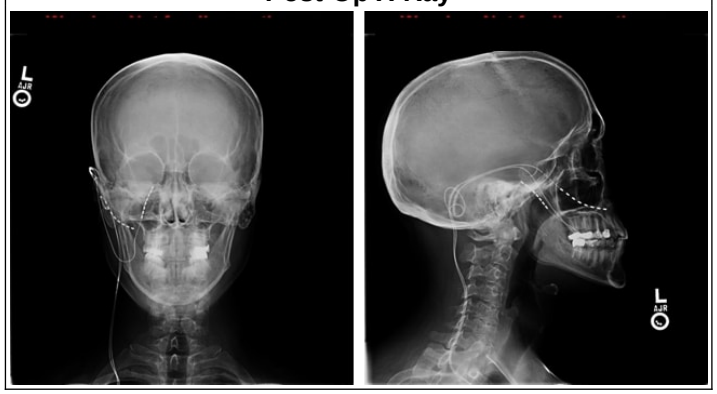
Methods

Retrospective chart review was performed for adult patients presenting to Emory University Hospital that underwent stimulation for PIFP. Recorded parameters include: previous treatments, affected nerve distributions, subjective pain reduction >50%, pre and post-operative VAS scores, rate of implantation of permanent electrodes, and complications.

Intra-Op Fluoroscopy



Post-Op X-Ray



Results

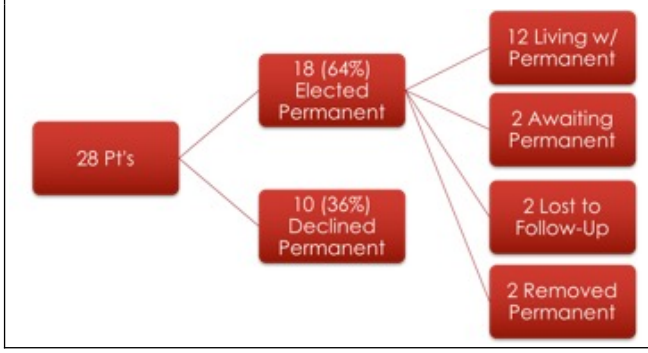
28 patients were identified with an average age of 56.5 years (SD ± 10), 22 female, 6 male, and an average VAS of 6.1 at initial presentation. Of the 28 patients who received a trial stimulation period, 20 (71%) endorsed a subjective improvement in their pain of >50%, with a mean reduction in VAS score of 4.6 (SD ± 2.4). 18 (64%) patients requested permanent implants. 8 complications occurred out of 42 total procedures (19%).

Visual Analog Scale Decrease

	Mean	Standard Deviation
VAS Before	6.1	2.0
VAS After	1.4	2.7
VAS Reduction	4.6	2.4

Two-tailed p-value <0.0001 | 95% CI Decrease = 3.54-5.72

Treatment Outcomes



Conclusions

Trigeminal stimulation may be an effective therapy in patients with PIFP/AFP who are refractory to medical treatment. Preliminary data indicates that targeted stimulation to branches of the trigeminal and occipital nerves can decrease subjective pain. Further exploration is required to determine the longevity of this therapy, changes in narcotic dependence, and to establish causality via a randomized controlled trial.