

## High Efficacy of IV Lacosamide in Controlling Trigeminal Neuralgia Flare Literature review and Case Report of Two Refractory Cases

Elham Azizi MD, Madelyn Huttner BS, Maria Carmen Wilson MD, Jose Posas MD.  
Neurology, Ochsner Medical Center.

### Introduction

Trigeminal neuralgia (TN) is a neuropathic pain syndrome that causes unilateral, shooting and shock-like pain in the CN V distribution typically involving the maxillary and mandibular regions. The pain typically lasts for seconds to minutes and is aggravated by chewing, talking, touching and other non-noxious stimuli.

Pharmacologic therapy of Trigeminal Neuralgia typically includes carbamazepine, oxcarbazepine, lamotrigine, baclofen, and gabapentin.

Using these medications does not lead to optimal outcomes all the time. These agents are often not completely effective, and patient continues to suffer from pain.

Another downside to these agents is their common adverse effect profile.

Limited studies have conducted on the efficacy of lacosamide (Vimpat) for trigeminal neuralgia. These studies have reported immediate and effective reduce in pain scores with Vimpat.

These studies also showed how using Vimpat instead of traditional treatment options which are used in controlling trigeminal neuralgia flare ups, could minimize medication side effects.

One study has shown that lacosamide reduced mechanical hypersensitivity and cold allodynia-like pain in rats.

### Case presentation

We report two cases of refractory Trigeminal Neuralgia who we trialed short-term IV lacosamide with fast and significant improvement in pain scores.

First patient was on multiple oral medications for TN management. He presented with TN flare while oral medication administration for him was impossible due to patient not able to open his mouth without eliciting excruciating pain.

Second patient presented with severe facial pain due to TN flare. This patient was only on pregabalin with a minimal control of her symptoms. She had failed trial of multiple pain management medications including carbamazepine and oxcarbazepine in the past.

Both patients were scheduled to undergo nerve block in next few days of presentation and experiencing acute exacerbation of TN has led to ED visit.

We trialed IV administration of lacosamide with 100 mg BID dose and achieved sustained improvement of pain in both cases.

For the first patient, upon receiving two doses of IV Vimpat, he was able to open his mouth without excruciating pain and we were able to resume his oral medications.

In both cases, upon controlling TN flare with short-term Locasomide, we were able to successfully bridge to the scheduled nerve block appointments. None of our patients experienced any side effects from Vimpat.

### Conclusions

TN flares could be debilitating, and in some cases limiting oral food intake and administration of oral agents due to excruciating facial pain. We reported two cases of effective short-term intravenous administration of lacosamide for acute exacerbations of TN. This report adds evidence to existing data on management of refractory TN flares with non-traditional agents including lacosamide.

### References

- Hao, Jing-Xia et al. "Lacosamide, A New Anti-Epileptic, Alleviates Neuropathic Pain-Like Behaviors in Rat Models Of Spinal Cord Or Trigeminal Nerve Injury". *European Journal of Pharmacology*, vol 553, no. 1-3, 2006, pp. 135-140. Elsevier BV, doi:10.1016/j.ejphar.2006.09.040.
- Gomez-Arguelles, JM et al. "Effectiveness of Lacosamide In the Treatment of Refractory Neuropathic Pain: An Open Observational Trial". *Europe PMC*, vol 59, no. 7, 2014, pp. 289-293.
- Joshi, S, and J Cohen. "Lacosamide As Adjunctive Therapy for Refractory Trigeminal Neuralgia". *Neurology*, vol 78, no. 1 supplement, 2016.
- Belliston, S. "Lacosamide Efficacy In Trigeminal Neuralgia And Other Neuropathic Pain Syndromes: A Case Series". *Neurology*, vol 92, no. 15 Supplement, 2019.
- Garcia-Escriva, A et al. "Treatment Of Neuropathic Pain With Lacosamide". *Europe PMC*, vol 54, no. 3, 2012, pp. 167-172.
- Coppola, N et al. "Lacosamide In The Treatment Of Trigeminal Neuralgia Refractory To Conventional Treatment Due To Severe Leukopenia Induced By Anticonvulsants". *Proceedings*, vol 35, no. 1, 2019, p. 52. MDPI AG, doi:10.3390/proceedings2019035052.
- Marin-Gracia, M et al. "Lacosamide Associated with High-Degree Block in A Patient with Trigeminal Neuralgia". *Europe PMC*, vol 66, no. 6, 2018, pp. 189-192., Accessed 11 Feb 2020.