



Video Abstract

C1-C3 unilateral dorsal root entry zone rhizotomy for the treatment of persistent postherpetic occipital neuralgia

Zaid Aljuboori, Joseph Neimat

Department of Neurosurgery, University of Louisville, Louisville, Kentucky.

E-mail: *Zaid Aljuboori - zaid.aljuboori@yahoo.com; Joseph Neimat - joseph.neimat@ulp.org



***Corresponding author:**

Zaid Aljuboori, MD,
220 Abraham Flexner Way, Ste.
1500, Louisville, KY, 40204.

zaid.aljuboori@yahoo.com

Received : 17 October 19

Accepted : 18 October 19

Published : 01 November 19

DOI

10.25259/SNI_520_2019

Videos available on:

www.surgicalneurologyint.com

Quick Response Code:



ABSTRACT

Background: Postherpetic occipital neuralgia (PHON) is a neuropathic pain condition that usually presents as paroxysmal pain that is stabbing in nature.^[5,7] It involves the occiput and posterior scalp in the distribution of the greater and/or lesser occipital nerves. It usually develops after an episode of shingles.^[5,7] Treatment usually first consists of medical therapy and then progresses to invasive treatment (e.g., peripheral nerve stimulation, spinal cord epidural stimulation, C2-C3 ganglionectomy, or dorsal root entry zone [DREZ] rhizotomy).^[1-4,6] Here, we present a case of persistent PHON that was treated with C1-C3 DREZ.

Case Description: A 37-year-old female had a history of several episodes of shingles involving the left neck and occiput; they resolved after treatment with valacyclovir. Subsequently, however, she developed severe lancinating pain of the neck and the occiput and was diagnosed with PHON. Initially, she was treated with oxcarbazepine but was stopped due to cognitive side effects. She then had a cervical spinal cord stimulator implanted which produced relief for several years; it was later removed due to breakage of the electrodes. She then underwent a left-sided C1-C2 hemilaminectomy with a C1-C3 DREZ procedure.^[1] Postoperatively, she had immediate resolution of her pain, but developed a new left hemiparesis (4+/5), accompanied by imbalance, decreased sensation to light touch, and loss of proprioception. On 6 weeks follow up, the pain was still relieved, and she exhibited significant improvement in her left-sided hemiparesis and hemisensory deficit to which returned to baseline. Similar outcome was maintained at four months follow up.

Conclusion: Although high cervical DREZ lesions may effectively treat post herpetic/occipital neuralgia that fails other measures, there may be associated major neurological morbidity that makes this procedure acceptable as a salvage option, and after clearly explaining the risks to the patient.

Keywords: Dorsal root, Herpes zoster, Neuralgia, Pain, Rhizotomy

Multimedia 1: A video describes a case of postherpetic neuralgia that was treated with dorsal root entry zone rhizotomy. It also describes the rationale, technique, pearls, and complications of the procedure.

Declaration of patient consent

Patient's consent not obtained as patients identity is not disclosed or compromised.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Harke H, Gretenkort P, Ladleif HU, Koester P, Rahman S. Spinal cord stimulation in postherpetic neuralgia and in acute herpes zoster pain. *Anesth Analg* 2002;94:694-700.
2. Johnson RW, Rice AS. Postherpetic neuralgia. *N Engl J Med* 2014;371:1526-33.
3. Keep MF, DeMare PA, Ashby LS. Gamma knife surgery for refractory postherpetic trigeminal neuralgia: Targeting in one session both the retrogasserian trigeminal nerve and

the centromedian nucleus of the thalamus. *J Neurosurg* 2005;102:276-82.

4. Kost RG, Straus SE. Postherpetic neuralgia pathogenesis, treatment, and prevention. *N Engl J Med* 1996;335:32-42.
5. Sampathkumar P, Drage LA, Martin DP. Herpes zoster (shingles) and postherpetic neuralgia. *Mayo Clin Proc* 2009;84:274-80.
6. Texakalidis P, Tora MS, Boulis NM. Neurosurgeons' armamentarium for the management of refractory postherpetic neuralgia: A systematic literature review. *Stereotact Funct Neurosurg* 2019;97:55-65.
7. Wall PD. Neuropathic pain and injured nerve: Central mechanisms. *Br Med Bull* 1991;47:631-43.

How to cite this article: Aljuboori Z, Neimat J. C1-C3 unilateral dorsal root entry zone rhizotomy for the treatment of persistent postherpetic occipital neuralgia. *Surg Neurol Int* 2019;10:214.