

Use of Cryoneurolysis Therapy for the Management of Idiopathic Trigeminal Neuralgia

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Background

- Trigeminal Neuralgia (TGN) is a debilitating condition characterized by recurrent, brief episode of electric shock-like pain, primarily due to neurovascular compression of the trigeminal nerve(1).
- TGN may also result from secondary causes such as demyelinating disease like multiple sclerosis, arteriovenous malformations or may be idiopathic(1).
- First-line treatment typically involves pharmacologic therapy, but surgical options are available for patients with TGN refractory to medical therapy(2).
- For patients with idiopathic TGN who are not surgical candidates, cryoneurolysis may be an effective, low-risk alternative for pain management.

Patient Presentation

- A 75-year old female with a past medical history of NSTEMI on Plavix, hypertension, stroke, and long-standing trigeminal neuralgia presented for pain management of her TGN.
- The patient first presented with symptoms of severe burning, clicking pain on the left cheek occurring approximately 3-4 times per year, and baseline dull facial pain since adolescence.
- Patient was on lamotrigine 125 mg BID, oxcarbazepine 600 mg BID, and 600 mg gabapentin TID.

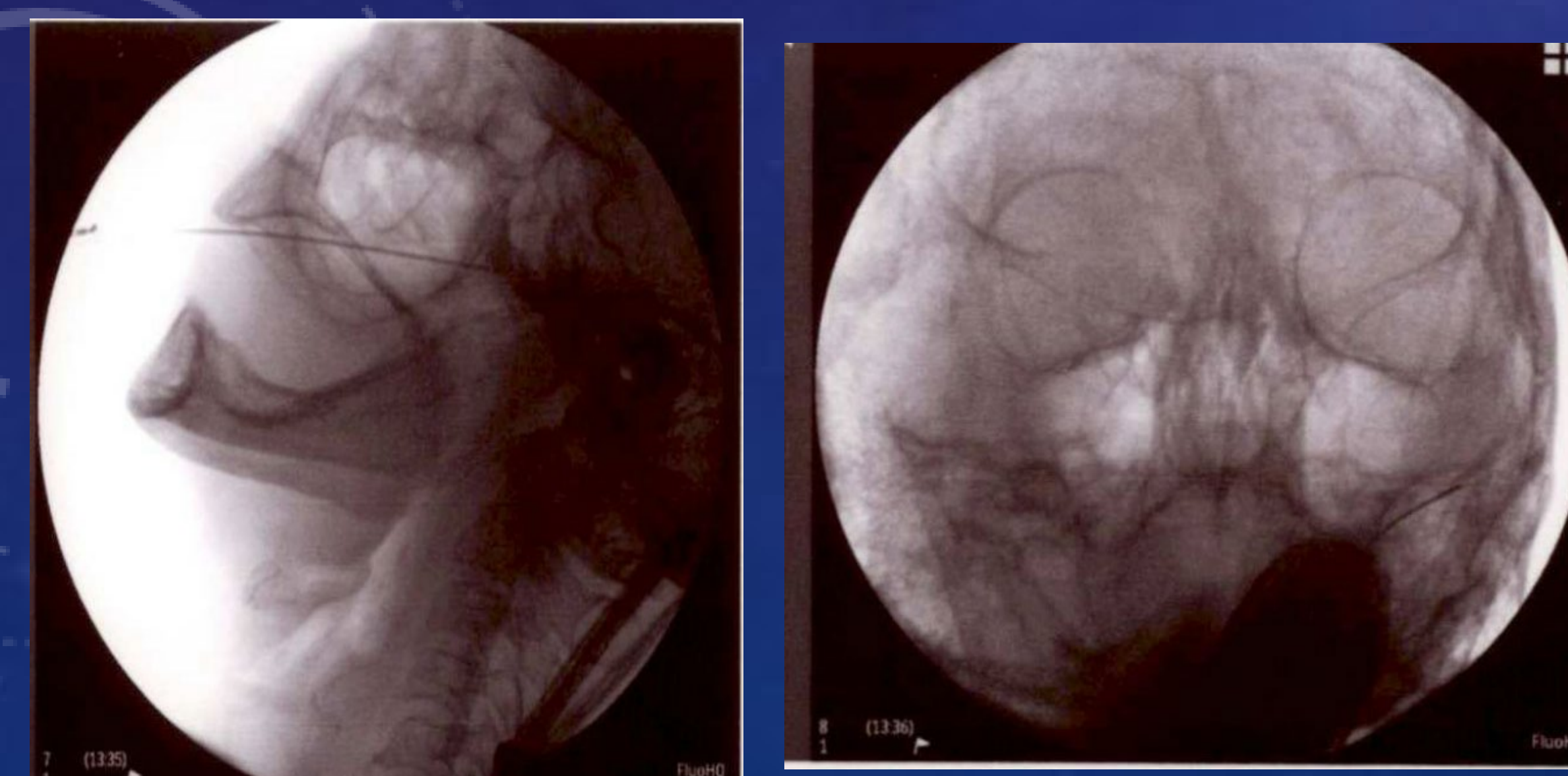
Pain Management

- The patient received trigeminal nerve block with 2 ml of 0.5% Marcaine, with initial relief followed by persistent dull pain and flare ups.
- Patient also began experiencing side effects from her medication regimen including drowsiness.
- We recommended trigeminal cryoneurolytic radiofrequency ablation with iovera[®] and the patient underwent RFA at the ipsilateral foramen ovale targeting the V2 and V3 branches of the trigeminal nerve distribution.
- The patient tolerated the procedure well with no complications. She reported a decrease in pain level from 7/10 to 2/10 after the procedure.
- In her 1-month follow up tele-visit, the patient reported a pain level of 0/10.

Discussion

- Currently, the use of cryoneurolysis device is FDA-approved for treating neuropathic pain associated with osteoarthritis and knee replacement surgery(3).
- In our patient with idiopathic TGN refractory to pharmacotherapy, cryoneurolysis significantly reduced pain and improved quality of life, with no flare ups to date.
- While cryoneurolysis is a relatively safe and quick procedure performed under fluoroscopy, ablative procedures can have higher recurrence rates (4,5).
- The risks and benefits should be carefully considered in chronic pain patients.

Figure 1A. 1B



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