

2003 Spring A56

Pulsed radiofrequency ablation of frontal and supraorbital nerves for postherpetic neuralgia: a case report

Kuthuru MR, Kabbara AI, Boswell MV

University Hospitals of Cleveland, Cleveland, OH USA

We are reporting the efficacy of pulsed radiofrequency ablation of the left supraorbital and frontal nerves for pain control in postherpetic neuralgia.

Radiofrequency ablation using heat lesioning protocol has been reported in the literature for multiple indications including cervicobrachial and deafferentation pain resulting from many causes including postherpetic neuralgia.¹ Significant short and long term reductions in pain control were noted. There is scant reporting in the literature of pulsed radiofrequency ablation. Heat lesioning is performed with temperatures of 67 degrees celsius or higher. Pulsed radiofrequency ablation is performed around 42 degrees celsius. No difference in response at 40 degrees and 67 degrees was noted with lesioning of the dorsal root ganglion.² Common side effects of heat lesioning include dysesthesias, hypesthesias, proprioceptive losses and paresis.¹ Pulsed radiofrequency lesioning is a safe, nondestructive neuroablative modality which obviates the complications of heat lesioning. It helps in pain modulation and can be performed multiple times as needed. Pulsed radiofrequency has been postulated to modulate pain processing mechanisms at the dorsal root ganglion, dorsal horn and molecular levels but the precise mode of action is unknown.

A 77 year male with a past medical history of renal transplant, non insulin dependent diabetes mellitus, history of thyroid cancer with metastases to the neck-treated successfully, cardiomegaly, sick sinus syndrome, pacemaker implantation, T-cell lymphoma, tumors of the lung, CVA, herpes zoster with a recent attack in 01/02 presented to our clinic in 03/02 with sharp/stabbing pain over the left eye, left side of the forehead upto the vertex. There was topical sensitivity over this distribution. He was on oxycontin and neurontin with minimal relief. He had been treated with antiviral medications that were stopped because of interaction with antirejection medications. Motor strength testing in extremities was 5/5. Muscle stretch reflexes were symmetric and 2+/4. Extraocular muscle movements were intact. Pupils were symmetrical, round and reactive to light. Sensation was intact to light touch. Lesions consistent with shingles above the left eyebrow were noted. Oxycontin was changed to Dilaudid and neurontin dosage increased. Topical EMLA cream was recommended. A frontal nerve block was performed in 04/02 and after good relief, pulsed radiofrequency lesioning performed in the same month with 50% relief. Prior to RF lesioning, pacemaker was changed to VVI status. After two weeks, repeat pulsed radiofrequency ablation was performed with about 80% relief. Pulsed radiofrequency of the left supraorbital nerve was performed in 07/02 and 08/02. Local anesthetic-steroid injections were performed in 7/02 and 6/02 for the left supraorbital nerve. Incidental history of a fall in 04/02 with a large subcutaneous hematoma and negative head CT. Neurontin was later changed to Tegretol. Pulsed radiofrequency ablation provides him 1-2 weeks of relief and patient has been doing reasonably well with a judicious mix of medications, local anesthetic/steroid injections and pulsed RF.

Key Words: Pain, Postherpetic Neuralgia, Supraorbital

References:

1. Effects and side effects of percutaneous thermal lesion of the dorsal root ganglion in patients with cervical pain syndrome: Sluitjer ME et al: *Pain* 1993 Jan;52(1):49-53
2. The efficacy of radiofrequency lesioning of the cervical spinal dorsal root ganglion in a double blinded randomized study: no difference between 40 degrees C and 67 degrees C treatments: Slappendel R, Crul BJ, Braak GJ, Geurts JW, Booi LH, Voerman VF, de Boo T: *Pain* 1997 Nov;73(2):159-63
3. Clinical experience with radiofrequency and laser DREZ lesions: Young RF: *J Neurosurg* 1990 May;72(5):715-20

Reg Anesth Pain Med 2003;28:A56