Occipital nerve radiofrequency ablation for occipital neuralgia and associated headaches: report of two special medical condition cases

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Purpose

To describe alternatives in the management of occipital neuralgia and associated headache.

Method

Two patients who presented to the pain clinic complaining of recurrent and incapacitating pain consistent with occipital neuralgia and associated headaches and their treatment with occipital nerve radiofrequency ablation are presented. Patient MM is a 43-year-old female with a two-year history of occipital pain and associated headaches, primarily on the left side, which developed after craniotomy, likely producing nerve trauma. Cervical MRI was noncontributory. The patient had responded with greater than 50% pain relief of several days duration to local anesthetic diagnostic/therapeutic injections of 5 ml .75% bupivacaine containing 40 mg Depo-Medrol (suspension methylprednisolone). As the patient did not wish to continue taking neuromodulators and controlled substances, which provided incomplete relief and provided undesirable side effects, she was offered the option of radiofrequency ablation vs occipital nerve stimulation with an implantable system. The patient selected radiofrequency ablation (RFA) and was scheduled for left greater and lesser occipital nerve RFA. The greater and lesser occipital nerves were lesioned with RFA applying 80°C for 90 seconds. The patient responded with 10 months of high quality relief and was able to discontinue all medication. The procedure was repeated December 2010 and the patient reported 90% relief with no headaches until the time of this submission.

Patient MM2 (coincidentally the two patients have the same initials) is a 10-week gravid 35-year-old with severe cervicalgia and cervical radiculopathy and associated occipital headaches secondary to cervical disc disease (Cervical MRI demonstrated C4-5, 5-6, 6-7 advanced degenerative disc disease) and antalgic neck positioning. She was taking two 10 mg oxycodone daily with little relief and due to severe painful distress was contemplating termination of pregnancy. Her oxycodone was increased to 3 daily, she was placed in a neck collar and a neurosurgeon was consulted. She received two bilateral greater and lesser occipital nerve blocks with 10 ml of .75% bupivacaine containing 40 mg Depo-Medrol (2.5 ml at each nerve). She responded positively on both occasions with 6 hours of high quality pain relief. The neurosurgeon recommended C4-5, 5-6, 6-7 anterior cervical discectomy and fusion in the second trimester. The patient chose radiofrequency ablation prior to proceeding with surgery. She received pulsed radiofrequency using 45°C for 240 seconds at the greater occipital nerves and traditional radiofrequency utilizing 80°C for 90 seconds. The patient responded with complete relief on the left cervical region with complete elimination of headaches and head pain bilaterally but persistence of right-sided neck pain. This right-sided cervicalgia did not improve with ipsilateral repeat ablation, probably due to the lower cervical disc disease. She was able to wean off all analgesic medication and is now in her 28th week of pregnancy.

Conclusions

Occipital neuralgia, including related headaches, are often confused with cervical spine disease and tension and migraine headaches. It is a stand-alone syndrome, which can respond to multimodal medical management, commonly supplemented by periodic office based occipital nerve local anesthetic:steroid blocks. If the patient does respond to
local anesthetic blocks and intolerance or special medical conditions exist, consideration should be given to RFA of the lesser and greater occipital nerves ipsilaterally or bilaterally, as clinically indicated.