

Microvascular Decompression for Trigeminal Neuralgia

Pages with reference to book, From 134 To 137

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Abstract

Eleven patients with intractable trigeminal neuralgia were treated by posterior fossa microvascular decompression, Complete pain relief was achieved in 7 patients (63.3%). Partial relief of symptoms was noted in 3 patients (27%). There was no operative mortality. Two patients developed transient lower cranial nerve palsies whereas one patient developed a CSF leak, requiring treatment by decompression is an effective and safe method of treatment for lumbar drain. Compared to ablative procedures, microvascular trigeminal neuralgia (JPMA 43:134, 1993).

Introduction

Trigeminal neuralgia is a condition characterised by electric shock-like sensation that most commonly involves the second and third division around the mouth and dental area. It can be a very disabling condition and the patients would normally guard their face, avoid chewing, eating, washing, shaving, applying makeup and brushing their teeth, since all these maneuvers may provoke an attack of severe paroxysmal pain¹. Approximately 50% of the patients will respond to dilantin and around 80% to tegretol². Other methods available for pain relief include retrogasserian rhizotomy, compression-decompression of Gasserian ganglion, alcohol block, peripheral neurectomy and trigeminal tractotomy. These procedures may lead to significant facial sensory loss and masseter weakness and the most dreaded complication such as anaesthesia dolorosa^{1,3}. Posterior fossa microvascular decompression of the trigeminal nerve is a sophisticated procedure aimed at treating the cause of pain, preserving the nerve and leaving no numbness, dysesthesia or cornea! anaesthesia behind that normally follows ablative procedures. Surgery is however, reserved for those who either do not tolerate medication or become refractory to such treatment and the pain becomes impossible to control³⁻⁵.

Patients and Methods

We treated 11 patients with intractable trigeminal neuralgia by microvascular decompression between 1987 and 1991. All patients had received a trial of tegretol for several years and nine out of eleven had alcohol blocks on more than two occasions. Ages of the patients ranged between 21 and 60 years (mean 46). Eight were males and 3 females. The duration of symptoms varied between 3 to 10 years (mean 5-1/2 years). Nine patients had symptoms on the right side and two on the left. Seven patients had pain in the second and third divisions and four had pain confined to the second division. All procedures were performed under general endotracheal anaesthesia, in the lateral position according to Jannetta's microsurgical description⁴. A small posterior fossa craniectomy was carried out through a retromastoid incision on the appropriate side. The dura was opened along the sinus, cerebellum retracted and the nerve visualised, using micro-surgical technique. Vascular compression was found in ten cases whereas in one patient there was no convincing abnormality. In seven patients, the compression was by a branch of AICA. In the remaining 3, the compressing vessel was not identified. The compressing vessels were mobilised away from the nerve and maintained in position by a small piece of Gel-foam. Dura was closed in all cases.

Results

The follow-up ranged from 14 months to 4-1/2 years. Seven patients had complete relief of pain and are asymptomatic till now. Two patients had partial relief in that the severity of pain was reduced and the medication was more effective in controlling pain. One patient had initial relief with recurrence within 3 months and one patient had no benefit. There was no operative mortality and eight out of eleven patients had no complications. Two patients developed lower cranial nerve palsies with difficulty in swallowing and aspiration pneumonitis. Both recovered within six weeks. One patient developed a CSF leak from the wound which was successfully treated by a lumbar CSF drainage for five days.

Discussion

Trigeminal neuralgia is an incapacitating condition. The commonest cause is vascular compression of the nerve root entry zone^{1,5}. Not all patients with tic douloureux show vascular compression². Trigeminal neuralgia must be differentiated from atypical facial pain. Medical treatment consists of drug therapy, such as tegretol, dilantin and lioresal, either alone or in combination³. For those who are refractory to such treatment, other procedures including retrogasserian rhizotomy, compression-decompression of gasserian ganglion, alcohol blocks, peripheral neurectomy, trigeminal tractotomy and stereotactic microcompression of gasserian ganglion are alternate methods available. However, these procedures result into significant facial numbness and masseter weakness^{3,4}. Microvascular decompression is an effective and relatively safe procedure for majority of patients with intractable neuralgia that has failed to respond to medical treatment. A vein instead of an artery as a compressing vessel and a minor degree of compression lessen the chances of cure as does a long duration of symptoms and prior surgical treatment^{2,5}. Surgical complications can be reduced by minimizing retraction in the cerebello-pontine angle⁵.

References

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