Geniculate neuralgia case series

2018

A retrospective review of a prospective neurosurgical database at Department of Neurologic Surgery, Mayo Clinic, Scottsdale, Arizona and Otolaryngology-Head and Neck Surgery, Mayo Clinic, Rochester, Minnesota; between 2000-2017.

Pain outcomes were dichotomized as unfavorable for unchanged/worsened symptoms versus favorable if improved/resolved. Eight formalin-fixed brains were examined to describe nervus intermedius (NI) at the brainstem.

Eleven patients were surgically treated for GN-9 primary, 2 reoperations. The median age was 48, 7 patients were female, and the median follow-up was 11 months (range 3-143). Seven had ≥ 2 probable cranial neuralgias. NI was sectioned in 9 and treated via microvascular decompression (MVD) in 2. Five patients underwent simultaneous treatment for TN (4 MVD; 1 rhizotomy) and 5 for GPN (3 MVD; 2 rhizotomy). Eleven reported symptomatic improvement (100%); 8 initially reported complete resolution (73%). Pain outcomes at last contact were favorable in 8 (73%)-all among the 9 primary operations (89% vs 0%, p = 0.054). Six prior series reported outcomes in 111 patients. CONCLUSIONS GN is rare, and diagnosis is confounded by symptomatic overlap with TN/GPN. Directed treatment of all possible neuralgias improved pain control in almost all primary operations. Repeat surgery seems a risk factor for an unfavorable outcome. NI is adherent to superomedial VIII at the brainstem; the intermediate/cisternal portion is optimal for visualization and sectioning [1].

2015

Thirumala et al., analyzed preoperative and postoperative audiogram data and brainstem auditory evoked potentials (BAEPs) from 8 patients with Geniculate neuralgia (GN) who underwent MVD. Differences in pure tone audiometry > 10 dB at frequencies of 0.25, 0.5, 1, 2, 4, and 8 kHz were calculated preoperatively and postoperatively for both the ipsilateral and the contralateral sides. Intraoperative monitoring records were analyzed and compared with the incidence of HFHL, which was defined as a change in pure tone audiometry > 10 dB at frequencies of 4 and 8 kHz.

High-frequency hearing loss occurred after MVD for TGN, GPN, or GN, and the greatest incidence occurred on the ipsilateral side. This hearing loss may be a result of drill-induced noise and/or transient loss of cerebrospinal fluid during the course of the procedure. Changes in intraoperative BAEP waveforms were not useful in predicting HFHL after MVD. Repeated postoperative audiological examinations may be useful in assessing the prognosis of HFHL [2].

2002

Excision of the nervus intermedius and/or of the geniculate ganglion by the middle cranial fossa approach without the production of facial paralysis, in any of 15 cases with geniculate neuralgia is reported. Use of these technique, sometimes in combination with selective section of the Vth cranial nerve, has been successful in relieving the pain of geniculate neuralgia [3].

In 2002 Pulec, review the long-term outcomes in 64 patients who were treated in this manner. Findings indicate that excision of the nervus intermedius and geniculate ganglion can be routinely performed without causing facial paralysis and that it is an effective definitive treatment for intractable geniculate neuralgia [4].

1997

After failing conservative treatment and after undergoing neurologic, otologic, and dental evaluations, 14 patients underwent 20 intracranial procedures consisting of retromastoid craniectomies with microvascular decompression of cranial nerves V, IX, and X with section of the nervus intermedius in most cases.

At operation, vascular compression of the nerves and nervus intermedius was found, which implicated vascular compression as an etiology of this disorder. Initially, 10 of 14 patients had an excellent outcome (71.5%), 3 experienced partial relief (21.5%), and there was 1 failure (7%). Ten patients were available for long-term (> 12 months) follow-up. Of these 10, 3 retained the excellent result (30%), 6 experienced partial relief (60%), and there was 1 failure (10%). Complications included one transient facial paresis, one facial numbness, one paresis of cranial nerves IX and X, one chemical meningitis, two cerebrospinal fluid leaks, and one superficial wound infection. Of those that fell from the excellent to partial category, this usually involved a return of atypical facial pain, but otalgia remained resolved.

Overall, good results (with excellent or partial relief) were found long term for 90% of patients in this series. The authors recommend microvascular decompression of cranial nerves V, IX, and X with nervus intermedius section for the treatment of geniculate neuralgia [5].

1)
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