INTRODUCTION

Facial neuromas are relatively rare tumors of primary neurogenic origin. When intratemporal, they commonly present with varying degrees of facial paralysis or hearing loss, but may be asymptomatic or discovered during other temporal bone procedures. Excision of facial neuromas nearly always results in facial paralysis of a House-Brackmann Grade III/VI or higher, even with primary nerve anastomosis or grafting. Observation with CT or MRI follow-up is an option. If these tumors grow, however, and the natural bony canal limits growth, facial dysfunction and other symptoms are inevitable. Thus, wide decompression of the tumors should be considered as an alternative. This conservative management constitutes removing bone around the tumor and the nerve both distal and proximal to the tumor, and it can lead to long-term preservation of function. This presentation reviews our experience with wide decompression of facial neuromas and discusses various treatment options.

METHODS AND MATERIALS

We performed a retrospective review of patients with the diagnosis of facial neuroma between 2002 and 2007. The four cases were performed via transtympanic approaches and were followed clinically and with imaging studies post-operatively.

RESULTS

<table>
<thead>
<tr>
<th>Patient</th>
<th>Pre-op House-Brackman</th>
<th>Post-op House-Brackman</th>
<th>Audio</th>
<th>Tumor location</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 yo woman</td>
<td>I/VI</td>
<td>I/VI</td>
<td>=</td>
<td>Tympanic</td>
</tr>
<tr>
<td>23 yo man</td>
<td>I/VI</td>
<td>I/VI</td>
<td>=</td>
<td>Tympanic</td>
</tr>
<tr>
<td>62 yo man</td>
<td>III/VI</td>
<td>III/VI</td>
<td>=</td>
<td>Tympanic</td>
</tr>
<tr>
<td>38 yo man (cable nerve graft)</td>
<td>V/VI</td>
<td>IV/VI</td>
<td>(-)</td>
<td>Labyrinthine</td>
</tr>
</tbody>
</table>

Case 1: A 38yo woman was diagnosed with right COM, a TM perforation, and CHL. Facial nerve function was I/VI. She underwent tympanoplasty and mastoidectomy, and a soft tissue mass of the facial nerve next to the cochleariform process was diagnosed as a facial neuroma. Decompression was performed distal to the neuroma, including the second turn and descending portion of the nerve. At her last visit, function remained I/VI. Her SRT improved to 25 dB.

Case 2: A 23yo man with a history of COM was diagnosed with bilateral cholesterolomas. His facial nerve function was I/VI and audiogram showed bilateral CHL. During cholesteroloma removal, a soft tissue mass on the tympanic portion of the facial nerve was diagnosed as a facial neuroma. Post-operative facial nerve function remained I/VI and his speech recognition threshold remained unchanged at 30 dB.

Case 3: A 62yo man presented with right facial paresis, hearing loss, and right neck pain. MRI and CT showed an enhancing mass of the facial nerve from geniculate ganglion to stylomastoid foramen. Right facial nerve exam was III/VI and audiogram showed right-sided profound SNHL. He underwent decompression within two weeks of presentation. Biopsy confirmed the diagnosis of facial neuroma. Facial nerve function was a III/VI and hearing remained stable.

Case 4: A 38yo man presented with facial paralysis x 14 months. His facial nerve exam was V/VI and a CT scan revealed a labyrinthine facial nerve mass. He underwent a transmastoid resection and cable nerve grafting utilizing the right greater auricular nerve. At follow-up, his facial nerve was IV/VI and he had a 30 db lower SRT.

CONCLUSIONS

Three patients were treated with wide decompression in this report and four such patients were previously reported, all of whom remained stable or improved facial nerve function, whereas surgical excision of facial neuromas with subsequent grafting does not offer the possibility of improvement beyond a House-Brackmann Grade III. Wide decompression of facial neuromas offers patients the possibility to maintain facial nerve function if they have limited dysfunction or do not wish to undertake excision. It should be considered as an option for patients with facial neuromas, especially those who have HB Grade I-III facial nerve function, wish to maintain hearing, or have the lesion diagnosed intraoperatively. Close follow-up is paramount after wide decompression, including CT and MRI of the intratemporal facial nerve, MRI of the cerebellopontine angle, and electroneurography (ENOG) every 6 months to 1 year. Indications for excision of a facial neuroma include worsening facial function or hearing, impending destruction of the labyrinth, or worsening ENOG.

REFERENCES