The Translabyrinthine Approach for Treating Vestibular Schwannoma - Long-term Surgical Outcomes of 332 Patients

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Learning Objectives

-Discuss the facial nerve outcome after the translabyrinthine resection of vestibular Schwannomas

-Discuss the rate of complete curation of vestibular Schwannomas of all sizes

Introduction

The most important issues in the treatment of vestibular Schwannoma are long-term tumor control and facial nerve function. In the Leiden University Medical Center, we choose to treat vestibular Schwannoma patients with resection by the translabyrinthine approach with the intention of a (near) total resection. To evaluate this policy, we studied the 5-year tumor control rate and the long-term facial nerve outcome of patients operated in a 10-year period by the same team of 2 neurosurgeons and 2 otolaryngologists.

Methods

We retrospectively reviewed the medical records of patients treated for vestibular Schwannoma by the translabyrinthine approach in the 10-year period of January 2005 through December 2014. Exclusion criteria: prior surgery or radiotherapy in the cerebellopontine angle (n=12), neurofibromatosis type 2 (n=5), pathology other than vestibular Schwannoma (n=17) and follow-up less than 1 year (n=46). We analyzed the preoperative tumor size, 5-year tumor recurrence rate and 1-year facial nerve outcome (good=House Brackman I-II; adverse= House Brackman III-VI) of these patients.

Results

We included 332 patients in this study; 163 had >5 years follow-up. Of the total group, 34% had small tumors (<1.5cm), 34% had medium-size tumors (between 1.5 and 2.5cm) and 32% had large tumors (>2.5cm). Intraoperatively, the facial nerve was anatomically and physiologically intact in 93% of patients. The 1-year postoperative facial nerve outcomes were good for 87% of small tumors, 89% of medium sized tumors and 75% of large tumors. Overall 5-year recurrence rate was 11.7% (n=19). Of these, 8 received stereotactic radiation therapy, 3 were re-operated and 8 showed stabilized tumor size and have a ‘wait and scan’ policy.

Conclusions

The translabyrinthine approach is an effective treatment for vestibular Schwannoma for long-term tumor control, and a large portion of patients have a good long-term facial nerve outcome. These results should be weighed against the potential benefits of other treatment strategies.