

Introduction

The management of young patients with small intracanalicular vestibular schwannomas (VS) is controversial. Even small VS have an unfavorable natural history: patients are highly likely to lose serviceable hearing. However, the role of hearing-preservation surgery is unclear.

Methods

We performed a single institution, retrospective analysis of patients operated for VS between 2014-2017. Patients receiving surgery for VS with maximal dimension = 1 cm and preserved preoperative (AAO-HNS grade A) hearing were included. All patients were operated via middle-fossa craniotomy. Operative results, preoperative, postoperative and last known hearing status are reported.

Results

We included 34 patients. Mean follow-up was 9 months (range 8-978 days). Mean age was 43.8 years (range 38-62 years). Average maximal tumor dimension was 7.7 mm. 31 patients had sporadic VS and 3 had Neurofibromatosis Type 2. Mean preoperative Word Recognition Score (WRS) 98% and Pure Tone Audiogram (PTA) 22.3 dB. Immediately after surgery, 6 patients (17.6%) lost hearing. In the 28 patients with hearing, mean WRS was 94.9% and PTA was 27.7 dB. 15 (44.1%) were AAO-HNS A and 13 (38.2%) were grade B. Of patients with postoperative hearing, 16 (all postoperative grade A) had follow-up data. 12 remained grade A and 4 had slightly worsened hearing, becoming grade B. The average WRS decline from postoperative audiogram to last known follow-up was 4.5%, whereas PTA improved by a mean of 2.1 dB. There were 5 (14.7%) facial nerve palsies: 3 were House-Brackmann grade 2 and 2 were grade 3. Five CSF leaks (14.7%) were treated with lumbar drainage.

Learning Objectives

1. Treatment strategies for hearing preservation in vestibular schwannoma are controversial.
2. Hearing preservation is feasible, with a known rate of complications.
3. Long term hearing preservation needs further evaluation

References

Conclusions

In a single-institution series with limited follow-up, short term hearing preservation was successful in 82.4% of patients, with acceptable rates of facial nerve palsy and CSF leak. Further follow-up is required to demonstrate durability of hearing preservation. Microsurgery to achieve hearing preservation is feasible in carefully selected patients.