

## **Hearing preservation in acoustic neuromas.**

### **A retrospective study on 25 cases with preoperative AAO-HS A and B (50/50) class, with reference to size of tumor and results.**

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#### **Abstract**

##### **BACKGROUND AND OBJECTIVE:**

The goals of acoustic neuroma (AN) surgery are total tumor resection, facial nerve (FN) preservation, and –if possible- hearing preservation (HP). With advances in meticulous microtechniques, HP has become possible in many patients with acceptable preoperative hearing. This article deals with criteria for: patient selection for possible HP and evaluation of postoperative serviceable hearing, with reference to tumor size.

##### **MATERIALS AND METHODS:**

Twentyfive consecutive patients with socially useful hearing underwent AN surgery by retrosigmoid approach. Criterion for selection has been: pure tone audiogram better than 50dB loss and speech discrimination score better than 50% (50/50 criterion), namely A and B classes of AAO-HNS classification. Even if we attempted HO also in some patients with scores worse than 50/50 (class C), they were excluded from present study. In relation to size (maximum diameter), we identified 3 AN-groups: A) less that 2cm; B) 2-3cm; C) more than 3cm. In all cases HP was attempted with assistance of intraoperative BAER.

##### **RESULTS:**

Mean age was 47,2 and average maximal diameter 2cm. Total resection was possible in 19 cases (76%%), 88,2% of group A.

In all cases FN was preserved; in 5 partial deficit was observed for maximum 6 months, recovering completely.

HP was possible in 16 cases (64%%): 70,6% of group A, 50% B, and 50% C, respectively.

##### **CONCLUSIONS:**

Compared to results obtained in greater series, our data suggest that microsurgery of AN offers high rate of HP, especially if maximum diameter is less than 2cm, identifying microsurgery as the first therapeutic option for small growing AN.