



Translabyrinthine Approach for Resection of Large Cystic Acoustic Neuroma: Operative Video and Technical Nuances of Subperineural Dissection for Facial Nerve Preservation

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Abstract

The translabyrinthine approach is advantageous for the resection of large acoustic neuromas compressing the brainstem when hearing loss is nonserviceable. This approach provides wide access through the presigmoid corridor without prolonged cerebellar retraction. Early identification of the facial nerve at the fundus is also achieved. In this operative video atlas manuscript, the authors demonstrate a step-by-step technique for microsurgical resection of a large cystic acoustic neuroma via a translabyrinthine approach. The nuances of microsurgical and skull base technique are illustrated including performing extracapsular dissection of the tumor while maintaining a subperineural plane of dissection to preserve the facial nerve. This strategy maximizes the extent of removal while preserving facial nerve function. A microscopic remnant of tumor was left adherent to the perineurium. A near-total resection of the tumor was achieved and the facial nerve stimulated briskly at low thresholds. Other than preexisting hearing loss, the patient was neurologically intact with normal facial nerve function postoperatively. In summary, the translabyrinthine approach and the use of subperineural dissection are important strategies in the armamentarium for surgical management of large acoustic neuromas while preserving facial nerve function. The link to the video can be found at: <https://youtu.be/zld2cSP8fb8>.

Keywords

- ▶ translabyrinthine
- ▶ acoustic neuroma
- ▶ subperineural
- ▶ cerebellopontine angle
- ▶ presigmoid
- ▶ microsurgery

Conflict of Interest
None declared.



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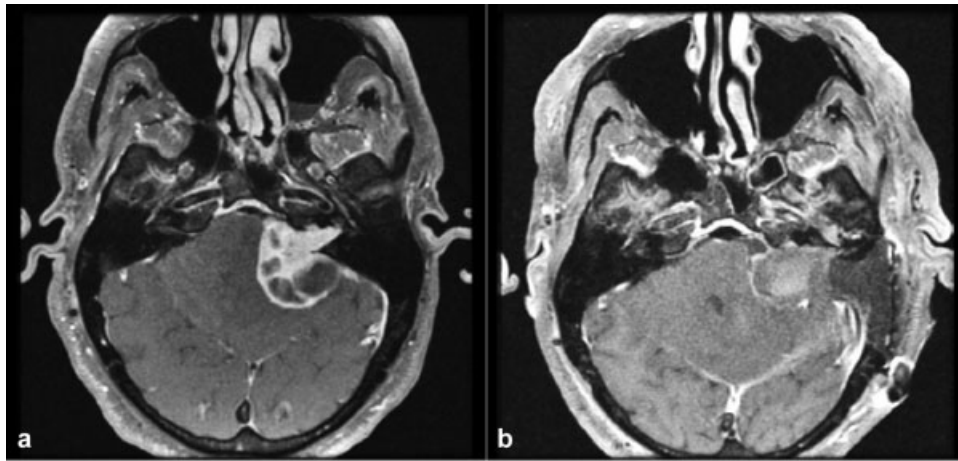


Fig. 1 Post-gadolinium T1-weighted axial MRI (a, preoperative; b, postoperative) showing successful decompression of the brainstem.

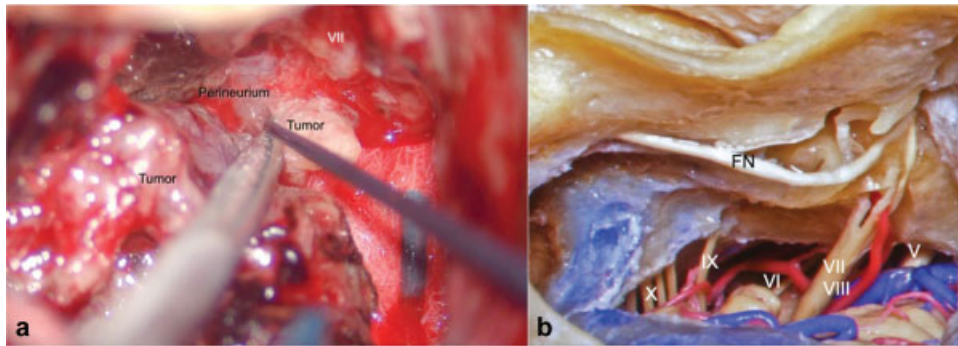


Fig. 2 (a) Intraoperative photograph showing subperineural dissection technique to separate the tumor capsule from the perineurium. (b) Cadaveric dissection showing exposure of the cerebellopontine angle via the translabyrinthine approach. (Courtesy of The Rhoton Collection).