



Transotic Approach for Resection of Expansile Endolymphatic Sac Tumor

Ravi S. Nunna¹  R Mark Wiet^{2,3} Richard W. Byrne³

¹ Department of Neurosurgery, University of Illinois at Chicago, Chicago, Illinois, United States

² Department of Otolaryngology, Rush University Medical Center, Chicago, Illinois, United States

³ Department of Neurosurgery, Rush University Medical Center, Chicago, Illinois, United States

Address for correspondence Ravi S. Nunna, MD, Department of Neurosurgery, University of Illinois at Chicago, 912 S. Wood Street, 451-N Chicago, IL, 60612, United States (e-mail: ravisnunna@gmail.com).

J Neurol Surg B Skull Base 2022;83:e665–e666.

Abstract

Objectives and Design Endolymphatic sac tumors (ELSTs) are rare and indolent tumors that arise from the endolymphatic sac in the posterior petrous ridge. We present a video case report illustrating the use of a transotic approach for resection of an expansile ELST.

Setting and Participants A 25-year-old male presented with a multiyear history of worsening left-sided hearing loss, vertigo, and headaches. Otoscopy revealed a red mass behind an intact tympanic membrane. Computed tomography revealed a large, locally aggressive mass centered in the posterior petrous temporal bone. Magnetic resonance imaging demonstrated a heterogeneously enhancing $2.4 \times 3.1 \times 2.4$ cm tumor that exerted mass effect on the cerebellar surface with extension into the jugular foramen, tympanic cavity, internal auditory canal, and cistern of the cerebellopontine angle. A transotic approach was planned to obtain the necessary generous exposure.

Main Outcome Measures and Results Preoperative angiography revealed arterial supply via the ascending pharyngeal and tumor embolization with Onyx was performed. Surgical resection began with a blind-sac closure created from the external auditory canal. The tympanic membrane and malleus were removed and the incus-tympanic joint was transected. A subtotal petrosectomy was performed for partial tumor exposure. The facial canal and sigmoid sinus were carefully skeletonized and a labyrinthectomy was performed. The tumor was resected using a combination of bipolar cautery and blunt and sharp dissection. For closure, an abdominal fat graft was secured with overlying resorbable mesh followed by sequential closure of all skin layers. Histopathologic analysis revealed an ELST.

Conclusion The transotic approach offers wide exposure and facilitates large, complex tumor removal.

The link to the video can be found at <https://youtu.be/YvhyN8iVi44>.

Keywords

- ▶ transotic
- ▶ endolymphatic
- ▶ skull base



www.thieme.com/skullbasevideos

www.thieme.com/jnlsbvideos

received
May 31, 2020
accepted after revision
August 31, 2022

DOI <https://doi.org/10.1055/s-0042-1757617>.
ISSN 2193-6331.

© 2022. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial-License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

Conflict of Interest
None declared.

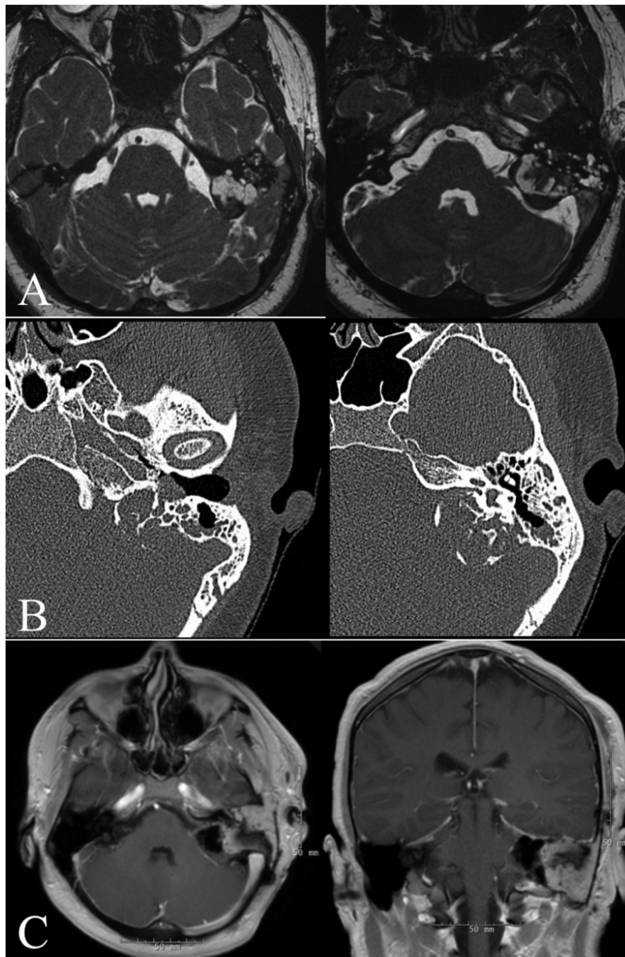


Fig. 1 (A) Preoperative axial T2-weighted magnetic resonance imaging (MRI). (B) Preoperative axial computed tomography (CT). (C) Postoperative T1 + C axial MRI revealed near total tumor resection.