

Video Abstract

Jugulotympanic paraganglioma, preoperative embolization, and transmastoid retrolabyrinthine approach: Two-dimensional operative video

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ABSTRACT

Background: Jugulotympanic paraganglioma (JTP), also known as glomus jugulare tumor, is a neuroendocrine neoplasm. Although it represents <0.5% of head-and-neck tumors, it demonstrates significant local aggressiveness due to its tendency to infiltrate bone, vascular structures, and cranial nerves. Due to the hypervascular nature of these tumors, preoperative embolization has become an important surgical adjunct. The retrolabyrinthine approach provides adequate exposure of the jugular foramen while preserving the facial nerve without mandatory transposition.

Case Description: We present a 52-year-old woman with hearing loss, tinnitus, and dizziness. Evaluation revealed left-sided anacusis secondary to prior cochlear dysfunction and severe conductive hearing loss. Computed tomography showed extensive erosion of the jugular foramen without carotid canal, labyrinth, or internal auditory canal involvement. Magnetic resonance imaging (MRI) demonstrated a Fisch D1 lesion with cisternal and extracranial extension, measured 30 × 18 × 22 mm along its craniocaudal, anteroposterior, and laterolateral axes, respectively, with an estimated volume of 5.94 cm³. After multidisciplinary discussion, preoperative embolization of external carotid branches achieved >50%, followed by a transmastoid retrolabyrinthine approach for resection. Estimated blood loss was 2500 mL. In the postoperative course, the patient had House-Brackmann grade I facial function, moderate dysphagia, and mild dysphonia. A 3-month postoperative MRI shows expected postoperative changes and no evidence of residual tumor.

Conclusion: Preoperative embolization facilitates surgical resection in advanced JTP. Combined with meticulous technique and neuromonitoring, it enables favorable functional outcomes and cranial nerve preservation.

Keywords: Facial nerve preservation, Jugular foramen, Jugulotympanic, Paraganglioma, Preoperative embolization, Skull base

[Video 1]-Available on:

www.surgicalneurologyint.com

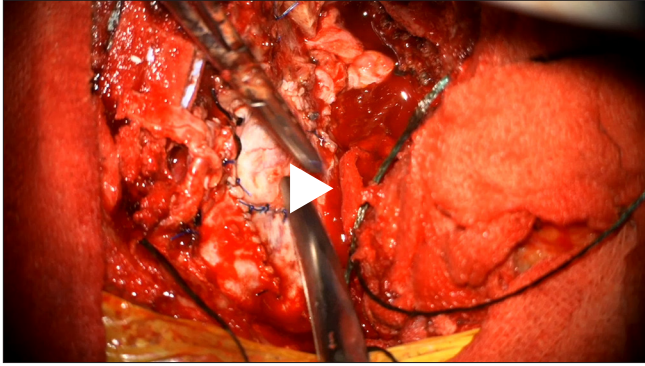
Annotations^[1-10]

00:12 - Clinical presentation

01:05 - Neuroimaging findings

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Video 1: 2D operative video demonstrating the mastoidectomy retrosigmoid retrolabyrinthine approach for resection of a Fisch D1 Type Jugulotympanic paraganglioma, highlighting key surgical steps and anatomical landmarks during the procedure. The Video is accessible from the portal. Video is accessible from the portal.

01:36 - Decision-making
 02:27 - Risks of the procedure and its potential benefits
 02:54 - Alternative treatment options and rationale for nonselection
 03:28 - Endovascular angiography embolization
 04:12 - Operative setup
 04:41 - Exposure of Macewen's suprameatal triangle
 04:56 - Mastoidectomy
 05:09 - Facial nerve neuromonitoring
 05:16 - Posterior petrosectomy
 05:38 - Extradural tumor resection
 06:58 - Intradural tumor resection
 07:40 - Temporalis fascia reconstruction
 07:48 - Hemostasis and dural closure
 08:01 - Temporalis muscle patch over the external auditory canal
 08:18 - Otoscopy
 08:23 - Postoperative imaging
 09:13 - Facial nerve examination
 09:23 - Postoperative outcome

Ethical approval: Institutional Review Board approval is not required.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given consent for clinical information to be reported in the journal. The patient understands that the patient's names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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