



# Microsurgical Resection of a Large Dumbbell-Shaped Jugular Foramen Schwannoma via Infralabyrinthine, Retrofacial, and Transjugular Approach

Daisu Abe<sup>1</sup> Masaru Aoyagi<sup>1,2</sup>

<sup>1</sup> Department of Neurosurgery, Shioda Memorial Hospital, Chiba, Japan

<sup>2</sup> Department of Neurosurgery, Kameda Medical Center, Chiba, Japan

Address for correspondence Daisu Abe, MD, Department of Neurosurgery, Shioda Memorial Hospital, 550-1 Kouri, Nagara, Chosei-gun, Chiba, 297-0203, Japan (e-mail: daisu.abe@gmail.com).

J Neurol Surg B 2021;82(suppl S1):S57–S58.

## Abstract

Surgical removal of large jugular foramen schwannomas with intra- and extracranial extension is challenging. The treatment goal is a gross total resection of the tumor without causing surgical complications, including facial nerve paresis, hearing disturbance, dysphagia, hoarseness, and cerebrospinal fluid (CSF) leakage, in addition to the brain stem injury.

We present a surgical video in a patient with a dumbbell-shaped glossopharyngeal schwannoma. The combination of posterior fossa craniotomy, mastoidectomy, and unroofing of the jugular foramen with high cervical exposure was selected. Although transposition of the mastoid segment of the facial nerve provides an excellent surgical corridor, it may affect normal facial nerve function. Sufficient drilling of the infralabyrinthine, retrofacial area of the mastoid without facial nerve transposition is important for the safe gross total removal of the tumor. Subcapsular removal behind the jugular vein is also important for preservation of the lower cranial nerve functions.

The patient underwent a gross total removal of the tumor (→ **Figs. 1** and **2**). Facial nerve function was preserved and hearing disturbance improved. Although dysphagia and hoarseness complicated postoperatively, he became able to take foods orally 16 days after the surgery.

In summary, successful removal of a large dumbbell-shaped jugular foramen tumor can be completed via infralabyrinthine, retrofacial, and transjugular approach without facial nerve transposition.

The link to the video can be found at: <https://youtu.be/U4CwOW78id4>.

## Keywords

- ▶ jugular foramen
- ▶ transjugular approach
- ▶ surgery
- ▶ schwannoma



## Conflict of Interest

None declared.

[www.thieme.com/skullbasevideos](http://www.thieme.com/skullbasevideos)

[www.thieme.com/jnlsbvideos](http://www.thieme.com/jnlsbvideos)

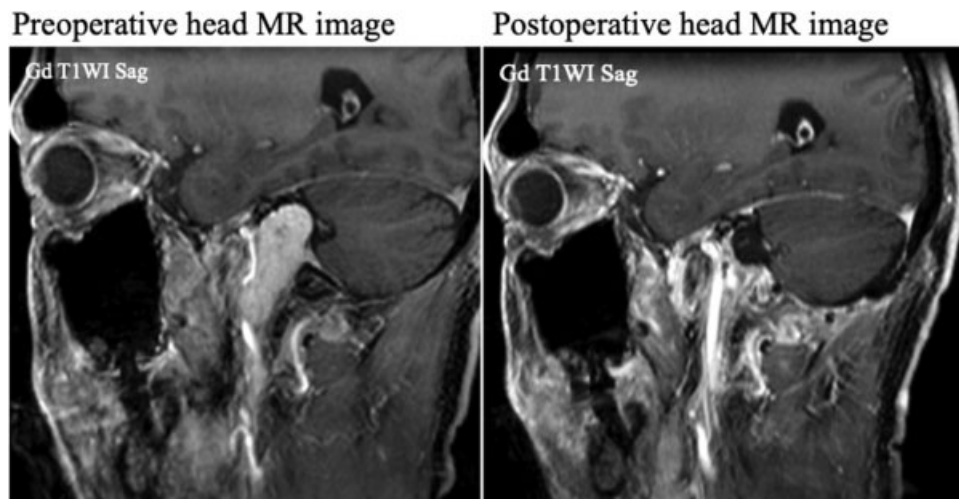
received  
February 27, 2019  
accepted  
January 13, 2020  
published online  
November 5, 2020

DOI <https://doi.org/10.1055/s-0040-1705167>.  
ISSN 2193-6331.

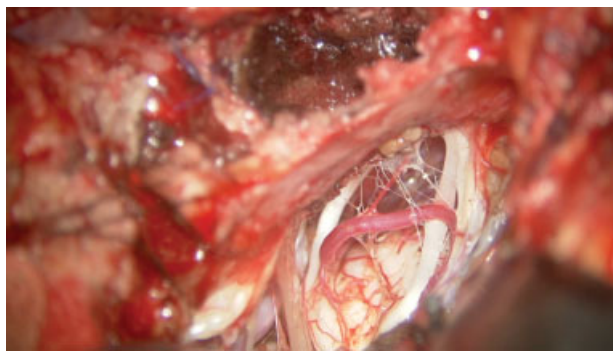
© 2020. The Author(s).

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



**Fig. 1** Pre- and postoperative MR images. MR, magnetic resonance.



**Fig. 2** Intraoperative image.