

# Retrosigmoid Transmeatal Approach with 360-Degree Drilling of the Internal Auditory Canal for the Resection of Intracanalicular Meningioma

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## Abstract

**Introduction** Vestibular schwannomas are the most common lesions occupying the internal auditory canal (IAC); however, almost in 4 to 5% of meningiomas, metastases, cysts, lipomas, and cavernous malformations have been found in this location, mimicking schwannomas. Even though cerebellopontine angle (CPA) meningiomas with the involvement of the IAC are frequently encountered, the presence of a primary intracanalicular meningioma is rare.

**Objective** To show the technical nuances of the retrosigmoid-transmeatal approach to successfully achieve gross total resection (GTR) with preservation of facial and auditory function.

**Case Report** We present a left intracanalicular meningioma on a 60-year-old man with history of tinnitus and hearing loss. Magnetic resonance imaging (MRI) showed a left intracanalicular lesion completely obliterating the IAC and with minor extension to the CPA cistern, with the vestibulocochlear complex dislocated posteriorly, initially diagnosed as a Hannover's T2 vestibular schwannoma. The patient underwent a left retrosigmoid approach, and during the exposure of the lesion, the diagnosis of a meningioma became evident. The transmeatal phase of the approach was modified with a wide opening of the canal, including the anterior wall. Closure was performed using a muscle graft, duramater flap, and fibrin glue.

**Results** GTR was achieved and the patient developed a mild facial palsy (House-Brackmann grade III) which completely recovered within 3 months.

**Conclusions** The retrosigmoid transmeatal approach is suitable to achieve GTR in intracanalicular meningiomas. Some modifications of the approach intended for vestibular schwannomas are necessary and may be performed during the procedure. The link to the video can be found at: <https://youtu.be/A9OXRf11e8>.

## Keywords

- ▶ posterior fossa meningioma
- ▶ retrosigmoid transmeatal approach
- ▶ intracanalicular meningioma
- ▶ cerebellopontine angle tumor

Conflict of Interest  
None.



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