

Translabyrinthine approach for vestibular schwannoma

Although the translabyrinthine [approach](#) was described by Panse in [1904](#) and first used to resect a [cerebellopontine angle tumor](#) by Quix in [1912](#), it was not until House published 47 resections with no mortalities in [1964](#) that the approach was truly popularized ¹⁾.

Since that time it has been well described in the literature as a useful approach for resection of [vestibular schwannomas](#) in cases where [hearing preservation](#) is not a concern. Additionally Morrison and King have described a modified use of this approach in combination with a transtentorial component for the resection of vestibular schwannomas and other lesions of the cerebellopontine angle and proximate anatomy ²⁾.

Surgical series of translabyrinthine resections often include [cerebellopontine angle meningiomas](#) of the as well as the internal acoustic meatus, schwannomas of the facial and trigeminal nerves, and cholesteatomas, neurinomas, and chordomas – illustrating the multiple uses of this approach ³⁾.

With the help of an [endoscope](#), Sun et al exposed the [internal auditory canal](#) and cerebellopontine through a [translabyrinthine approach](#) and the [inferior colliculus](#) through a keyhole [subtemporal approach](#). This double approach can be combined to expose the internal auditory canal and [cerebellopontine angle](#) and [inferior colliculus](#) satisfactorily in the same surgical setting. This combined approach can avoid retraction of the cerebellum and reduce serious adverse events and complications ⁴⁾.

Case series

[Translabyrinthine approach for vestibular schwannoma case series.](#)

Case reports

A healthy 59-year-old male with a unilateral sporadic [vestibular schwannoma](#).

The patient elected to undergo a translabyrinthine [approach](#) for [resection](#) of a vestibular schwannoma. An aberrant loop of [AICA](#) was encountered during the [temporal bone](#) dissection within the petrous portion of the temporal bone.

The patient suffered a presumed ischemic insult resulting in a fluctuating ipsilateral facial paresis and atypical postoperative [nystagmus](#).

[MRI](#) demonstrated an ischemic lesion in the vascular distribution of the right anterior-inferior cerebellar artery, including the lateral portion of the right [cerebellar hemisphere](#), [middle cerebellar peduncle](#), and bordering the right cranial nerve VII nucleus. His [functional recovery](#) was excellent, essentially identical to the anticipated course in an otherwise uncomplicated surgery.

This case highlights the irregular anatomy of the AICA as well as the importance of thorough neurological exams in the postsurgical lateral skull base patient ⁵⁾.

1)

Doig JA. Surgical treatment of acoustic neuroma. The translabyrinthine approach. Proceedings of the Royal Society of Medicine. 1970;63:775

2)

Morrison AW, King TT. Experiences with a translabyrinthine-transtentorial approach to the cerebellopontine angle. 1973 <http://dx.doi.org/10.3171/jns.1973.38.3.0382>.

3)

Morrison AW. Translabyrinthine surgical approach to the internal acoustic meatus. Journal of the Royal Society of Medicine. 1978;71:269.

4)

Sun JQ, Han DM, Li YX, Gong SS, Zan HR, Wang T. Combined endoscope-assisted translabyrinthine subtemporal keyhole approach for vestibular Schwannoma and auditory midbrain implantation: Cadaveric study. Acta Otolaryngol. 2010 Oct;130(10):1125-9. doi: 10.3109/00016481003699674. PubMed PMID: 20367538.

5)

Bauer AM, Angster K, Schuman AD, Thompson BG, Telian SA. Aberrant AICA Injury During Translabyrinthine Approach. Otol Neurotol. 2020 Sep 28. doi: 10.1097/MAO.0000000000002826. Epub ahead of print. PMID: 33003181.

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Last update: **2024/06/07 02:58**

