



## Video Abstract

# Modified retrosigmoid extended approach to jugular tubercle meningioma: A video abstract

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## ABSTRACT

**Background:** Primary jugular fossa meningiomas are one of the rarest subgroups of meningioma, with an estimated incidence of 0.7–4.3% of all skull base meningiomas. Indeed, only 145 cases of jugular foramen meningiomas have been reported in the literature to date. While meningiomas of this region are typically referred to as “jugular foramen meningiomas,” we make a distinction between meningiomas arising directly from the foramen itself, and those arising from the jugular tubercle. Jugular tubercle meningiomas, therefore, represent an even smaller subset of an already uncommon location for meningiomas. The jugular tubercle is the upper surface of the lateral parts of occipital bone presents an oval eminence, which overlies the hypoglossal canal and is sometimes crossed by an oblique groove for the glossopharyngeal, vagus, and accessory nerves. Only eight cases in the anterior foramen magnum lesions excised by a far lateral retrosigmoid approach have been described. The aim of this video article is to describe the surgical approach the senior author used to access lesion involving the jugular tubercle.

**Case Description:** In this surgical video, we present a case of a 56-year-old female presented to our hospital with dizziness, headache, lower cranial nerves deficits, and lower limbs weakness. On exam, she was noted to have a left paraparesis, 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> nerves palsies. An MRI scan demonstrated a mass in the region of the left jugular tubercle. Frozen section was suggestive of meningioma and our patient underwent a successful near total resection with no permanent neurologic sequelae.

**Conclusion:** Jugular tubercle meningiomas are one of the rarest subgroups of meningioma. The described modified retrosigmoid approach provides outstanding access to the entire ventrolateral brainstem and cerebellopontine angle, with reduced approach related morbidity.

**Keywords:** Jugular tubercle, Meningiomas, Retrosigmoid approach, Supracondylar

### [Video 1]-Available on:

www.surgicalneurologyint.com

### Annotations<sup>[1-6]</sup>

- 1) 00:00 – Clinical presentation.
- 2) 00:29 – preoperative imaging.
- 3) 00:51 – Rational, Positioning, and surgical planning.
- 4) 01:41 – Procedure video.

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- 5) 07:54 – Post operative imaging.
- 6) 08:21 – surgical outcome and follow up

#### **Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent.

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Nil.

#### **Conflicts of interest**

There are no conflicts of interest.

#### **REFERENCES**

1. Elarjani T, Khairy S, Alsaleh S, Ajlan A. Endoscopic transnasal resection of an anterior planum sphenoidale meningioma.

- Surg Neurol Int 2020;11:93.
2. Hoshide R, Faulkner H, Teo M, Teo C. Keyhole retrosigmoid approach for large vestibular schwannomas: Strategies to improve outcomes. *Neurosurg Focus* 2018;44:E2.
3. Jannetta PJ. Neurovascular compression in cranial nerve and systemic disease. *Ann Surg* 1980;192:518-25.
4. Matsushima K, Kohno M, Nakajima N. Hearing preservation in vestibular schwannoma surgery via retrosigmoid transmeatal approach. *Acta Neurochir (Wien)* 2019;161:2265-9.
5. Nowak A, Dziedzic T, Czernicki T, Kunert P, Marchel A. Surgical treatment of jugular foramen schwannomas. *Neurol Neurochir Pol* 2014;48:188-95.
6. Pai SB, Raghuram G, Keshav G, Rodrigues E. Far-lateral transcondylar approach to anterior foramen magnum lesions-Our experience. *Asian J Neurosurg* 2018;13:651-5.

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