

Combined Presigmoid and Retrosigmoid Approach to Petroclival Meningiomas

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Abstract

Introduction The management of petroclival meningiomas is among the most intimidating in neurosurgery, due to its difficult accessibility and close relationship with vital structures; therefore, an appropriate exposure is mandatory. We present a surgical video demonstrating a presigmoid transtentorial approach, associated with the opening of the retrosigmoid dura to a petroclival meningioma, performed by the senior surgeon (L.A.B.B.), along with its indications and pitfalls.

Approach Decision The patient's clinical history is summed to the tumor's radiological features as its extension, vascularization, and venous drainage, when selecting the appropriate approach. The presigmoid transtentorial approach offers a wide exposure of the petroclival area along with the tumor's attachment. Its association with the retrosigmoid route allows the surgeon to freely work through multiple paths, and parallel to the skull base, reducing the traction in the temporal lobe.

Clinical Case This is a 39-year-old female presenting with trigeminal neuralgia. Imaging depicted a petroclival meningioma, extending from the posterior aspect of the cavernous sinus to the cerebellopontine angle, extending inferiorly to the jugular bulb. A Simpson II resection was achieved through a combined presigmoid and retrosigmoid approach, and the patient was discharged with no complications or new deficits.

Keywords

- meningioma
- petroclival
- petrosal
- skull base
- brain tumor

Conflict of Interest
None.



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Conclusion Petroclival meningiomas are a formidable and surgically treatable disease. The appropriate approach is design to each patient and should not be the limiting factor for total tumor removal, which is truly given by the absence of a dissection plane between the tumor and the brainstem, nerves and vascular structures of the skull base. The link to the video can be found at: <https://youtu.be/MFjqZvElBS0>.