

# Microsurgery for Cervicomedullary Tumor: 2-Dimensional Operative Video

Ricardo Lourenço Caramanti, MD\*, Marcos Devanir Silva da Costa, MD, MSc<sup>\*‡</sup>, Yair A. Ugalde Hernández, MD\*, Carmen Lucia Penteadó Lancellotti, MD<sup>‡</sup>, Oliver Soto Granados, MD\*, Kleber Gonzalez Echeverria, MD\*, Hugo Leonardo Doria Netto, MD<sup>\*‡</sup>, Jose Maria de Campos Filho, MD<sup>\*‡</sup>, Feres Chaddad-Neto, MD, PhD<sup>\*‡</sup>

\*Department of Neurosurgery, Universidade Federal de São Paulo, São Paulo, Brazil;

<sup>‡</sup>Hospital Beneficência Portuguesa de São Paulo, São Paulo-SP, Brazil

The treatment of brainstem tumors are challenging for the neurosurgeons due to the delicate nature of this region. These tumors present a bimodal incidence, with one peak occurring during childhood, where up to 18% of all tumors manifest, while the other occurs during the fourth decade of life. The classic clinical presentation for brainstem tumors is the involvement of cranial nerves. About 90% of the cases have glial etiology, allowing the radiological classification of these tumors into 4 different types: type I, diffuse; type II, focal, limited, and slow-growing tumors; type III, exophytic tumors, mostly low-grade gliomas, and type IV, cervicomedullary tumors, which may commonly present as an exophytic lesion.

We present a 52-yr-old patient with a type IV tumor. The patient reported a history of high cervical pain, which started about 2 mo after admission, and was associated with lower right limb paresthesia. Examination of the cervical and encephalic regions using magnetic resonance imaging revealed a tumor located in the posterior medulla oblongata medial line, near the fourth oblique ventricle. Resection of the lesion was performed using a median suboccipital approach, with subsequent entrance to the oblong medulla via the median posterior sulcus. The lesion was successfully resected. Following surgery, the patient maintained the initial evoked potentials and previous paresthesia in the lower right limb. Pathologic examination revealed that the tumor was a grade II ependymoma. Herein, we present a video demonstrating the microsurgical steps that were required to perform the cervicomedullary tumor resection.



Watch now at <https://academic.oup.com/ons/article-lookup/doi/10.1093/ons/opy024>

The patient signed the Institutional Consent Form, which allows the use of his/her images and videos for any medical publications in conferences and/or scientific articles.

## Disclosure

The authors have no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

## COMMENT

**T**his video demonstration of a resection of a cervicomedullary tumor demonstrates that with a careful approach, a symptomatic low-grade lesion in this area can be successfully resected as long as it is relatively dorsal and approaches a pial surface. Once inside the lesion, careful microsurgery, and a conservative treatment of the tumor boundaries is essential.

**Richard W. Byrne**  
Chicago, Illinois