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Surgical Neurology International

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Video Abstract

Microsurgical resection of a giant cervico-medullary ependymoma: 2D-dimensional video

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Received : 15 July 2021
Accepted : 28 July 2021
Published : 30 August 2021

DOI
10.25259/SNI_698_2021

Quick Response Code:

ABSTRACT

Background: Ependymoma is a slowly growing benign neoplasm that constitutes 3–9% of all neuroepithelial spinal cord tumors.[3,4] They rarely involve the cervicomedullary junction where they both compress the distal brainstem and upper cervical cord. Due to the critical contiguous structures, gross total resection of these lesions may result in significant morbidity/mortality.[1,2] Utilizing intraoperative neuromonitoring can help limit the risks of removing these lesions. Not when considering the risk/complications of partial versus total resection, the surgeon should keep in mind that they are benign slow growing tumors with relatively good long-term survivals following partial removals. This surgical video shows the surgical strategy and management of a giant cervicomedullary ependymoma performed in a 23-year-old female.

Case Description: A 23-year-old female presented with cervical pain and quadriparesis of 1-year's duration. The MR with/without gadolinium showed a large intradural, intramedullary cervical spinal cord tumor that severely expanded the spinal cord. It contained a significant cystic component, extending from the lower brain stem to the inferior aspect of C7. The lesion was hyperintense on T1 and T2 sequences and demonstrated minimal contrast enhancement. Surgery warranted a posterior cranio-cervical midline approach consisting of a suboccipital craniectomy with laminotomy. The pathological diagnosis was consistent with an ependymoma (WHO I). Fifteen days postoperatively, the patient was discharged with a minimal residual quadriparesis that largely resolved within 6 postoperative months. Three months later, the MRI confirmed complete tumor removal of the lesion. Notably, longer-term follow-up is warranted before complete excision can be confirmed. If there is a recurrence, repeat resection versus stereotactic radiosurgery may be warranted.

Conclusion: This video highlights a safe and effective surgical technique for the resection of a giant cervico-medullary ependymoma.

[Video 1]-Available on:
www.surgicalneurologyint.com

Annotations[1-4]

1) 2:55 – Midline mielotomy.
2) 3:27 – Beginning of tumor dissection.
3) 4:14 – Ultrasonic debulking from brainstem.
4) 4:57 – Tumor removal.

Declaration of patient consent

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

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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How to cite this article: Oberman DZ, Machado R, Ribeiro LF, Von Zuben D, Bahia PA, Schiavini HC, *et al*. Microsurgical resection of a giant cervico-medullary ependymoma: 2D- dimensional video. Surg Neurol Int 2021;12:440.