

Video Abstract

Unedited microneurosurgery of a posterior fossa pilocytic astrocytoma

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Abstract

Background: Pilocytic astrocytoma (PA) is a WHO grade I glioma and the most common pediatric brain tumor. PA is most commonly localized in the cerebellum with extremely rare dissemination and progression to higher grade astrocytomas. Thus, overall survival rates are excellent after gross total resection. Herein, we present an unedited microneurosurgery of a histologically confirmed cerebellar PA. Our aim is to demonstrate the efficiency and safety of our microsurgical technique into deep brain territories. For this, a paramedian supracerebellar infratentorial approach and a proper praying sitting position are essential.

Case Description: A patient with cerebellar PA was placed in a sitting praying position to perform a right paramedian supracerebellar infratentorial approach. The lesion was identified after opening the superior cerebellar surface, followed by tissue samples and partial debulking under high microscopic magnification. Internal debulking of the tumor was performed with ring microforceps and bipolar forceps in the right hand and a thumb-regulated suction tube in the left hand. The poorly differentiated borders between the tumor and the surrounding parenchyma were determined under microscopic vision. Bipolar coagulation forceps were used to shrink the tumor and to remove it by piecemeal reduction. Small vessels feeding the tumor were coagulated and cut. Water irrigation provided us a clean surgical field and the recognition of small bleeding vessels. The final steps included evaluation of some hidden tumor remnants and meticulous hemostasis with electrocoagulation. After gross total removal of the tumor, the large cerebellar surface was covered by Tachosil and Surgicel. In our experience, both elements are essential for a good hemostasis. The postoperative course was uneventful and the patient is alive and free of tumor recurrence.

Conclusion: This unedited video offers all detailed aspects that are, as the senior author JH considers, essential for a neurosurgeon when performing an efficient and safe surgery for a large PA in the posterior fossa.

Video link: <http://surgicalneurologyint.com/video/gallery/cerebellar-tumor>

Key Words: Cerebellar pilocytic astrocytoma, sitting position, supracerebellar infratentorial approach, unedited microsurgical video

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