

Suprafacial Approach for Resection of a NF1-associated Progressive Focal Pontine Pilocytic Astrocytoma: 3-Dimensional Operative Video

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INTRODUCTION

Brainstem low-grade gliomas in locations other than tectal midbrain often require more definitive therapy. With the advent of the MRI and advances in operative techniques, neurosurgical resection is attempted for many non-tectal brainstem low-grade gliomas. This video demonstrates the surgical technique used for the suprafacial approach to a progressive focal pontine pilocytic astrocytoma. The patient consented to publication of her images. The patient was a 17 year old female who had presented to outside center with a known history of neurofibromatosis type 1 but neurological difficulties secondary to a cystic and solid lesion of the brainstem. VP shunt was placement first and then a biopsy was performed and an Ommaya reservoir placed in the cyst. Unfortunately, the cyst would refill on a weekly basis at which point the patient would have difficulty walking and swallowing as well as trouble with speech. This necessitated weekly tapping of the reservoir. Then the patient was transferred to our hospital. The patient was put in prone position. We used telovelar approach to expose all the way up to the aqueduct. Under the guidance of stimulation and mapping of the floor of 4th ventricle, we chose the suprafacial collicular safe entry zone to resect the tumor. The tumor was pretty vascular and we got a gross total resection which was confirmed by the intraoperative MRI. The pathology was pilocytic astrocytoma. Postoperatively, the patient's body movement was normal and right facial weakness remained at her baseline and resolved at 3 months follow-up.

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Video 1. Suprafacial approach for resection of a NF1-associated progressive focal pontine pilocytic astrocytoma: 3-dimensional operative video.

DISCLOSURE

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