

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

Chenran Zhang^{1-4*} and Frederick A Boop³⁻⁶

¹Department of Pediatric Neurosurgery, School of Medicine, Shanghai Jiao Tong University, Xinhua Hospital, Shanghai, China

²Clinical Research Unit, School of Medicine, Shanghai Jiao Tong University, Xinhua Hospital, Shanghai, China

³Department of Neurosurgery, Le Bonheur Children's Hospital, Memphis, Tennessee, USA

⁴St Jude Children's Research Hospital, Memphis, Tennessee, USA

⁵Department of Neurosurgery, University of Tennessee Health Science Center, Memphis, Tennessee, USA

⁶Semmes-Murphey Brain and Spine Institute, Memphis, Tennessee, USA.

Received March 13, 2019; Accepted April 08, 2019; Published July 23, 2019

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.

Corresponding author: Chenran Zhang, School of Medicine, Shanghai Jiao Tong University, Xinhua Hospital, NO.1665 Kongjiang RD, Shanghai, 200092, China, Tel: +86 (21) 25078975; E-mail: christopher205121@hotmail.com

Citation: Zhang C & Boop FA. (2019) Suprafacial Approach for Resection of a NF1-associated Progressive Focal Pontine Pilocytic Astrocytoma: 3-Dimensional Operative Video. J Neurosurg Imaging Techniques, 4(2): 213-214.

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

DISCLOSURE

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

DISCLOSURE OF FUNDING

None.