



SSG CASE REVIEW: Trans-Sulcal Surgical Approach Biopsy of Left Basal Ganglia Dysembryoplastic Neuroepithelial Tumor (DNET) in a Pediatric Patient

Clinical Presentation

The patient is a 9 year-old male who presented with a 2-month history of headaches, which were worsening over the last 6 weeks and associated with blurry vision. He was neurologically intact. A head CT was obtained which showed a large **left frontal/basal ganglia mass**. MRI showed an unusual intra-axial and extra-axial lesion, **3.9 x 4.3 x 3.5cm (AP x TV x CC)**, without restriction or enhancement. The deep aspects of the lesion did not have mass effect, but as it extended superiorly, it caused a mass effect on the ventricle and bowed the cavum septum pellucidum. Per neuroradiology, the differential included low-grade neuroglial/gliar neoplasm, neuroglial cyst, or infectious cyst.

Surgical Management

The goal of surgery was to **biopsy the unknown mass for pathology, collect tissue for genomic testing, and debulk the lesion conservatively and safely**. The plan was to be minimally disruptive so the patient could recover and be released to celebrate the upcoming holiday with family. A frontal parasagittal approach was selected to run parallel to the superior occipitofrontal fasciculus. An incision was made behind his hairline and a small frontal craniotomy was performed. After the dura was opened, the desired sulcus was visualized. A tubular retractor was cannulated along the preplanned trajectory to the target lesion. An automated resection device was used to debulk the tumor and collect the resected tissue. This provided adequate tissue for histopathology for primary diagnosis. Collected tissue was preserved for chromosomal microarray and molecular genomics.

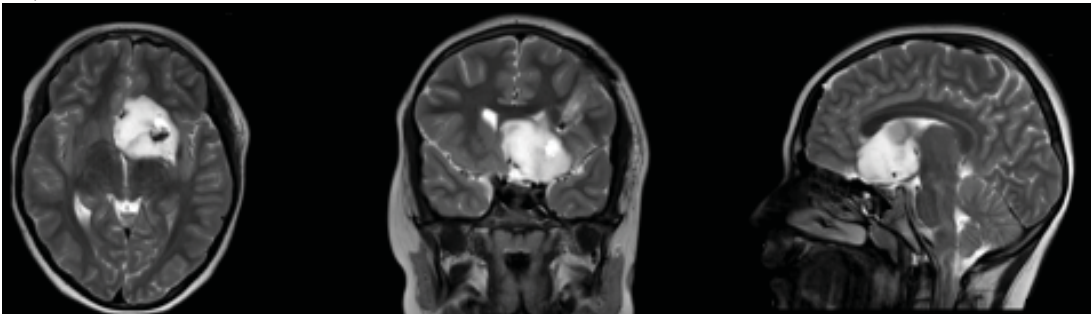
Clinical Course & Outcomes

The patient was discharged on post-op day 1. He left the hospital neurologically intact, denying pain, and off steroids. There has been **no disease progression on follow-up MRI**. The tumor pathology was consistent with dysembryoplastic neuroepithelial tumor (DNET). Chromosomal microarray (CMA) analysis did not reveal pathogenic copy number aberrations in this sample. The current treatment plan is expectant observation with serial MRIs.

Pre-Op Scans:



Day 1 Post-Op Scans:



If you have a notable case review to share, please contact us at info@SubcorticalSurgery.com