SUBCORTICAL SURGERY GROUP

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SSG CASE REVIEW: Parafascicular Surgical Approach

Primary Tumor with "Real-Time" Intraoperative Imaging

Clinical Presentation

The patient is a 15-year-old asymptomatic female who was in clinic for routine evaluation due to a known **low grade astrocytoma** which had been treated with stereotactic radiation. The patient has a history of hydrocephalus, previously treated with endoscopic third ventriculostomy. A routine MRI showed the thalamic mass had enlarged and required biopsy/resection.

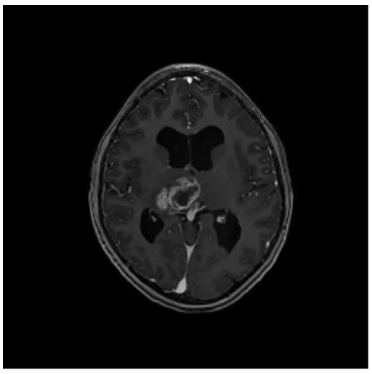
Surgical Management

Based on scan interpretation, a right-sided parietal approach was planned. **A new intraoperative ultrasound probe was used to identify the accurate location of the entry sulcus prior to creating a dural incision.** A snug dural opening is important when introducing the tubular retractor as brain shift may occur. (See image and video below.) The trajectory was planned to stay superior to the optic radiation and inferior to ascending ramus of the superior longitudinal fasciculus (SLF). An awake craniotomy was performed with the goal of monitoring motor and sensory response. **Intraoperative ultrasound and navigation was used throughout the procedure to check tumor margin and verify the extent of resection in real-time.** Tumor resection continued until a deficit was reached. Pathology confirmed the tumor as a grade II diffuse fibrillary astrocytoma.

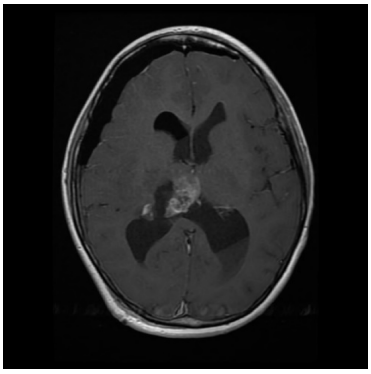
Clinical Course and Outcomes

The patient experienced mild left hemiparesis post-operatively. At her one-month follow-up, hemiparesis had improved and she had resumed playing the violin.

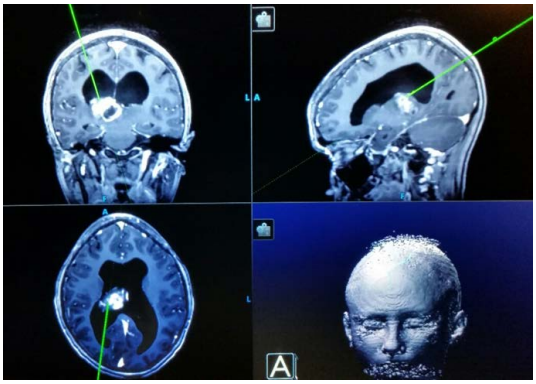
Pre-Op Scan



Post-Op Scan: Day 1

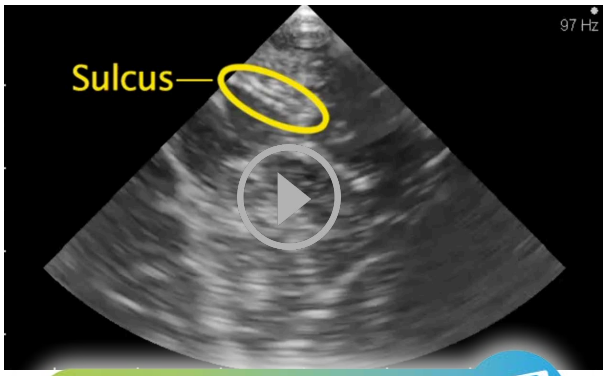


Trajectory Planning



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

Ultrasound Probe Identifying Sulcus



watch the video here