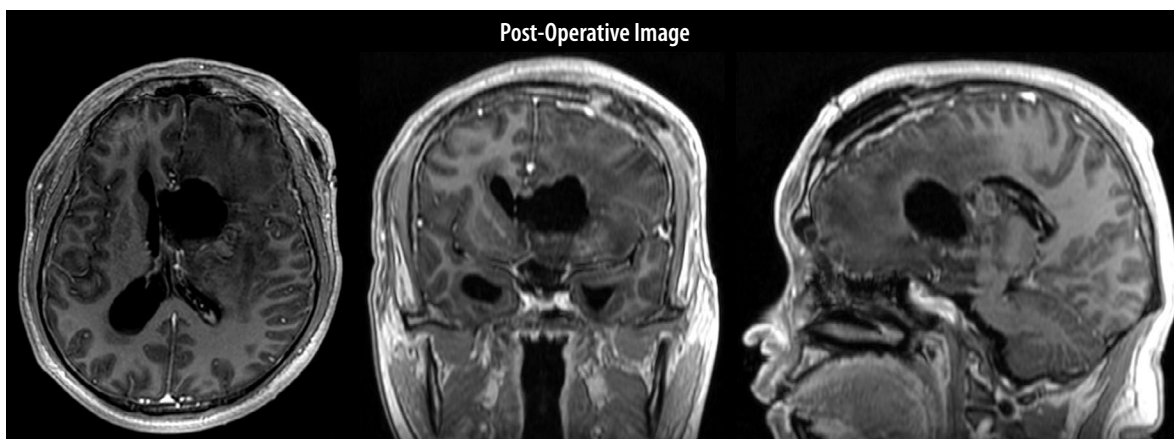
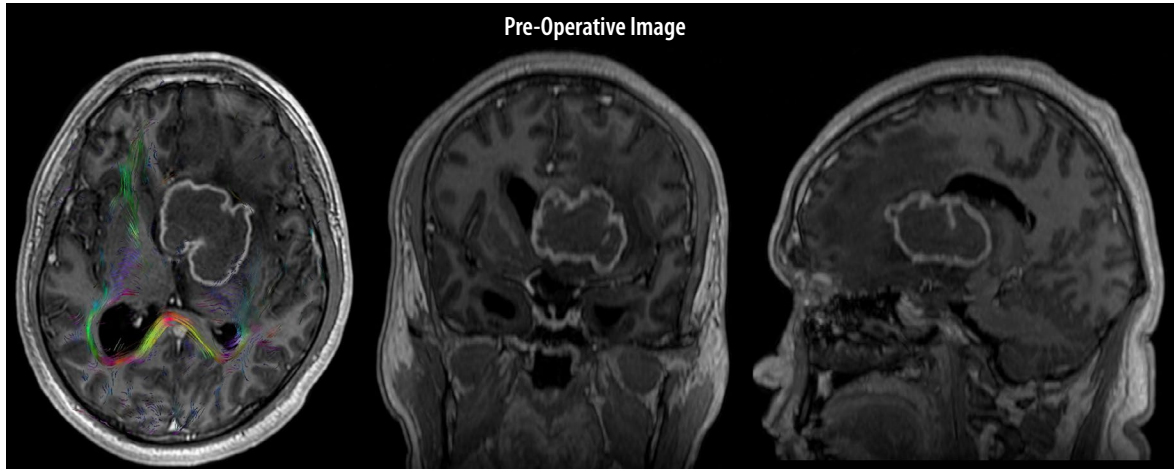


SSG CASE REVIEW: Frontal lobe deep white matter and basal ganglia tuberculoma

Clinical Presentation

Patient was a 24-year-old right-handed male with no significant past medical history, who presented to the emergency area with seizures on 6 episodes not classified as status epilepticus. The relative reported a 5-day history of severe headache and anorexia. On physical examination, the patient was in the post-ictal period with a Glasgow coma score of 14/15, and a right hemiparesis was notable.

Contrast-enhanced MRI showed a 5.3 x 3.2 x 4.7 cm (41.4 cm³) irregular ring-enhancing mass located deep in the left frontal lobe and spreading to the basal ganglia with effacement of frontal horn of the lateral ventricle and significant edema causing a large amount of mass effect. It was suspected to be a high-grade primary brain neoplasm. The remaining physical exam and a thoracic / abdominal CT scan was unremarkable.

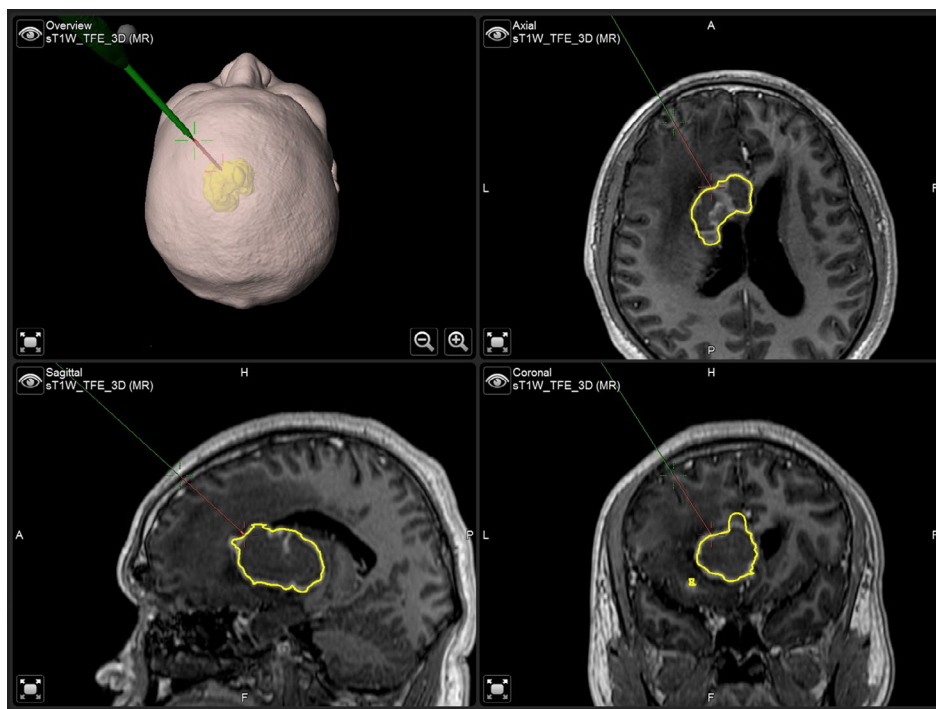


Surgical Management

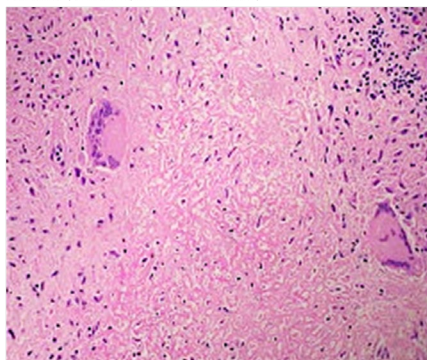
The team's choice was a minimally invasive technique, through a left frontal craniotomy and a trans-sulcal approach used to access the deep-seated lesion using a tubular retractor system for access, with a goal of gross total resection.

Trajectory was planned via Kocher's point under neuronavigation guidance. The distance from bone to target was approximately 40 mm. Fluorescein-guided (NaFl 5 mg/kg IV, after testing for an allergic reaction) microsurgical technique were performed to remove the tumor and hemostasis was managed post-removal. Total surgical time was reported as under four hours by the surgical team.

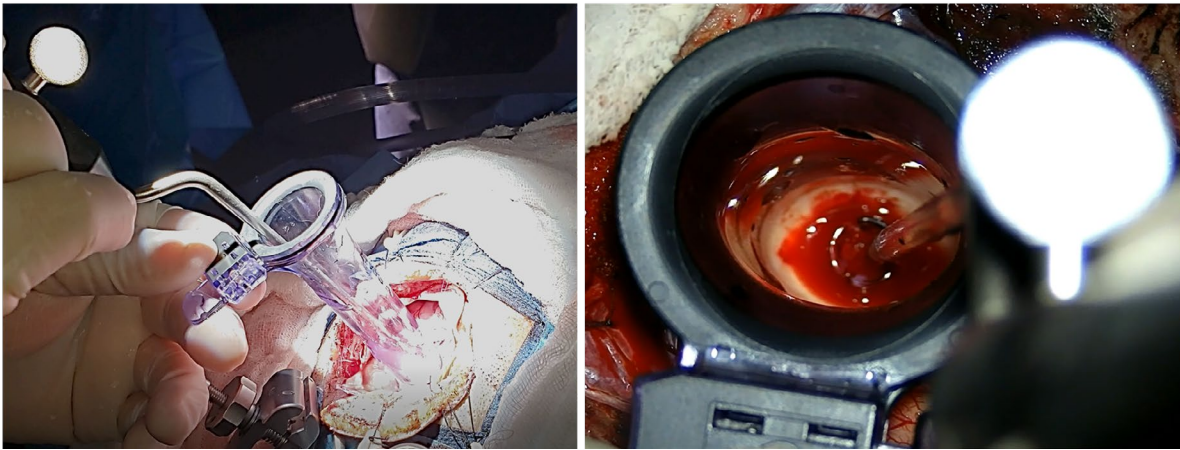
The pathological report showed: tuberculosis-like granulomatous inflammation, with negative Ziehl Neelsen staining for acid-fast bacilli (AFB), which was later confirmed by polymerase chain reaction test (PCR).



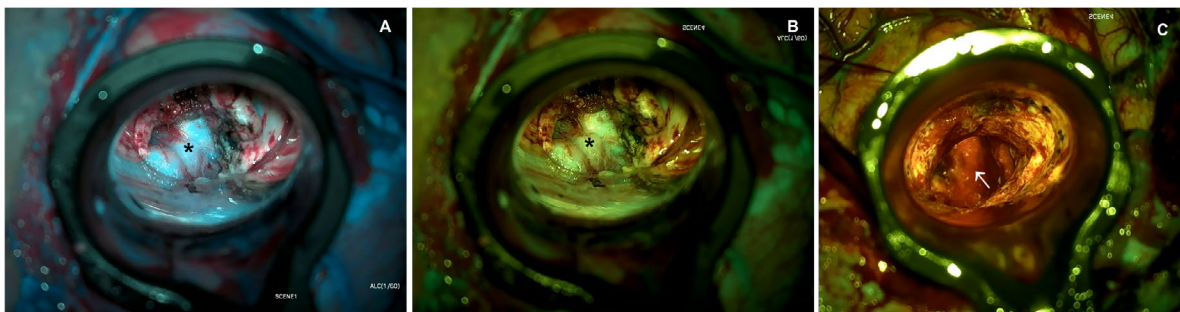
Trajectory planning: Intra-operative neuronavigation image confirming distance from bone to target.



Histopathological study:
Granulomatous inflammatory infiltrate
(hematoxylin and eosin, x50)



Intra-operative image: Neuronavigation-guided introduction of tubular retractor system perpendicular to the cortical surface towards the target. The tubular retractor is gently introduced, which minimize brain tissue disruption with low retraction pressure due to the distribution of retraction force in all directions of the area.



Intra-operative image: (A-B) Microsurgical image under YELLOW 560 filter showing high fluorescence uptake of tumor area (*), allowing it to be distinguished from normal tissue. **(C)** Total exeresis of the tumor and normal tissue without showing fluorescence uptake (arrow).

Clinical Course & Outcomes

The reported case presented with an isolated brain lesion without any primary foci in the lung parenchyma or any other organ.

Antifimic treatment began as soon as the diagnosis was confirmed by PCR. He was discharged on post-operative day 7 with mild persistent hemiparesis, being transferred to an infectious disease hospital for further treatment. At two-week follow-up, patient remained without added neurological deficit.

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