

Neurosurgeons Collaborate to Treat Giant Symptomatic Meningioma



RAMIN RAK, M.D.

- Spine Surgery
- Brain Tumors



Scan to learn more about Dr. Rak



JONATHAN BRISMAN, M.D.

- Cerebrovascular Neurosurgery
- Brain Tumors
- Spine Surgery



Scan to learn more about Dr. Brisman

CLINICAL PRESENTATION:

For several days, an otherwise healthy, 62-year-old woman displayed confusion, headaches, and word-finding difficulties. She was brought to the emergency department at a local hospital and underwent a CAT scan of the head which showed a large mass in the left frontal region with mass effect, consistent with a brain tumor.

The patient was admitted to the hospital's intensive care unit and started on steroids and seizure prophylaxis medications. A subsequent MRI scan, with and without contrast, revealed that the large mass was a giant left frontal extra-axial meningioma (Fig. 1).



Figure 1

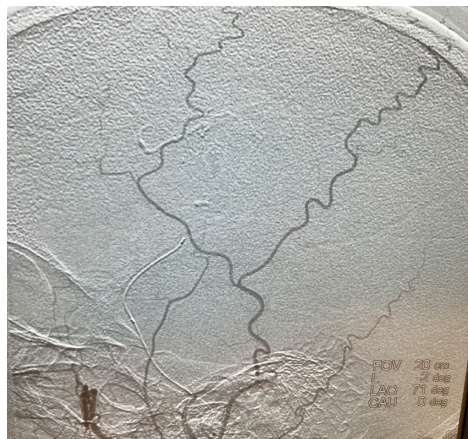


Figure 2

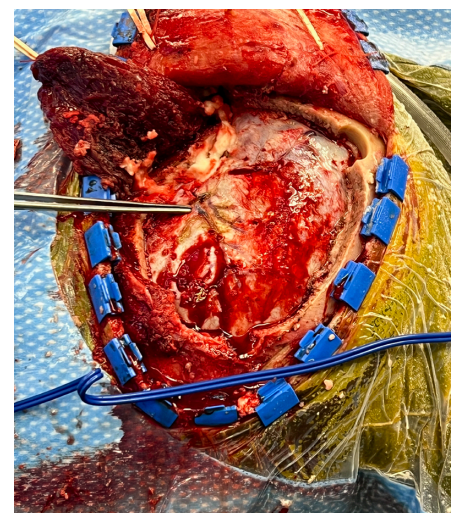


Figure 3

CLINICAL MANAGEMENT AND TREATMENT:

The case was discussed in detail with the patient's family and the patient herself, whose speech had improved somewhat due to the steroids. Considering the size and the location of this tumor, neurosurgeon Ramin Rak M.D. recommended resection of the tumor with the aid of neuronavigation. To reduce the blood supply to the tumor prior to the craniotomy, Dr. Rak enlisted his colleague, cerebrovascular neurosurgeon Jonathan Brisman M.D., to embolize some of blood vessels feeding the tumor (Fig. 2). Successful embolization of the feeding vessels from the middle meningeal artery significantly helped the tumor resection that followed (Fig. 3).

Surgery was performed by Dr. Rak. A craniotomy exposed the underlying tumor which was identified and removed using microsurgical and fine surgical techniques.

A piece of DuraGen was then trimmed properly and placed over the cortex and the surrounding dura. The craniotomy bone flap was put back together using a mixture of round titanium burr hole covers and one straight plate. There were no complications, and the patient was transferred back to the intensive care unit in stable condition. Since her discharge, she has done very well and has made a full recovery.

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Acoustic Neuroma Treated Successfully with “Bloodless” Radiosurgery



MICHAEL BRISMAN M.D., F.A.C.S.
Brain Surgery



Scan to learn more about Dr. Brisman

CLINICAL PRESENTATION:

This is a 55-year-old woman with a history of hypertension who had one year of progressive hearing loss and ringing (tinnitus) in the left ear. The hearing in that ear was now about 50% of normal. She had no problems with her right ear, balance was normal, and she had no other complaints. Formal audiology testing confirmed hearing loss in the left ear only. MRI with and without gadolinium demonstrated a 1.3 cm solid mass in the left cerebello-pontine angle and internal auditory canal that showed homogeneous enhancement, consistent with an acoustic neuroma.

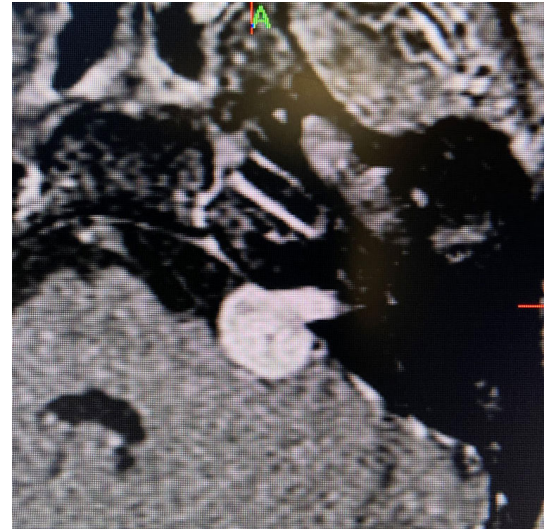


Figure 1: Baseline brain MRI showing mass in the left cerebello-pontine angle consistent with an acoustic neuroma (enhanced lesion in center).

CLINICAL MANAGEMENT AND TREATMENT:

Treatment options included (1) observation; (2) stereotactic radiosurgery; and (3) surgery. Stereotactic Radiosurgery (superfocused radiation treatments), specifically Gamma Knife (GK), was chosen because the tumor was of moderate size and GK offered comparable control to open surgery / craniotomy, but with a much lower risk profile. A treatment plan was made that was conformal to the tumor. A prescription of 12.5Gy to the 50% isodose line was delivered (Figure 2). This plan involved a mean cochlear dose of 3.5Gy.

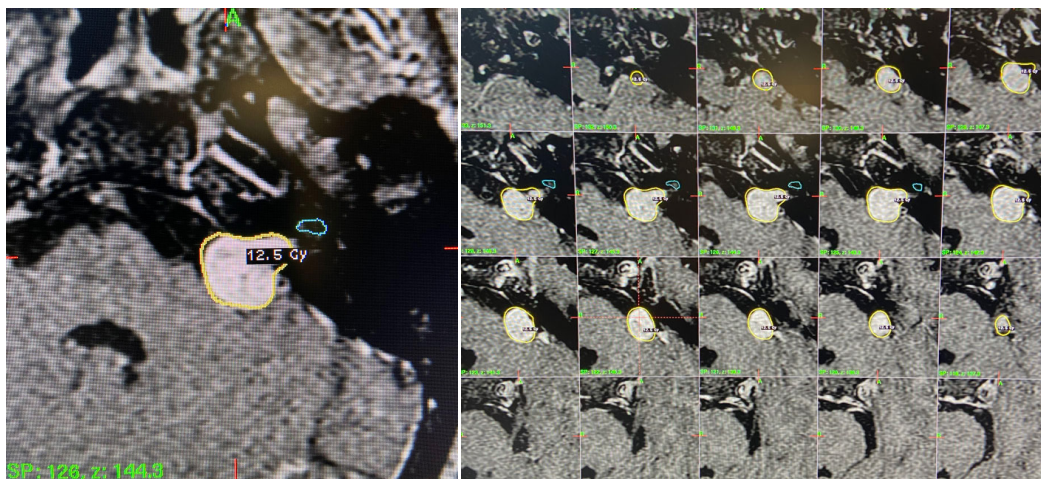


Figure 2: Intra-operative Gamma Knife treatment planning for the left acoustic neuroma. A tightly conformal treatment is set for 12.5Gy to the 50% isodose line (green circles). The cochlea has also been contoured, based off a fused image from a fine cut T2 sequence (blue circle).

Going forward, the patient will be followed clinically and with brain MRIs. It was very likely that this patient is cured of her acoustic neuroma.

Anterior Skull Base Tumor Resulting in Personality and Behavioral Changes



XAVIER P. J. GAUDIN, D.O.

- Spine Surgery
- General Neurosurgery



Scan to learn more about Dr. Gaudin

This is a 49-year-old otherwise healthy female who presented with bifrontal and retro-orbital headaches, behavioral changes, and forgetfulness. Symptoms have been progressively worsening over the past month. Her neurologic exam revealed a pronator drift, but otherwise was unremarkable. Brain MRI demonstrated a large extra-axial homogeneously enhancing mass of the anterior cranial fossa, resulting in significant mass effect and vasogenic edema (**Figure 1a and 1b**). Imaging was most consistent with a planum sphenoidale meningioma. She was referred to Dr. Xavier Gaudin for neurosurgical evaluation.

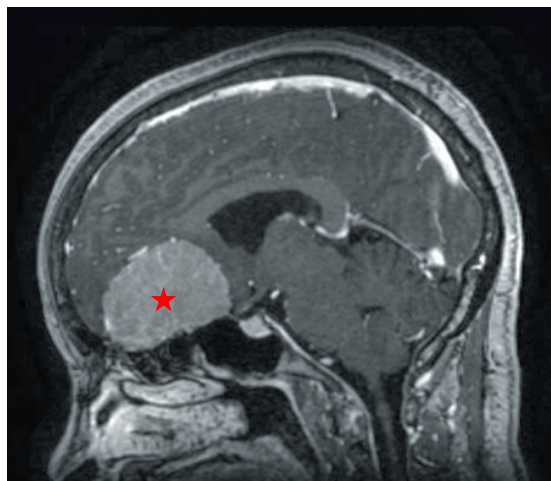


Figure 1a: Preoperative MRI demonstrating an extra-axial enhancing mass of the anterior cranial fossa

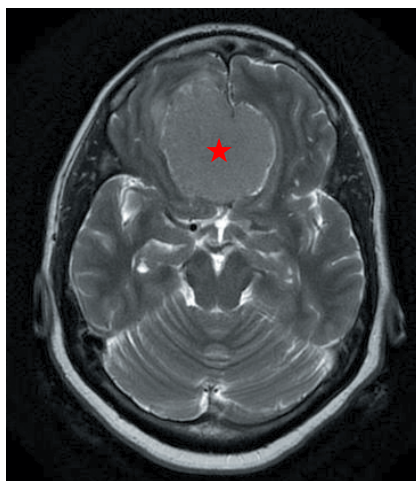


Figure 1b: Preoperative MRI demonstrating an extra-axial lesion with surrounding vasogenic edema and mass effect on the frontal lobes

She was started on high-dose steroid and antiseizure prophylactic medicine. Surgical intervention was offered for mass effect, symptomatic relief, neurologic preservation, and histopathologic diagnosis. Dr. Gaudin performed a bifrontal craniotomy with complete resection of neoplasm through an interhemispheric and subfrontal approach. Postoperative imaging demonstrated a gross total resection without residual tumor and improved mass effect (**Figure 2a and 2b**). Intraoperative pathology was consistent with meningioma, WHO grade 1. She recovered very well, and was discharged home on postoperative day 3. On her follow-up outpatient visit, her preoperative symptoms had fully resolved, and her olfactory sense was maintained.

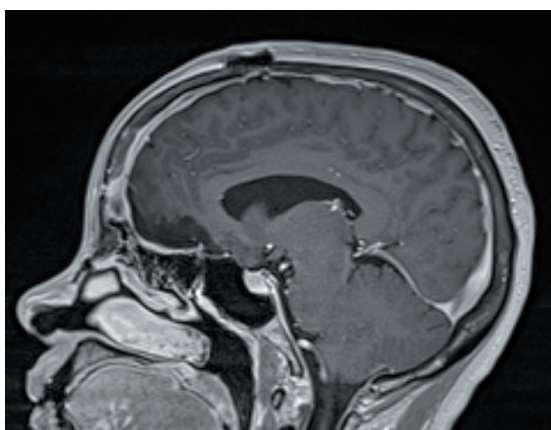


Figure 2a: Postoperative MRI demonstrating a complete resection without residual enhancement

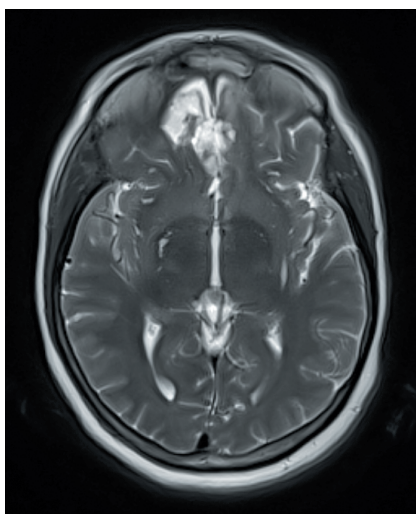


Figure 2b: Postoperative MRI demonstrating resolution of mass effect

Midline anterior cranial fossa meningiomas are rare, and classified according to their anatomical site of origin. This includes the olfactory groove, planum sphenoidale, and tuberculum sella. Although they are benign and slow growing, they can invade the skull base and ethmoid sinus. Primary blood supply is usually from the anterior and posterior ethmoidal arteries. They are most often found in women, in their 5th and 6th decades of life. They

commonly present with cognitive impairment and behavioral changes, which can be mistaken for early onset dementia or depression. Headaches, visual changes, and anosmia may also be present. Surgical resection generally reverses the cognitive and behavioral changes, and can be curative if gross total resection is achieved.

REFERENCES:

Zygorakis, Corinna C et al. "Management of planum/olfactory meningiomas: predicting symptoms and postoperative complications." *World neurosurgery* vol. 82,6 (2014): 1216-23. doi:10.1016/j.wneu.2014.08.007

Farrow, Megan. "Planum Sphenoidale Meningioma Symptoms Mimic Those of Early-Onset Dementia." *Radiologic technology* vol. 92,4 (2021): 408-410.

DeMonte, Franco, and Shaan M Raza. "Olfactory groove and planum meningiomas." *Handbook of clinical neurology* vol. 170 (2020): 3-12. doi:10.1016/B978-0-12-822198-3.00023-9



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