

Introduction and History

We present the case of a **67-year-old gentleman** who presented with a new mass of the cerebellopontine angle (CPA) after prior definitive treatment of vestibular schwannoma (VS).

The patient originally underwent **Cyberknife** radiosurgery for a right-sided 3.2 cm VS in 2011. For several years, he had local control with tumor shrinkage on follow-up MRIs.

In 2016, MRI demonstrated abrupt cystic enlargement of the tumor to 3.7 cm. The patient underwent **translabyrinthine craniotomy** with gross total resection in 2016, with no atypical cells on pathology. Subsequent MRIs demonstrated no residual or recurrent tumor for six years.

Abrupt Recurrence

In July of 2024, the patient developed **acute-onset right facial numbness, facial palsy, and ataxia**.

MRI revealed a **complex cystic mass in the CPA**, characterized by peripheral enhancement, central diffusion restriction, vasogenic edema and invasion of the adjacent fat graft, pons and middle cerebellar peduncle (Figure 1).

These findings were concerning for malignant degeneration of the patient's prior VS, with differential diagnosis including other malignancy, inflammatory process, and infectious process.

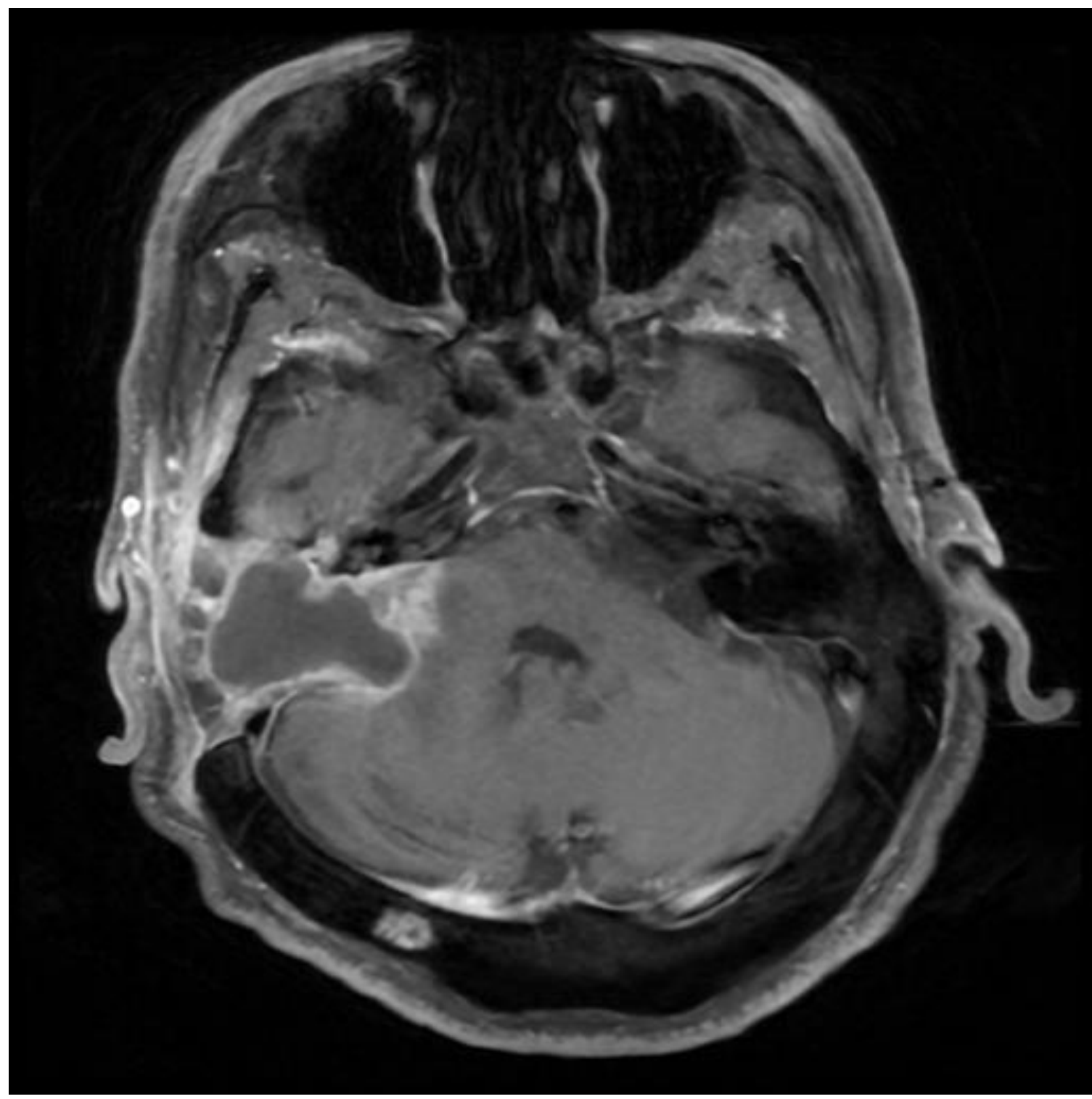


Figure 1. MRI demonstrating complex cystic, enhancing mass in prior resection cavity.

Coincident Medical Problems

Concurrent medical conditions, namely a new diagnosis of HIV and several resultant co-infections, delayed immediate plans for biopsy, including **Shigella and Clostridium difficile infections**. Throughout this course, he was mainly managed at an outside facility, he received a few one-time doses of IV **antibiotics** in the preliminary phases of his hospitalizations; the Shigella was not treated and the only long-term antibiotics he took were oral vancomycin and fidaxomicin for the C. diff.

He was started on **glucocorticoids** for the facial weakness. Despite this, the patient's facial paralysis progressed, and at one point even included left facial weakness.

Interval Imaging

Interval imaging demonstrated **improved appearance of the cystic component** in the extracranial fat graft, but progressive leptomeningeal involvement along the pons (Figure 2).

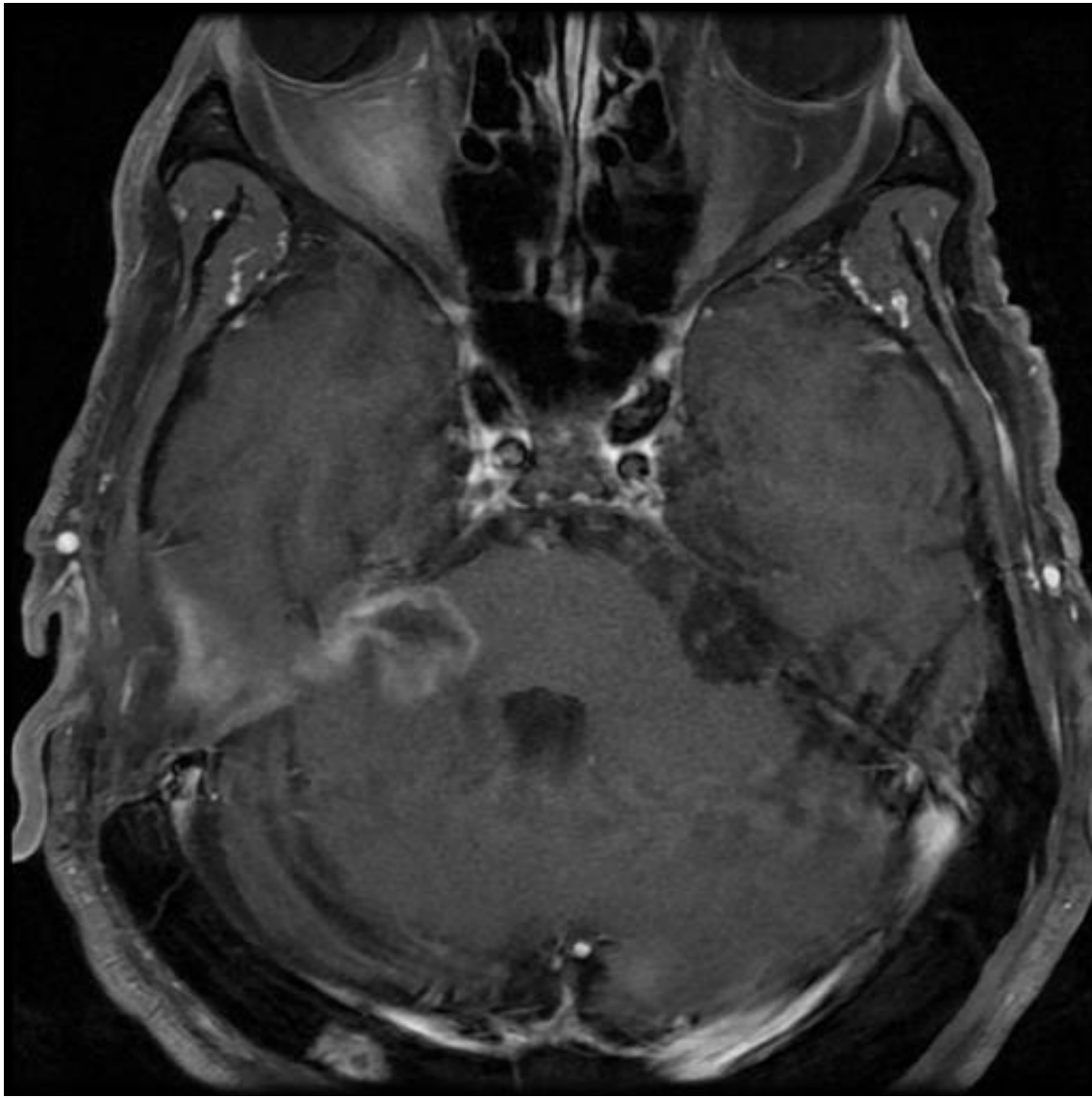


Figure 2. MRI demonstrating improvement of the cyst, but progression of disease along brainstem.

HIV Diagnosis

Further medical workup revealed a **new diagnosis of HIV** with a high viral load and depleted T cell count, and the patient was rapidly initiated on antiretroviral therapy in addition to the steroids.

Last Imaging

Subsequent imaging revealed **near-total resolution** of the mass with disappearance of the cystic component and return of fat signal in the mastoid cavity, and only a small residual focus of enhancement in the medial aspect of the surgical bed (Fig 3).

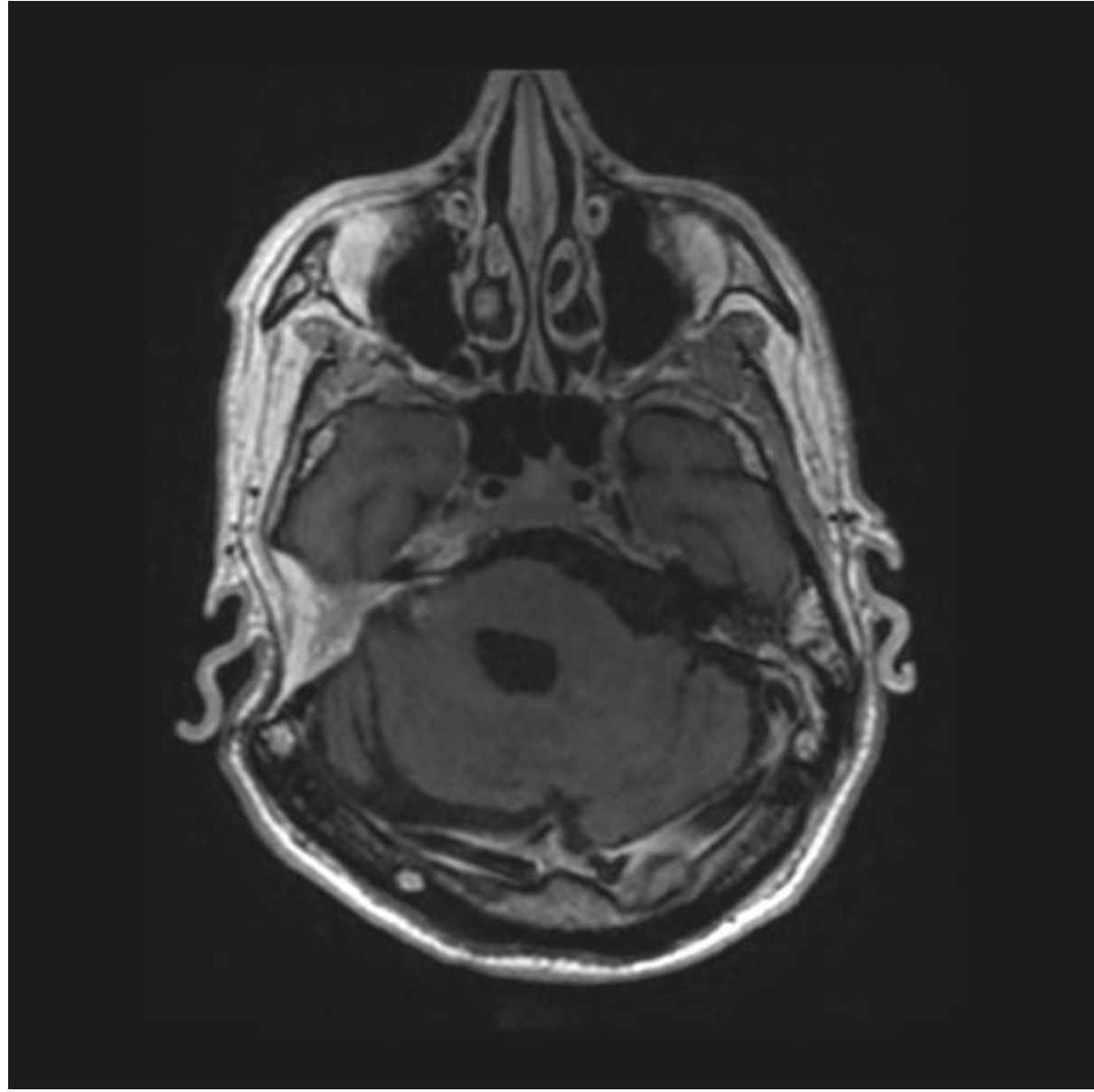


Figure 3. MRI demonstrating near complete resolution of mass and enhancement along brainstem.

Discussion

This patient's presentation presents a diagnostic dilemma.

Differential

- Initially, **radiation-induced malignant degeneration** of the patient's prior VS was felt most likely due to the invasive imaging characteristics and diagnosis of HIV, which is pathogenetically linked to development of malignancy. Complete response to steroid treatment, however, would not be anticipated from such a lesion.
- An **infectious process** such as a brain abscess was also considered. However, this similarly would not be expected to resolve in an immunocompromised patient without better targeted and prolonged IV antibiotic therapy.
- We believe the most likely diagnosis in this case is **central nervous system lymphoma (CNSL)**. CNSL has been described to present with "sentinel lesions", transient symptomatic contrast enhancing lesions that may recede spontaneously, with glucocorticoid treatment, or possibly due to host immunity in setting of antiretroviral therapy. Furthermore, CNSL is an AIDS-defining illness. Further work-up is underway with consideration of biopsy pending clinical and radiological progression. It remains unclear how prior fat transplantation and local radiation may have impacted the location of the new lesion.

Contact

Erika Woodson, MD
Southern California Permanente Medical Group
9455 Clairemont Mesa Blvd, San Diego, CA 92123
Erika.X.Woodson@kp.org