

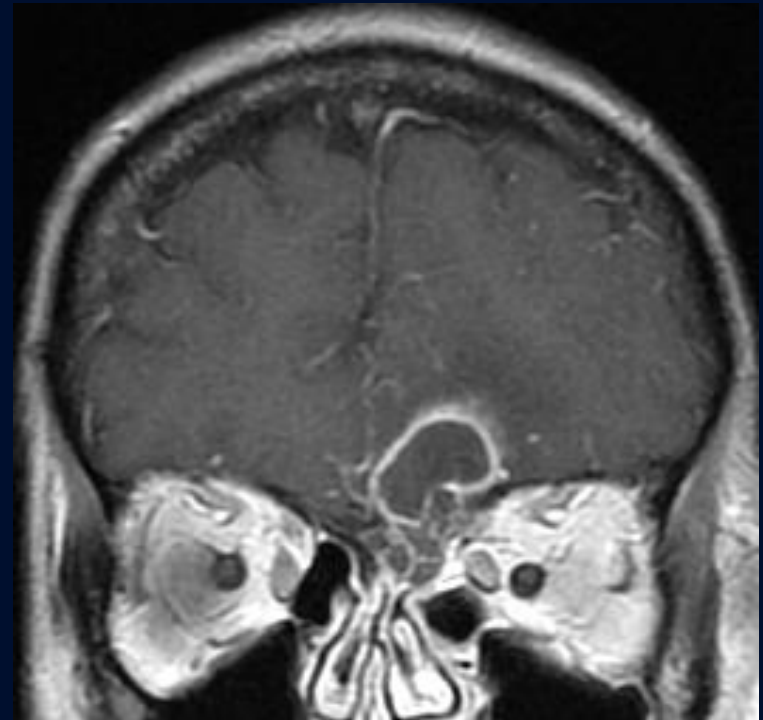
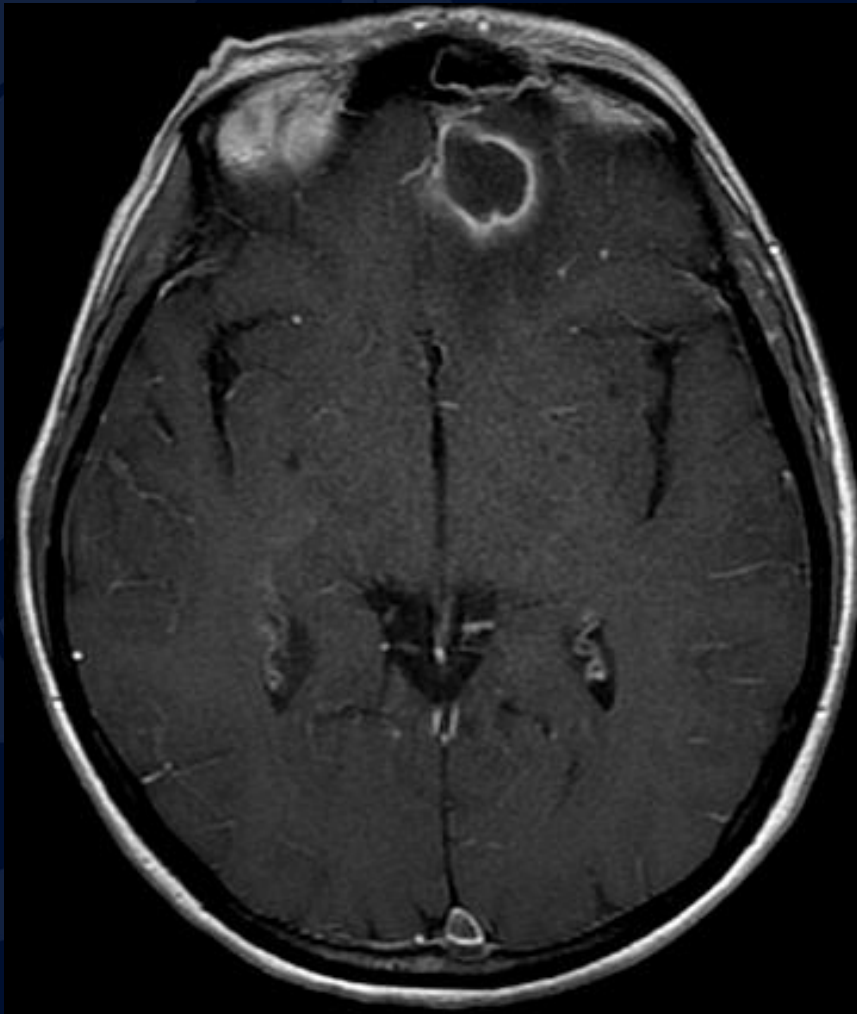
A large, stylized leaf graphic in a dark blue color, positioned on the left side of the slide. The leaf has a prominent central vein and several smaller veins branching off it. The overall shape is elongated and tapers towards the top.

62 y/o woman with new
seizures.

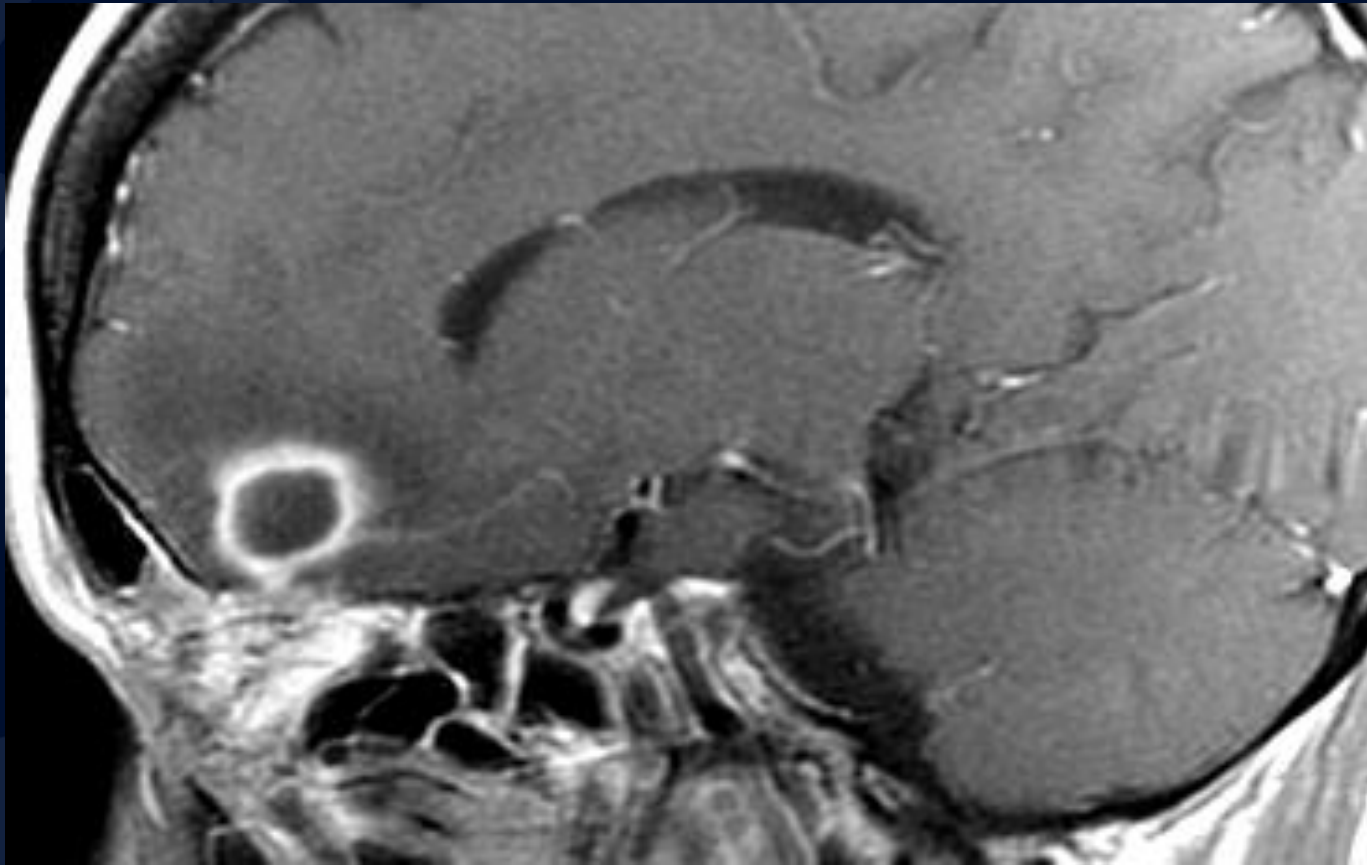
Biju Gopalakrishnan, MD

Leo Wolansky, MD

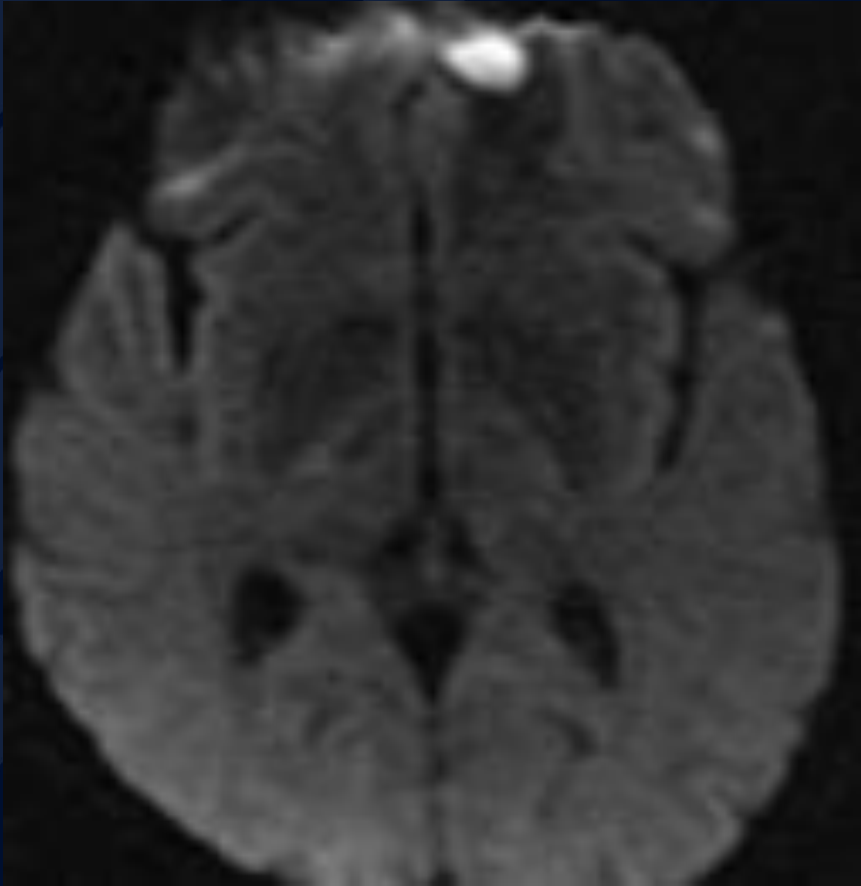
MRI T1-Gd Axial & Coronal



MRI T1-Gd (Sagittal)

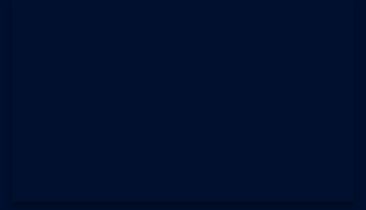


Diffusion-weighted MRI B1000 & ADC





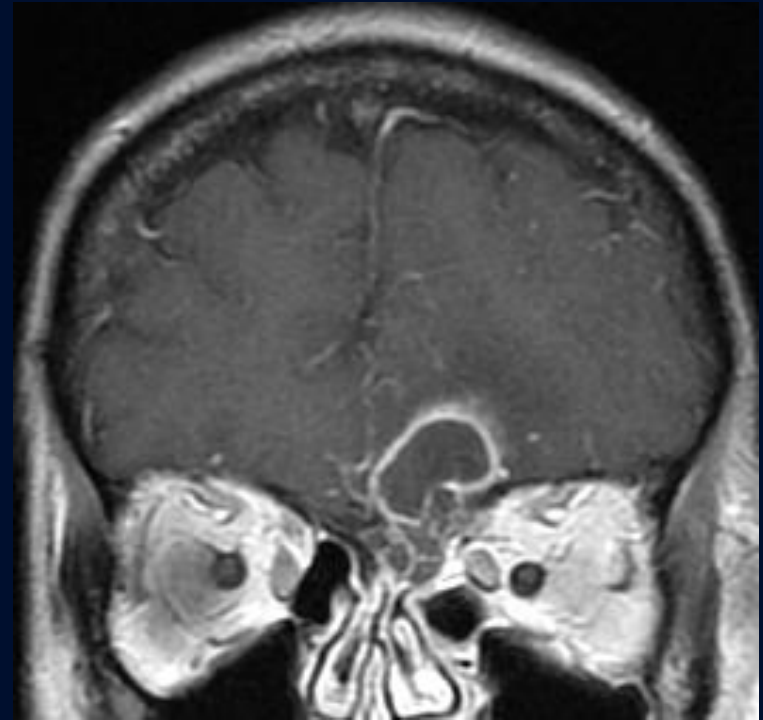
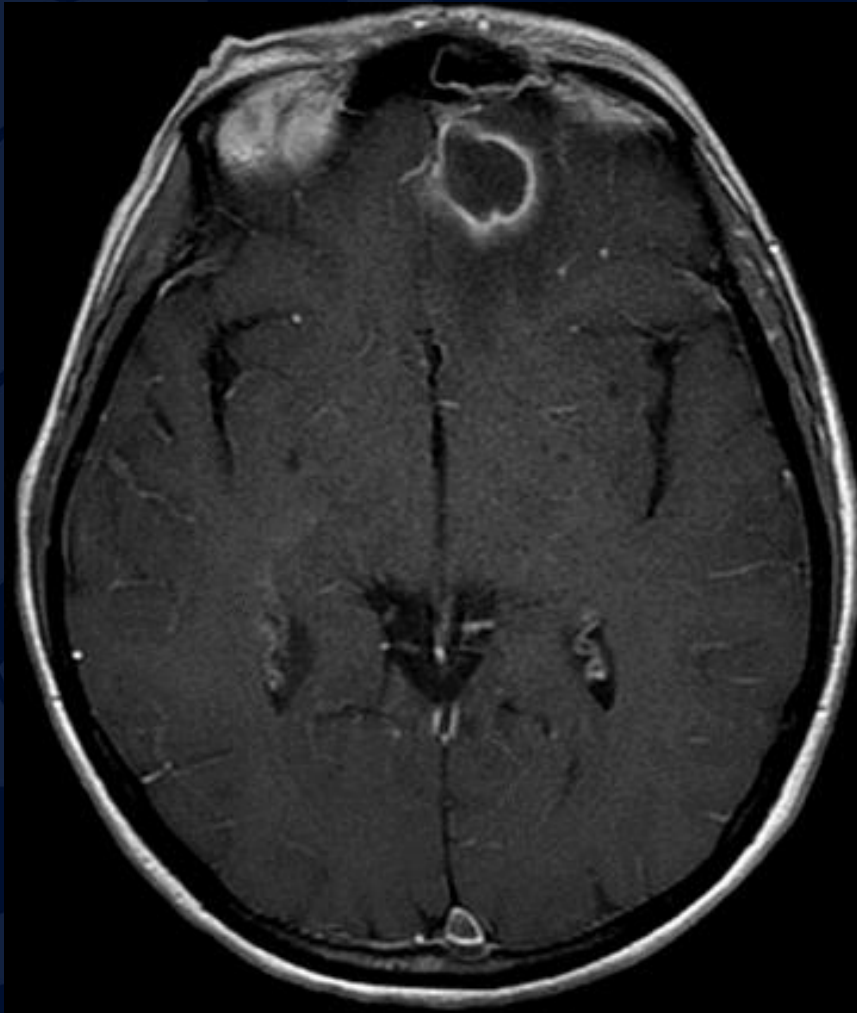
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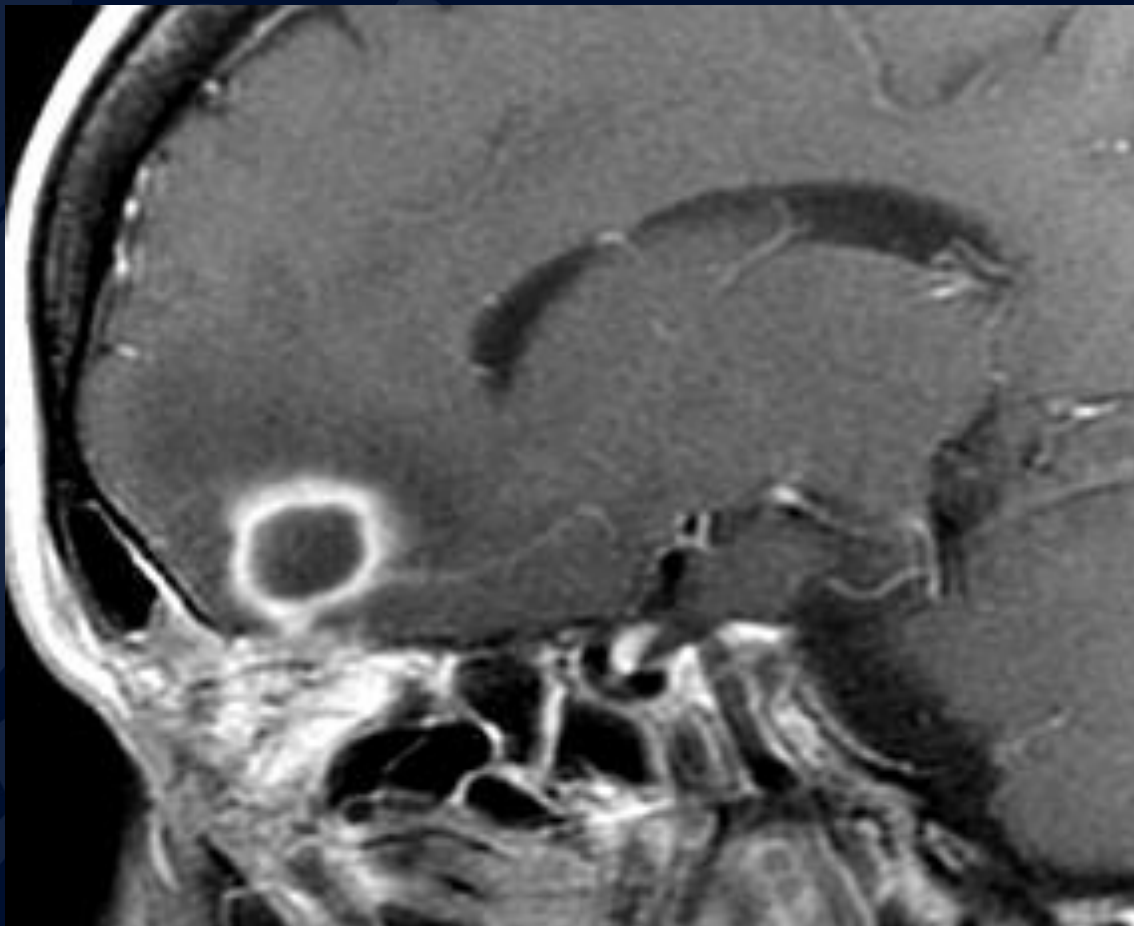
Cerebral Abscess

MRI T1-Gd



Intense, smooth
enhancement is
characteristic

MRI T1-Gd

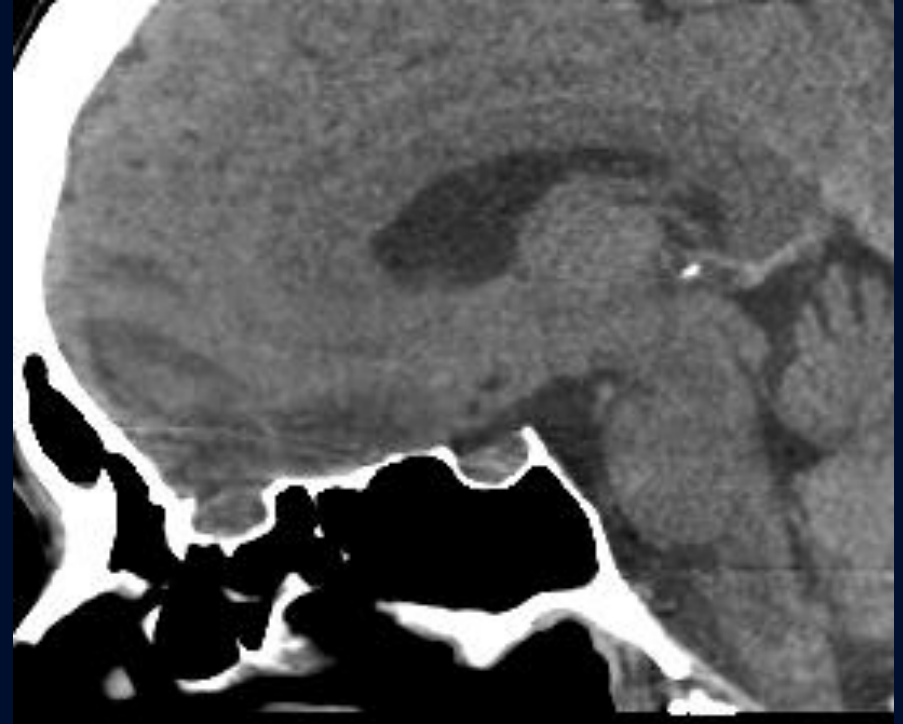
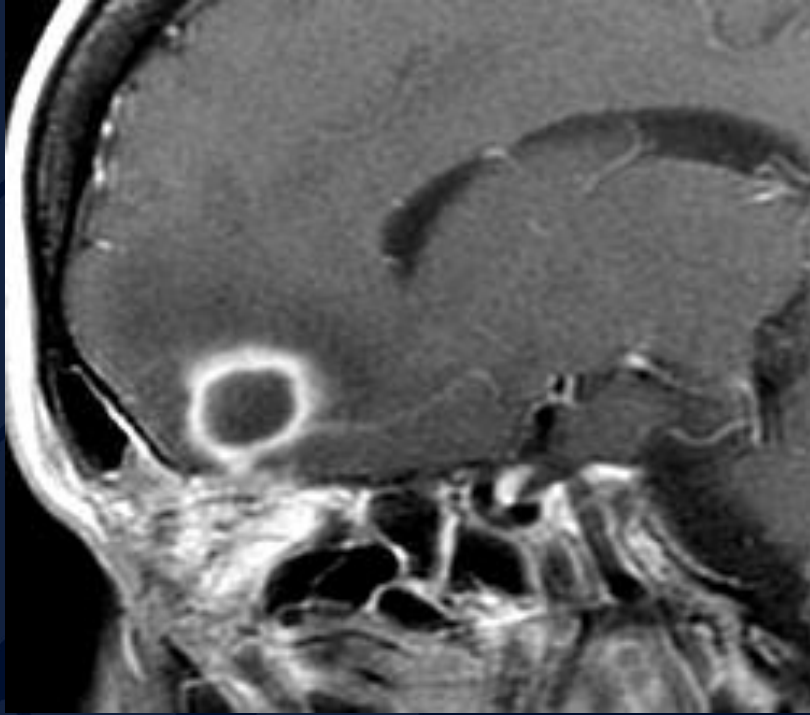


Intense, smooth
enhancement

Fronto-basal
location
common due to
sinonasal entry
point of infection

T1-Gd

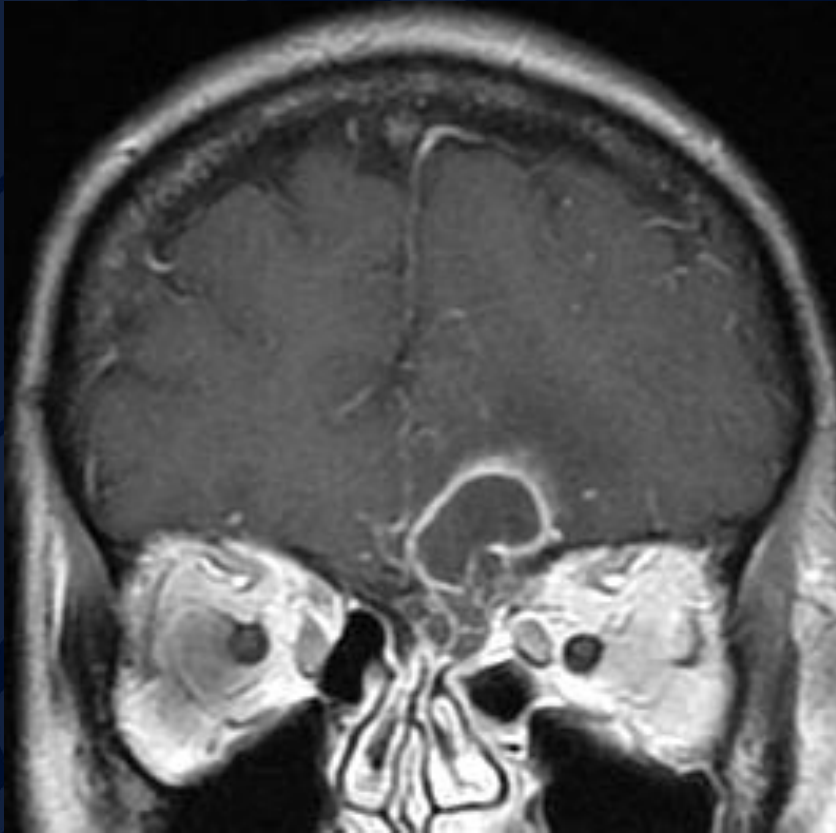
Non-contrast CT



CT (right) displays bone remodeling

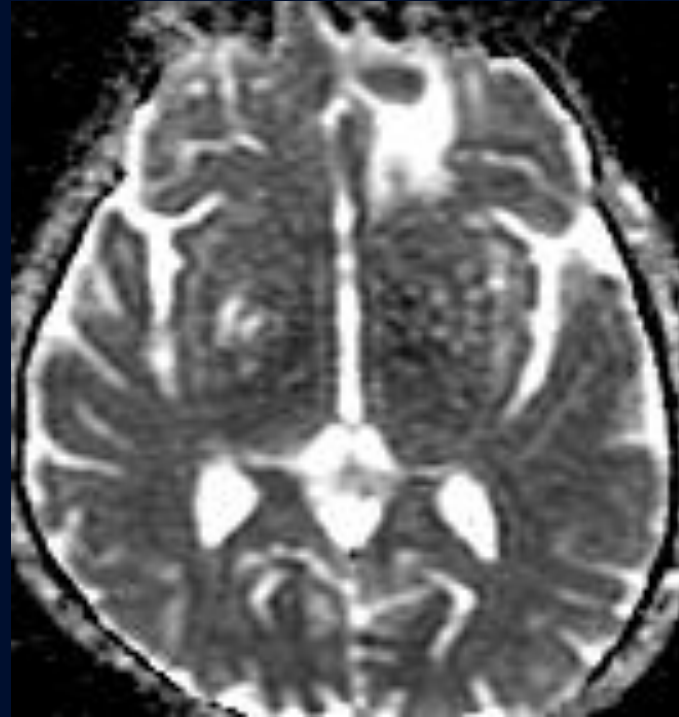
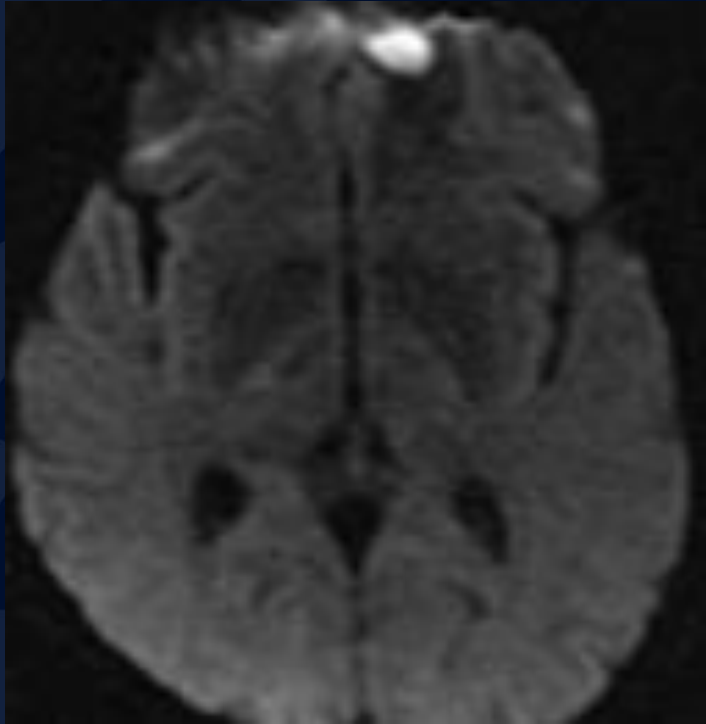
T1-Gd

Non-contrast CT



CT (right) displays bone remodeling
MRI (left) better displays the abnormal cerebral tissue

Diffusion-weighted MRI



B1000 (left) shows marked hyperintensity
ADC (right) confirms diffusion restriction
typical of pyogenic abscess

Cerebral Abscess

- * h/o craniofacial trauma > 30 years earlier
- * Treated w/ steroids & broad spectrum antibiotics

MRI Features of Abscess

- Ring enhancement & edema
- Peripheral side of ring is typically thicker due to more vascularity
- Lesion “points” toward ventricle & can rupture into it with rapid clinical deterioration
- Rim can be mildly hyperintense on non-Gd T1
- Purulent contents often isointense on non-Gd T1
- Purulent contents display marked diffusion restriction

Common causes of Ring enhancing lesions

- Metastasis
- Cerebral abscess
- Primary brain tumor
- Demyelination w/ inflammation
- Tuberculoma
- Toxoplasmosis
- Neurocysticercosis
- Subacute lacunar infarct

Treatment of Cerebral abscess

- Medical:
 - Antibiotics
 - Antiedema measures
 - Anticonvulsants
- Neurosurgical:
 - Excision
 - Aspiration

References

- Brain abscess current management. Miranda et al; J Neurosci Rural Pract. 2013 Aug; 4(Suppl 1):S67–S81
- Brain abscess . Saez-Llorens X et al; Handb Clin Neurol. 2013;112:1127-34
- Gopalakrishnan B, Wolansky L. Cerebral Abscess. Radiology Online. (2021)