Case Presentation: Seizures

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Case Presentation

- HPI: A 62 year old male is presenting to the ED due to a generalized tonic clonic seizure

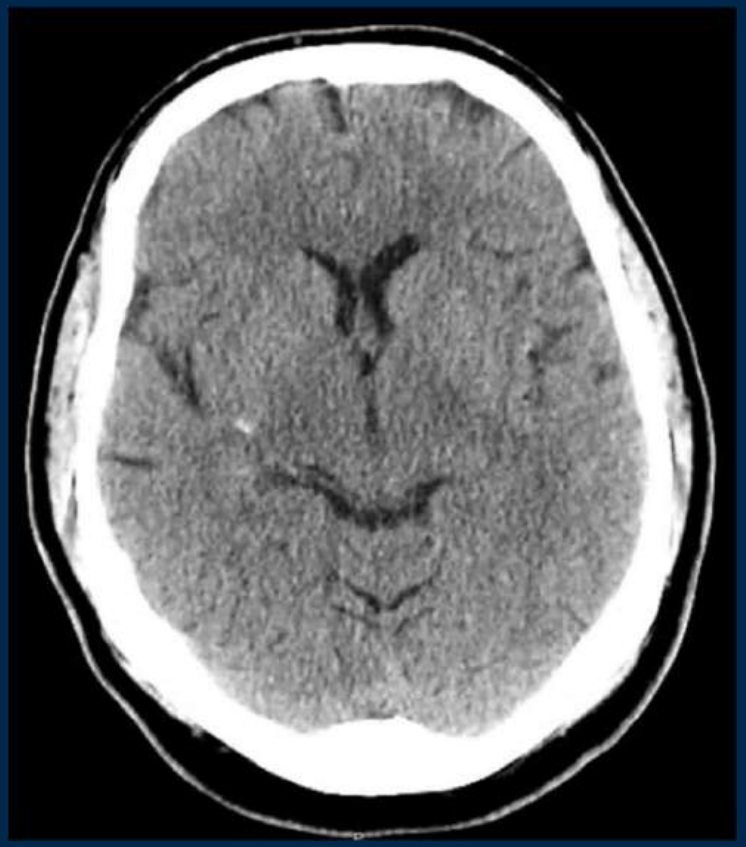
- PMH: headaches, seizures for past 4 years
- Medications: Lexapro 10mg daily
- PFH: stroke in mother, seizure disorder in daughter, cancer in brothers (unspecifiied), lung cancer in sister
- Social: Commerical truck driver

Case Presentation

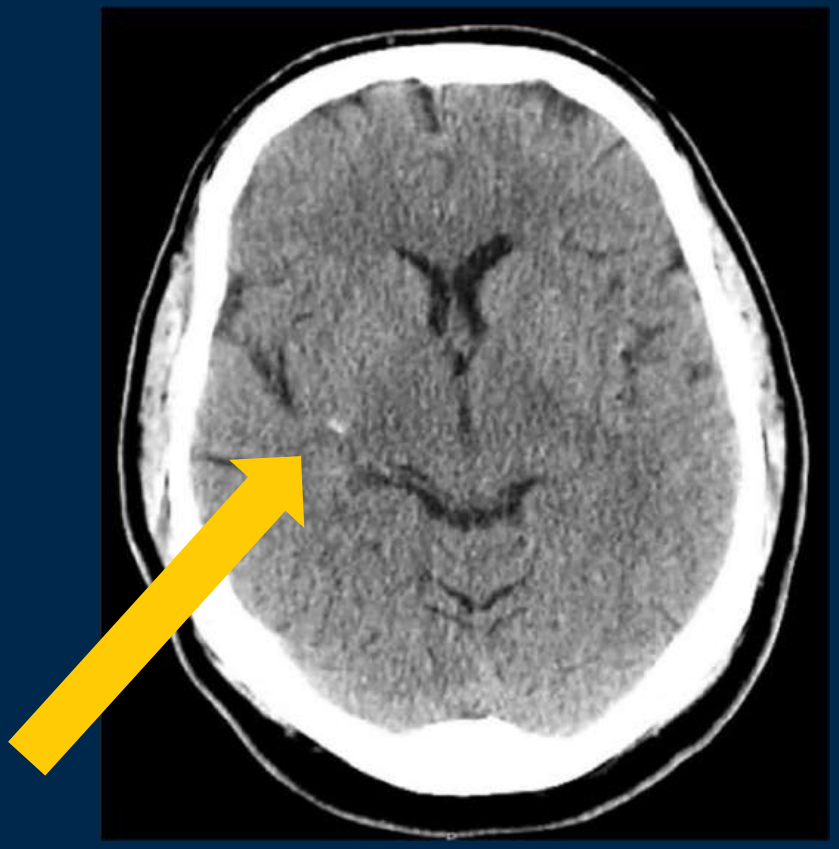
Physical Exam - Normal

- **Vitals:** BP: 129/66, HR: 67, RR:16, T: 98F

- **Neuro:** Patient is alert and oriented to person, place and time. Extra ocular movements are intact. Facial sensation is symmetric. Negative for facial droop. Hearing is grossly intact to finger rub bilaterally. Palate elevates symmetrically. Tongue protrudes at midline. 5 out of 5 trapezius muscle strength. Full strength of bilateral upper and lower extremities. Negative for pronator drift. Patient's speech is fluent., Naming, repetition and comprehension are intact. Negative Romberg testing. Patient ambulates with a cane for balance.



CT w/o Contrast



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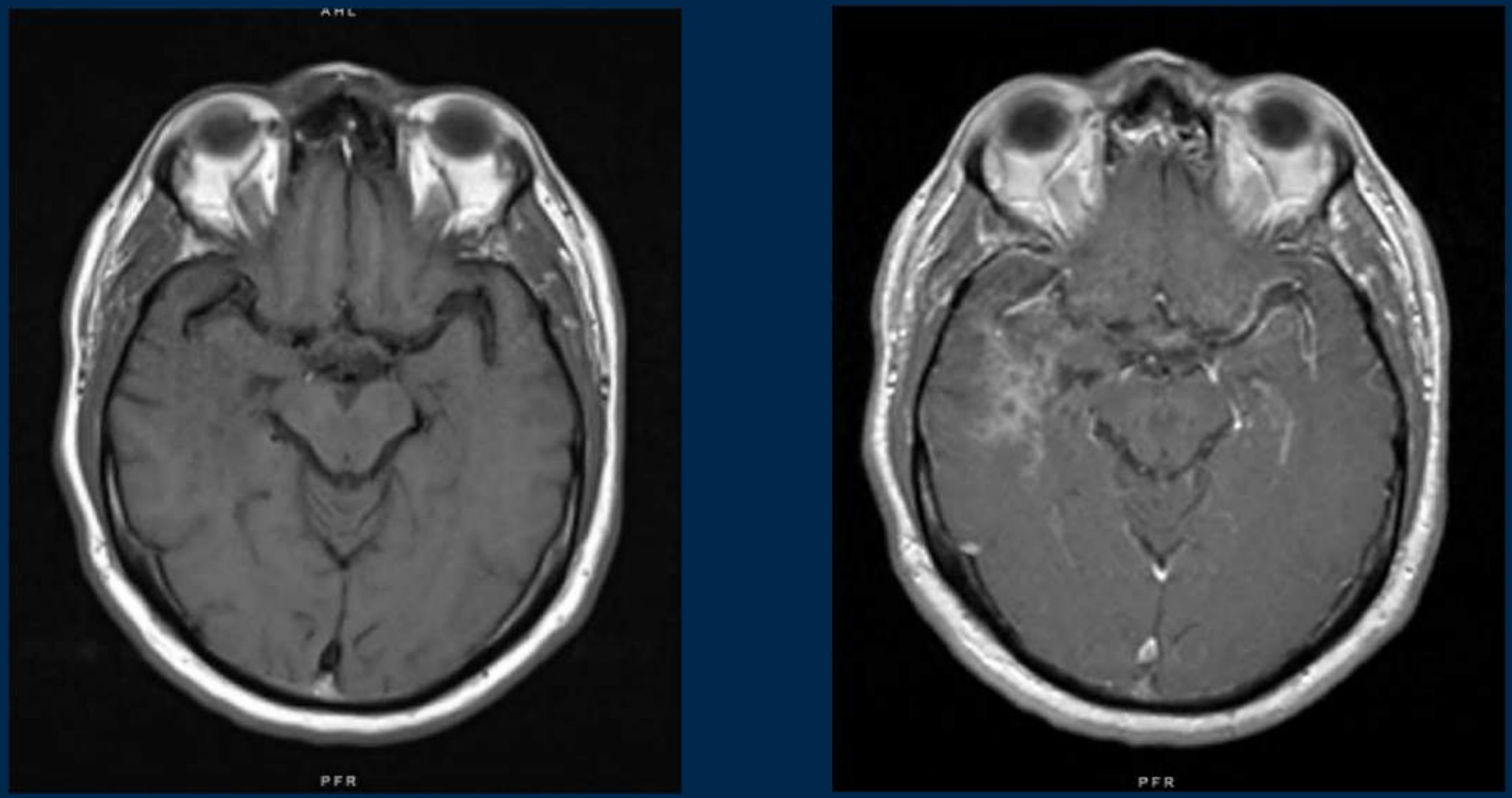
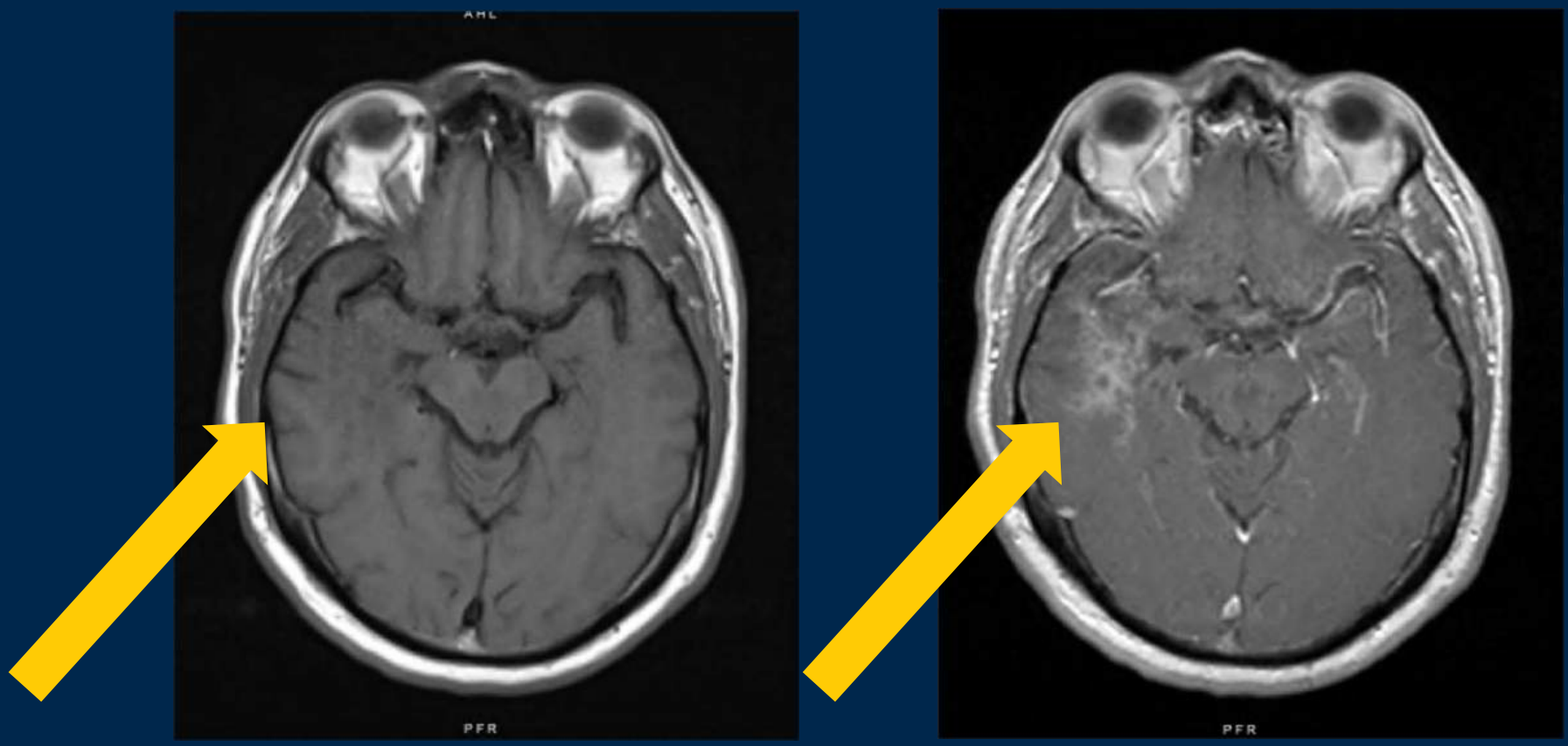


Pre and Post Contrast T1 MRI



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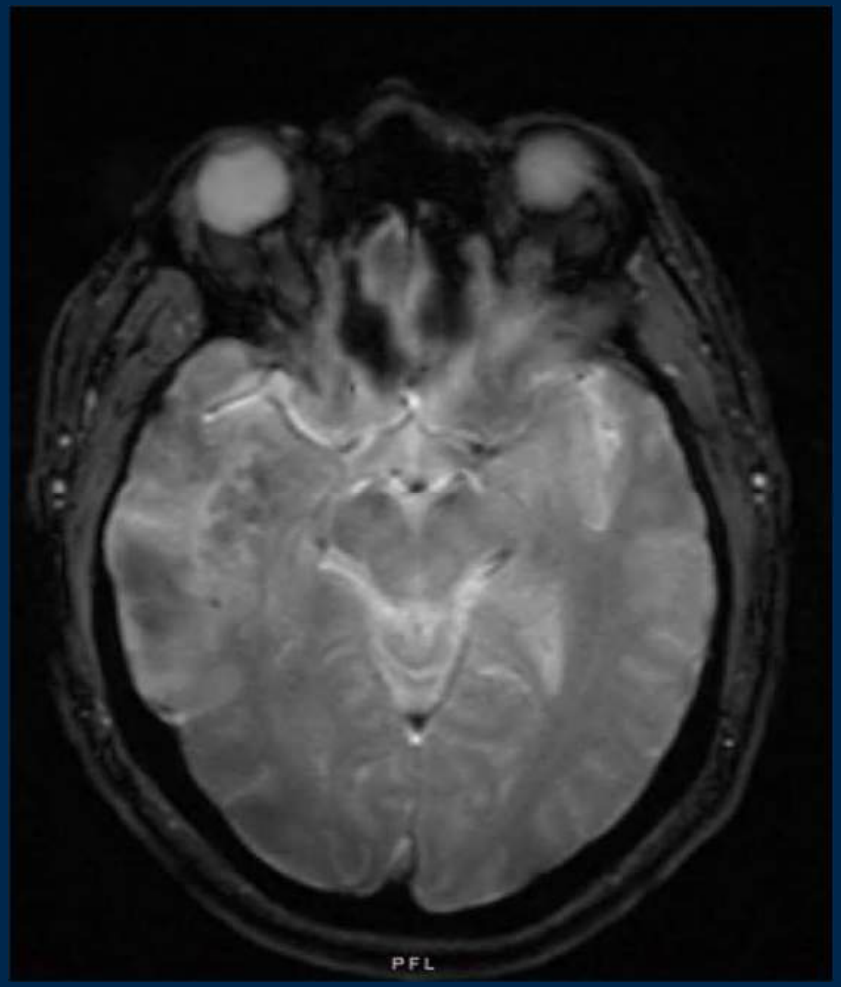
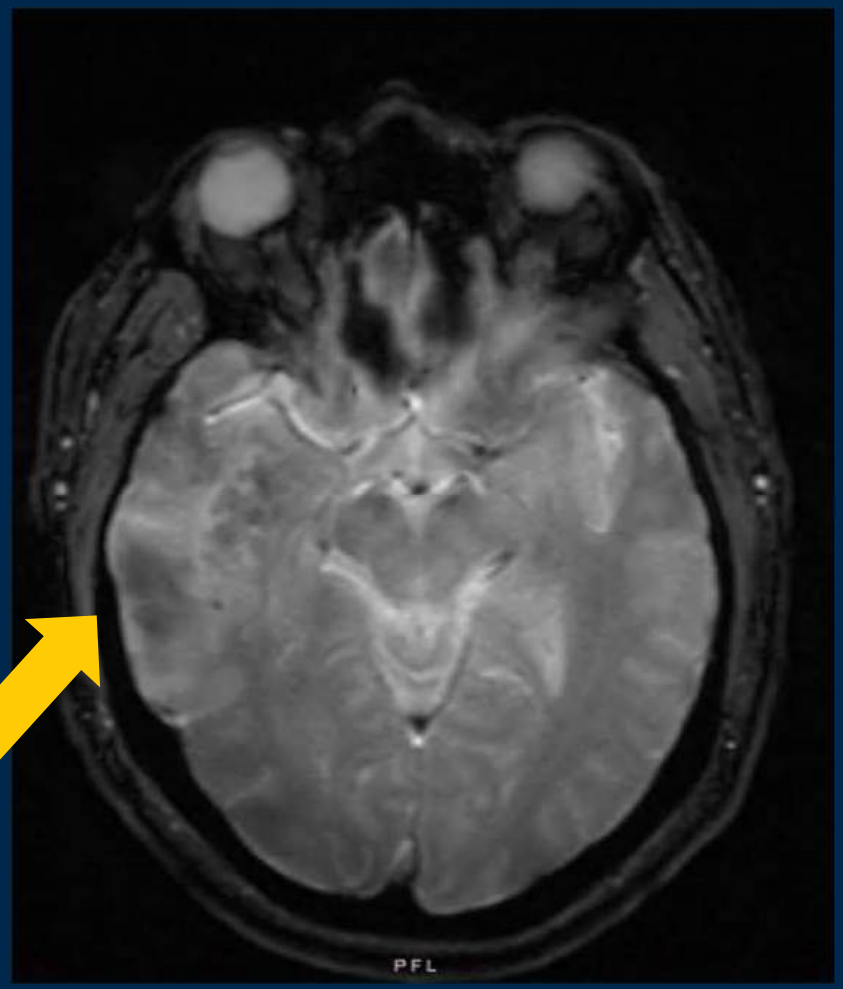


MRI GRE



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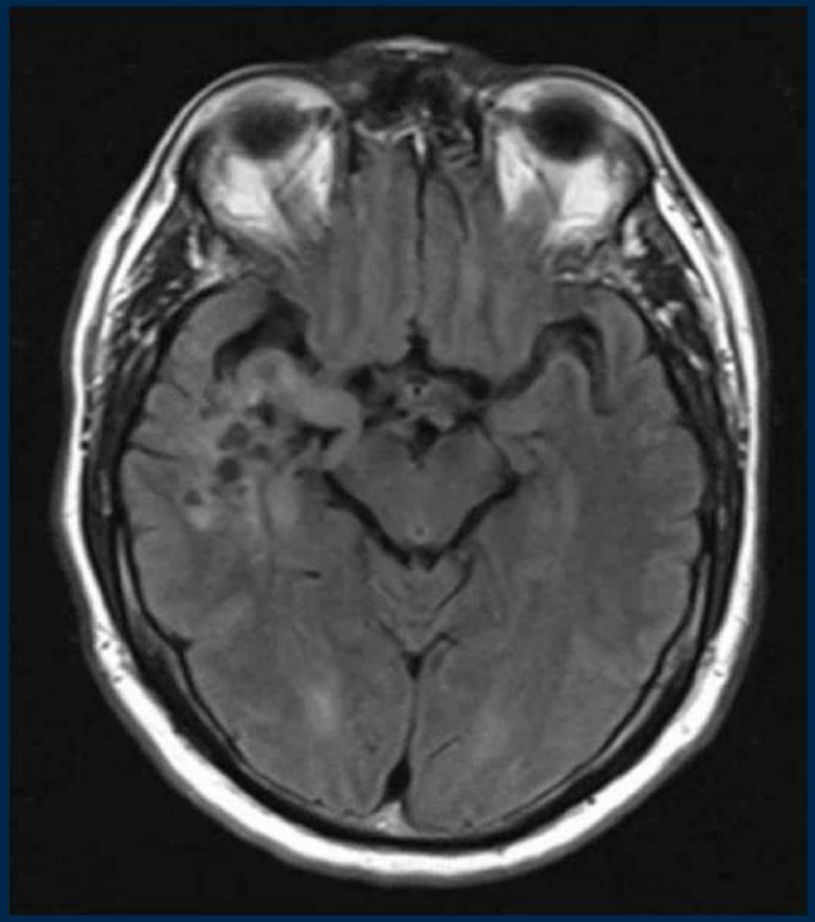
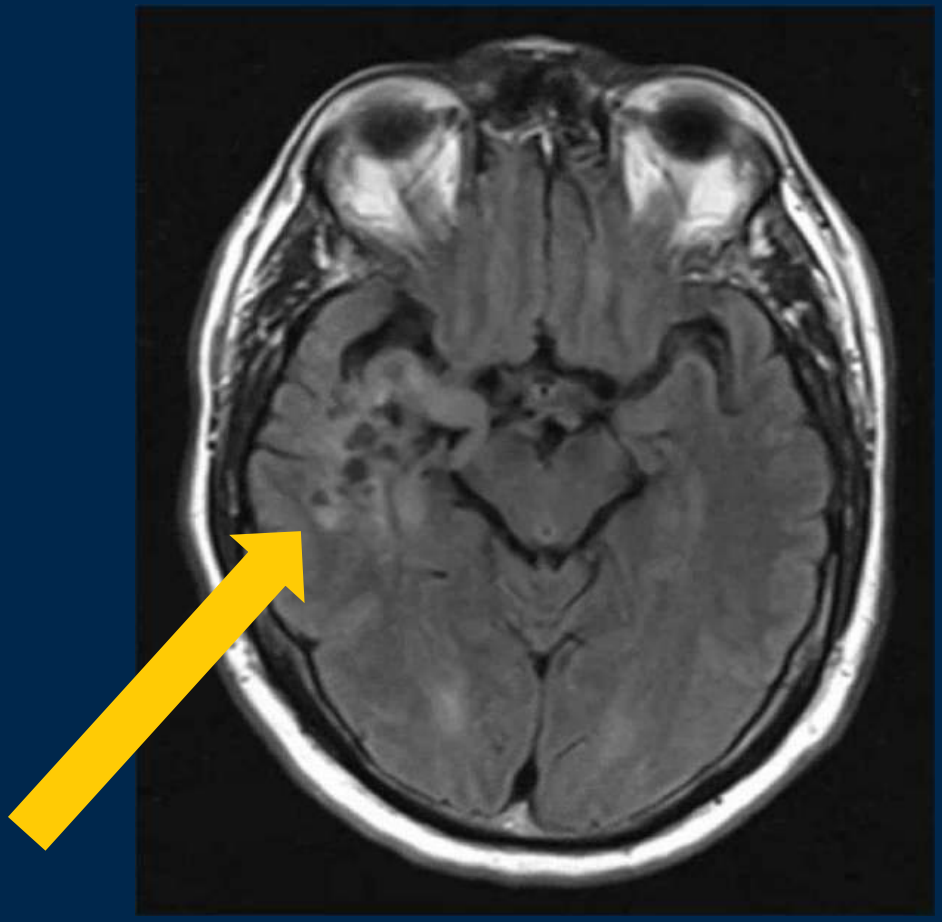
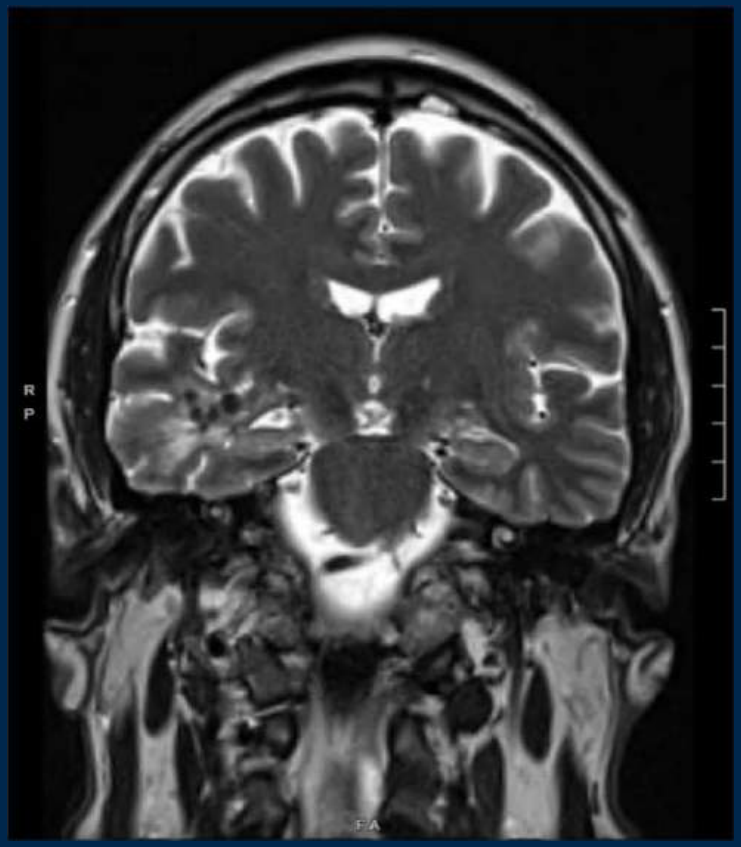


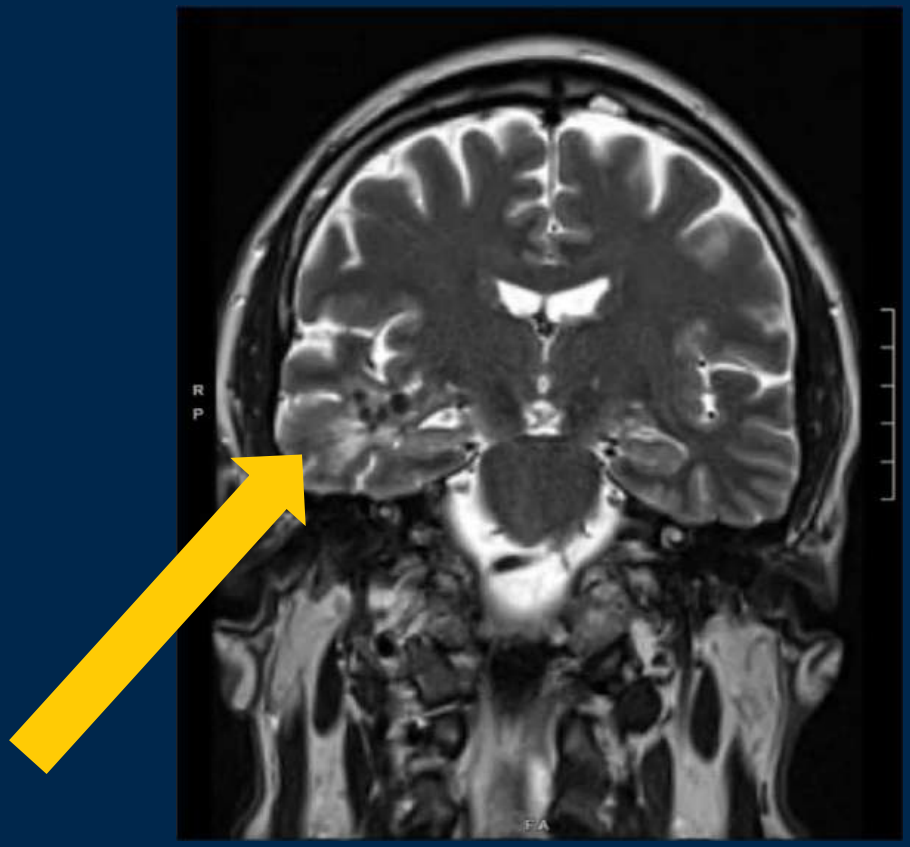
MRI FLAIR



MRI FLAIR



MRI Coronal T2



MRI Coronal T2

Differential Diagnosis

Right Temporal Lobe Mass Causing Seizures:

- Glioblastoma
- Brain Metastasis
- Astrocytoma
- Oligodendroglioma
- Primary CNS lymphoma
- HSV Encephalitis
- Brain Abscess
- AVM

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- ~~HSV Encephalitis~~
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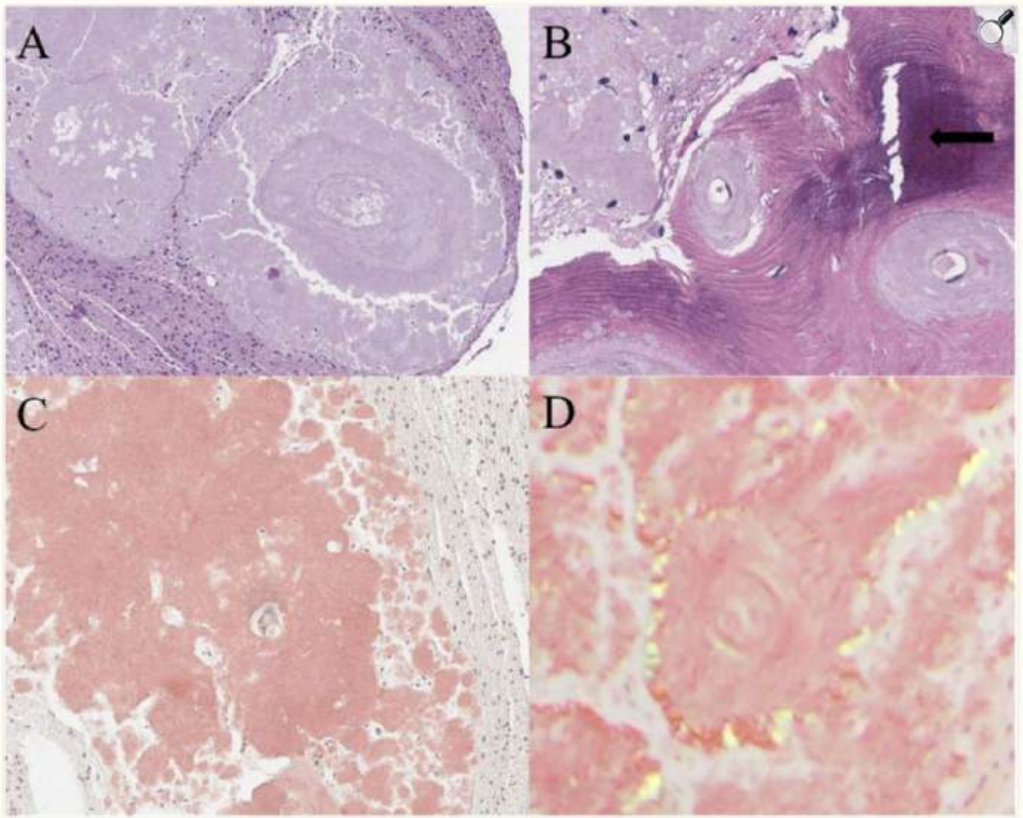
- ~~AVM~~

Hospital Course

Neurosurgery performed Needle Brain Biopsy:

Histochemical staining are positive with **Congo red stain** and show apple-green birifringence



Ogilvie J, Zhao R, Camelo-Piragua S, Ibrahim M, Lobo R, Kim J. Magnetic resonance imaging of a temporal lobe cerebral amyloidoma. Radiol Case Rep. 2022 Jun 8;17(8):2820-2823. doi: 10.1016/j.radcr.2022.05.038. PMID: 35694634; PMCID: PMC9184293.

Diagnosis: Cerebral Amyloidoma

Discussion: Cerebral Amyloidoma

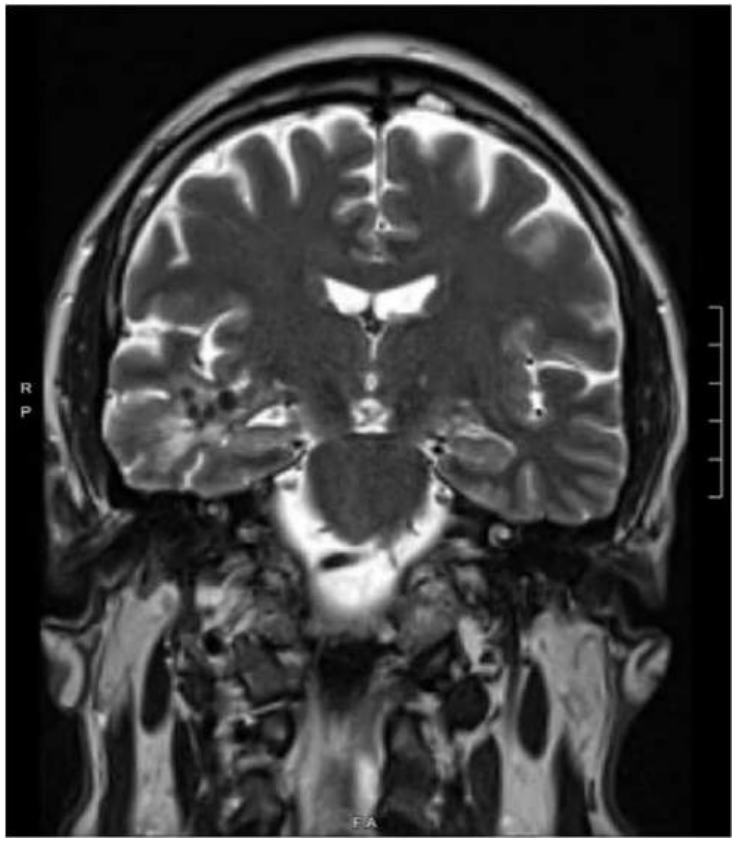
- Presentation: varies depending on lesion location, with patients commonly exhibiting seizures, focal neurological deficits, or headaches
- Incidence: Fewer than 100 have been reported in literature. More common adults aged 50-54, slight female predilection
- Treatment: Surgical removal for symptom relief. Systemic chemotherapy typically not reccomended
- Prognosis: Favorable after surgical resection

Discussion: Cerebral Amyloidoma

- Rare mimicker of malignancy
  - Can closely resemble a slow-growing neoplasm
- Localized deposition of amyloid protein forming a mass-like lesion
- Imaging-clinical mismatch:
  - Surrounding brain looks surprisingly unaffected
- Can occur in multiple sites (head/neck, lung, GU, soft tissue)
- Distinct from systemic amyloidosis (more common, worse prognosis)

Discussion: Imaging Clues

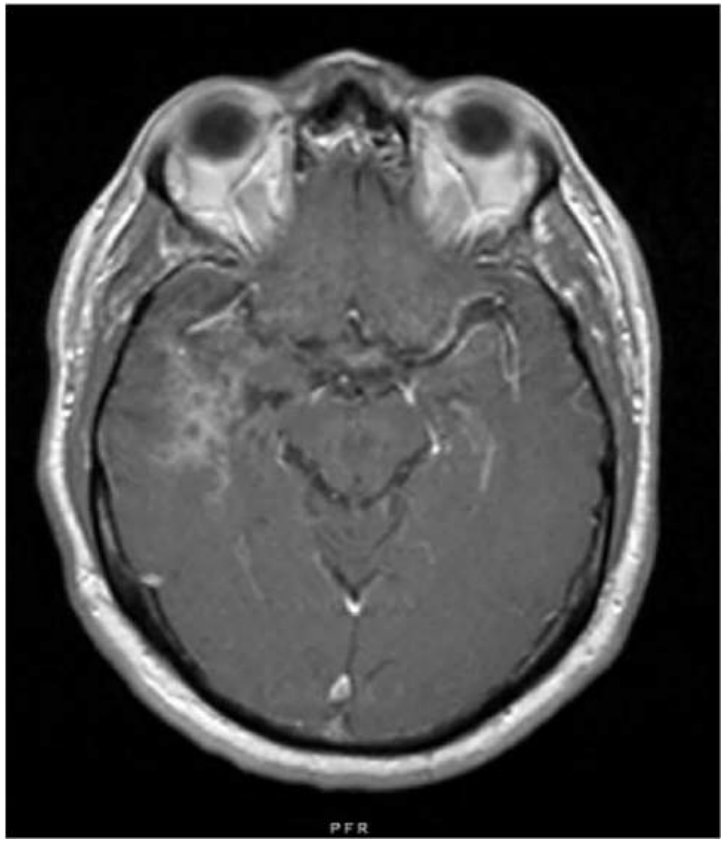
- Large mass out of proportion to surrounding edema, appears infiltrative or neoplastic
- Brain appears relatively “calm”
- Often T2 hypointense or heterogenous on MRI
  - reflects dense protein deposition ± calcification



Gaillard F, et al. *Cerebral amyloidoma*. Radiopaedia. https://radiopaedia.org/articles/cerebral-amyloidoma

Discussion: Imaging Clues

- May show heterogenous enhancement
- Can have low metabolic activity on PET



Discussion: Diagnosis & Takeaway

- Imaging findings are suggestive but not specific – definitive diagnosis requires biopsy
- **Key Finding**:
  - Congo Red Staining
    - Apple green birefringence under polarized light
- **Clinical Course:**
  - Often benign or slowly progressive
  - May be managed with observation or surgical resection

- ***When imaging suggests malignancy but the brain appears relatively unaffected, consider amyloidoma. The treatment options will vary significantly.***

THANK YOU

References

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