

54 Year Old Woman Found Unresponsive

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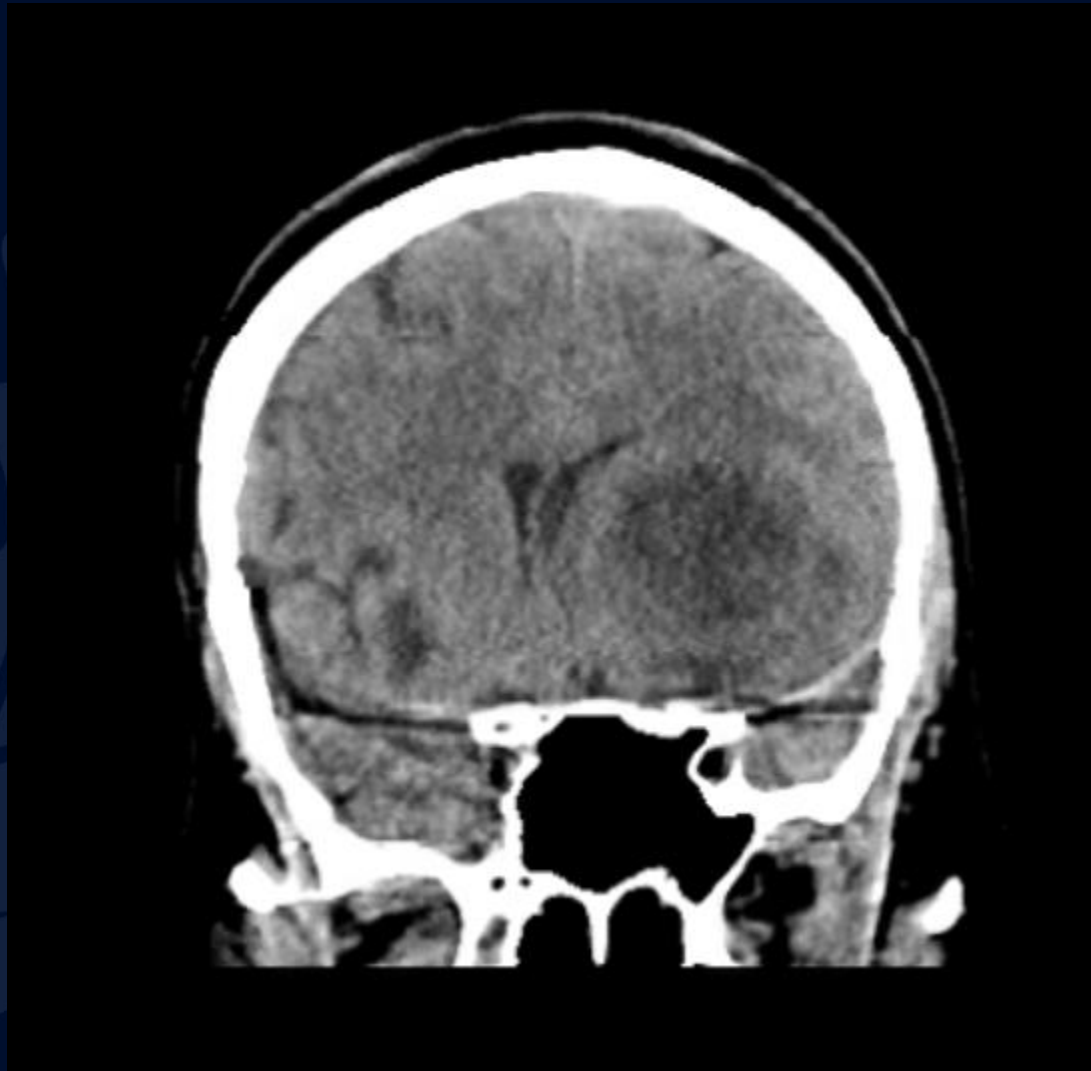
Initial imaging for an unresponsive patient?

A 54-year-old patient with a past medical history of DM Type I presented unresponsive for 7 hours and was found to be in DKA with severe AKI.

Stat CXR demonstrated increased bibasilar parenchymal radiodensities suggestive of infectious pneumonia or secondary to aspiration.

Head Imaging → **CT Head without IV contrast**

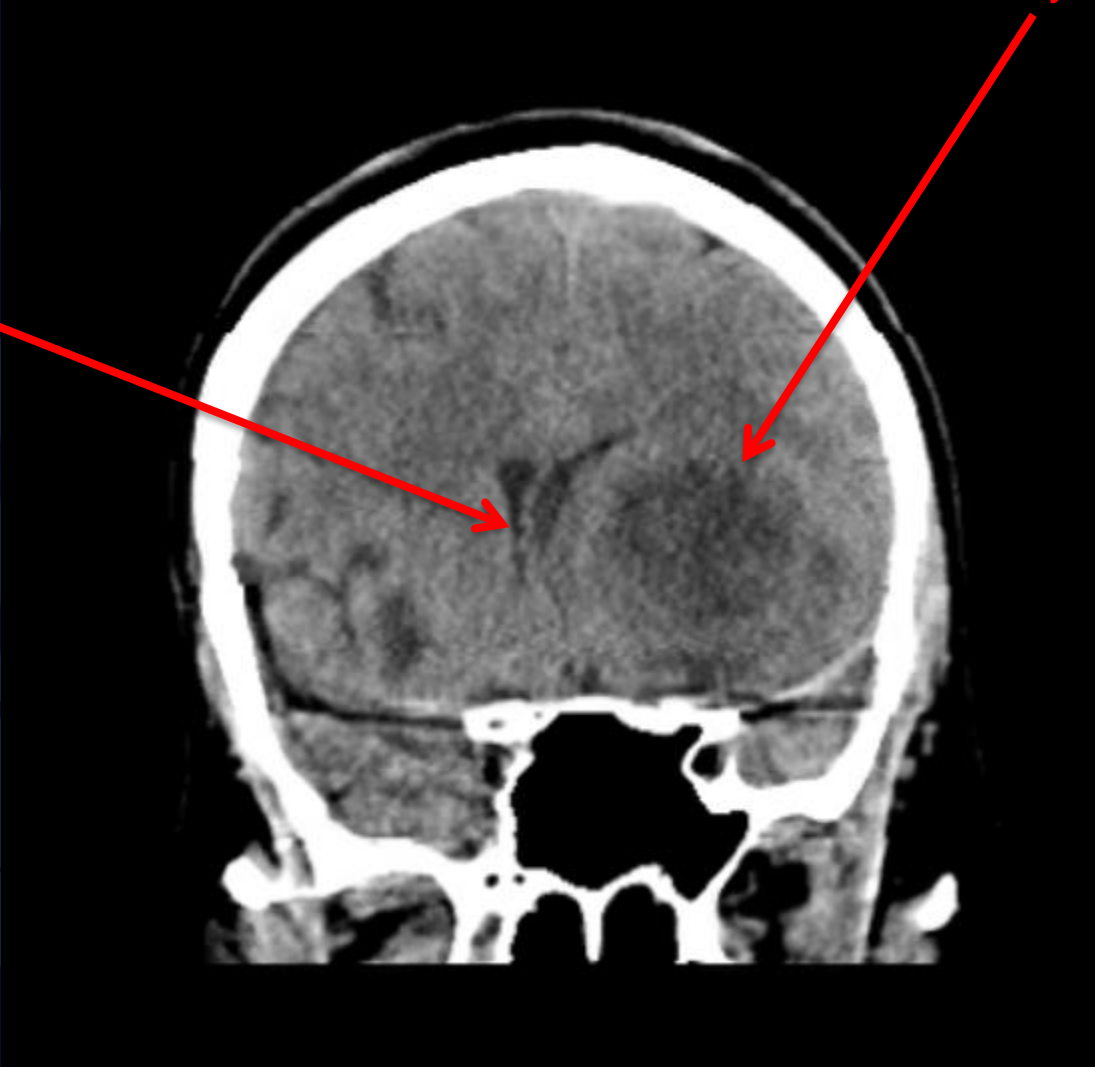




Approximately 4cm
low-density region in
the left internal capsule
/ basal ganglia



Mass like low-density region

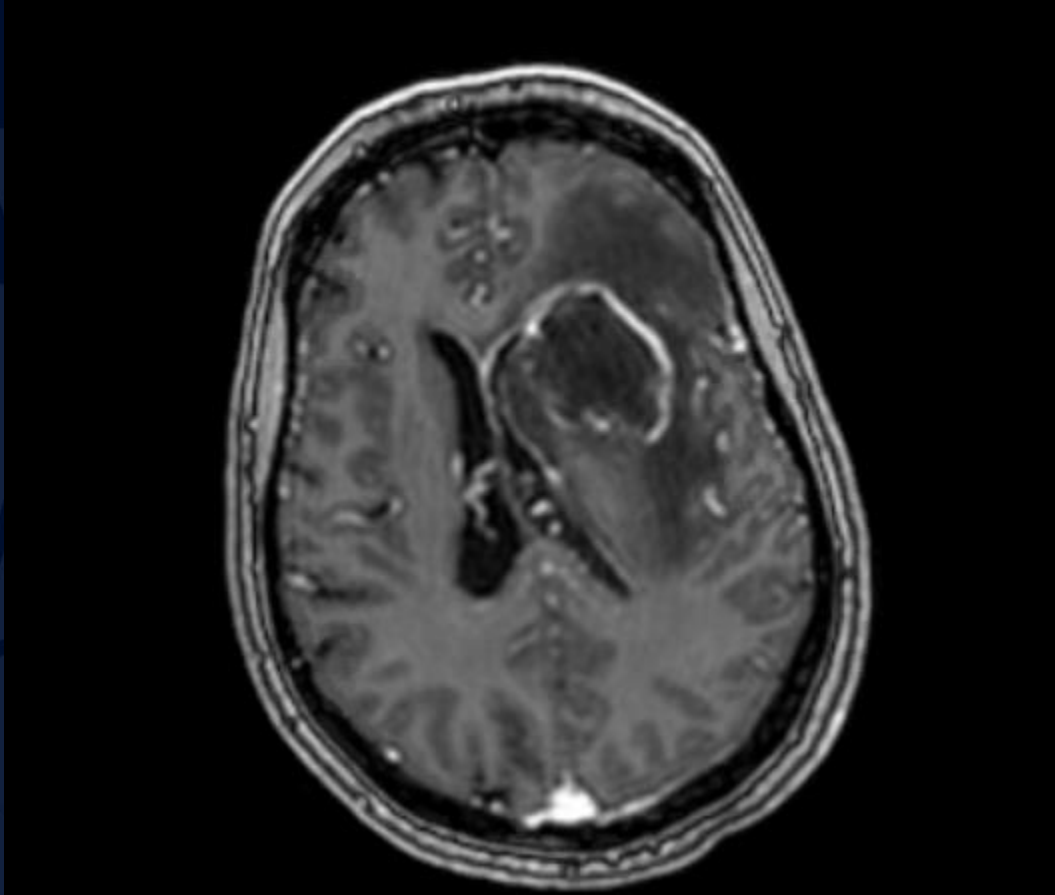


Midline shift

CT of the head demonstrated an approximately 4cm low-density mass like region in the left internal capsule and anterior basal ganglia with surrounding edema.

Follow-up imaging?

An MRI of the brain with intravenous contrast was ordered for surgical planning. Pre-contrast, DWI, and FLAIR deferred by the Neurosurgical Service.



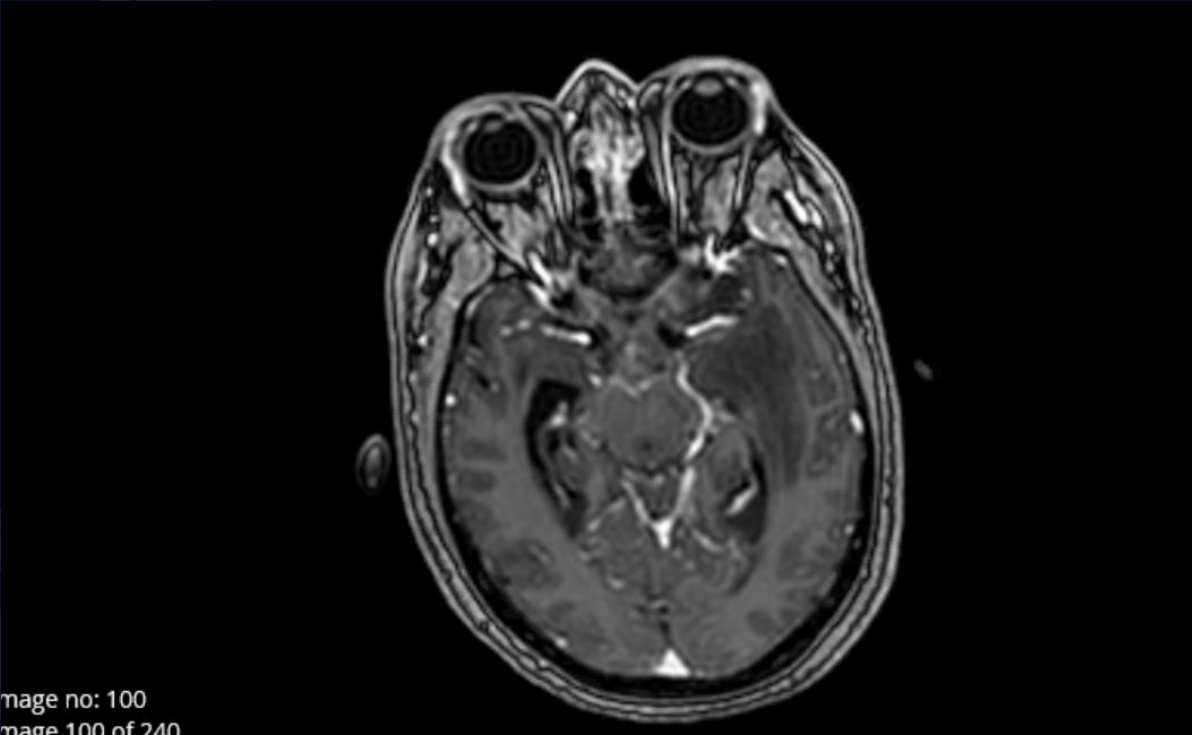
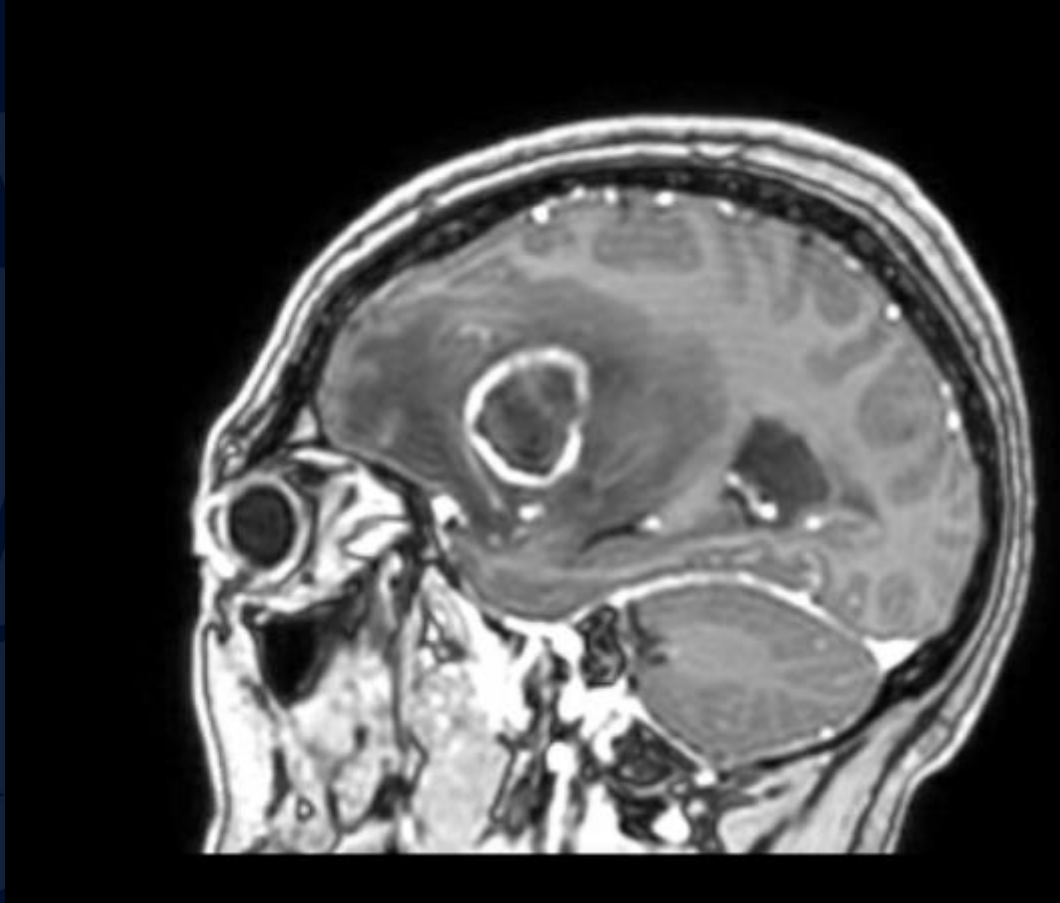
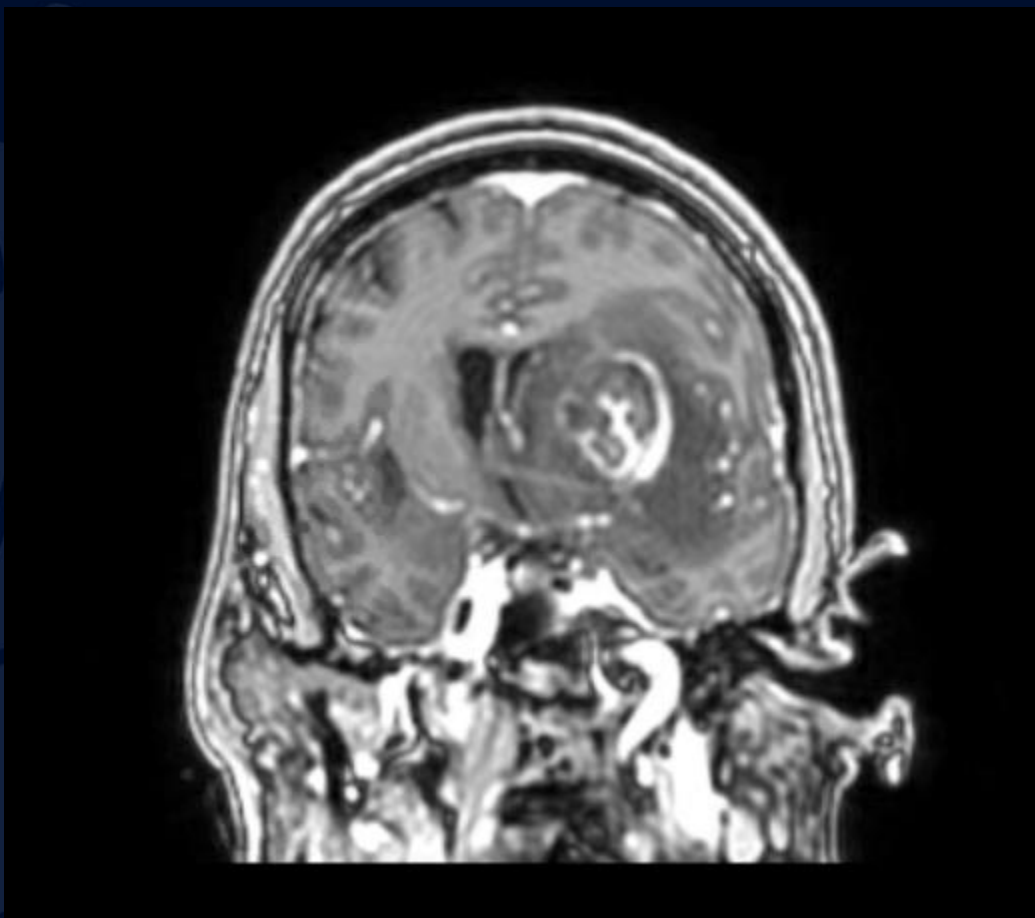


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Image 100 of 240



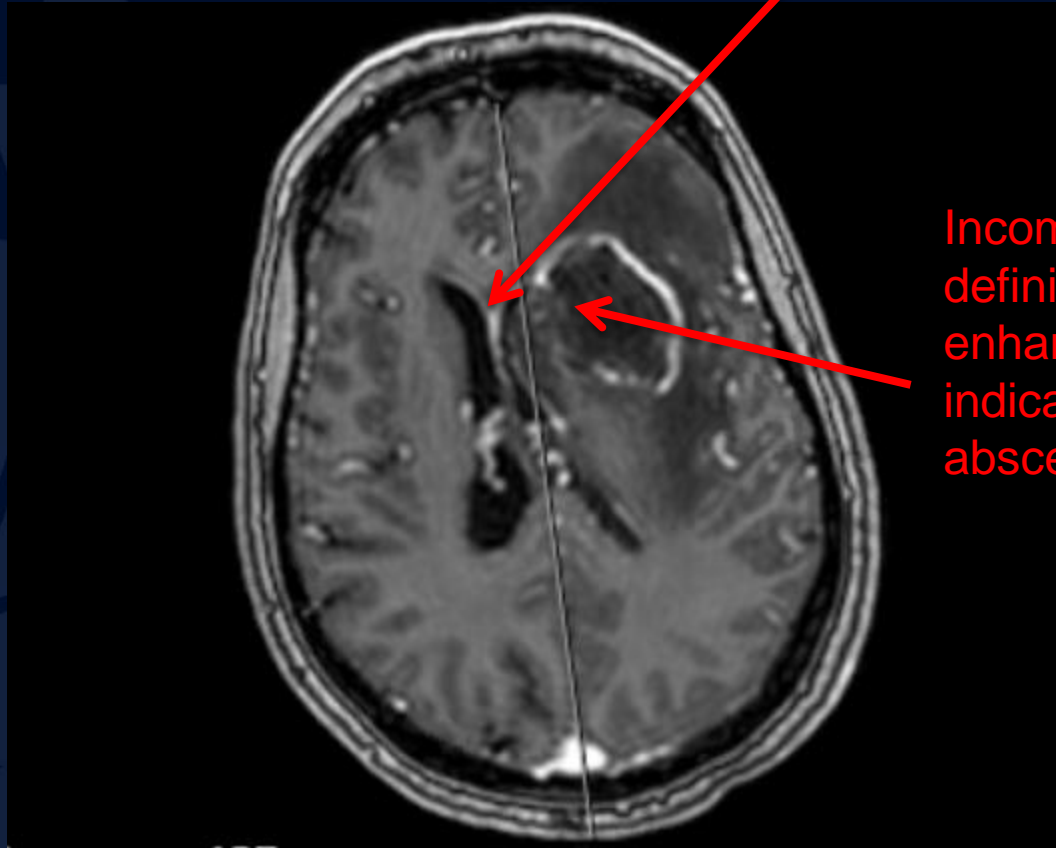


Lesion located by
the anterior limb of
the left internal
capsule



Central low
intensity with
peripheral
enhancement

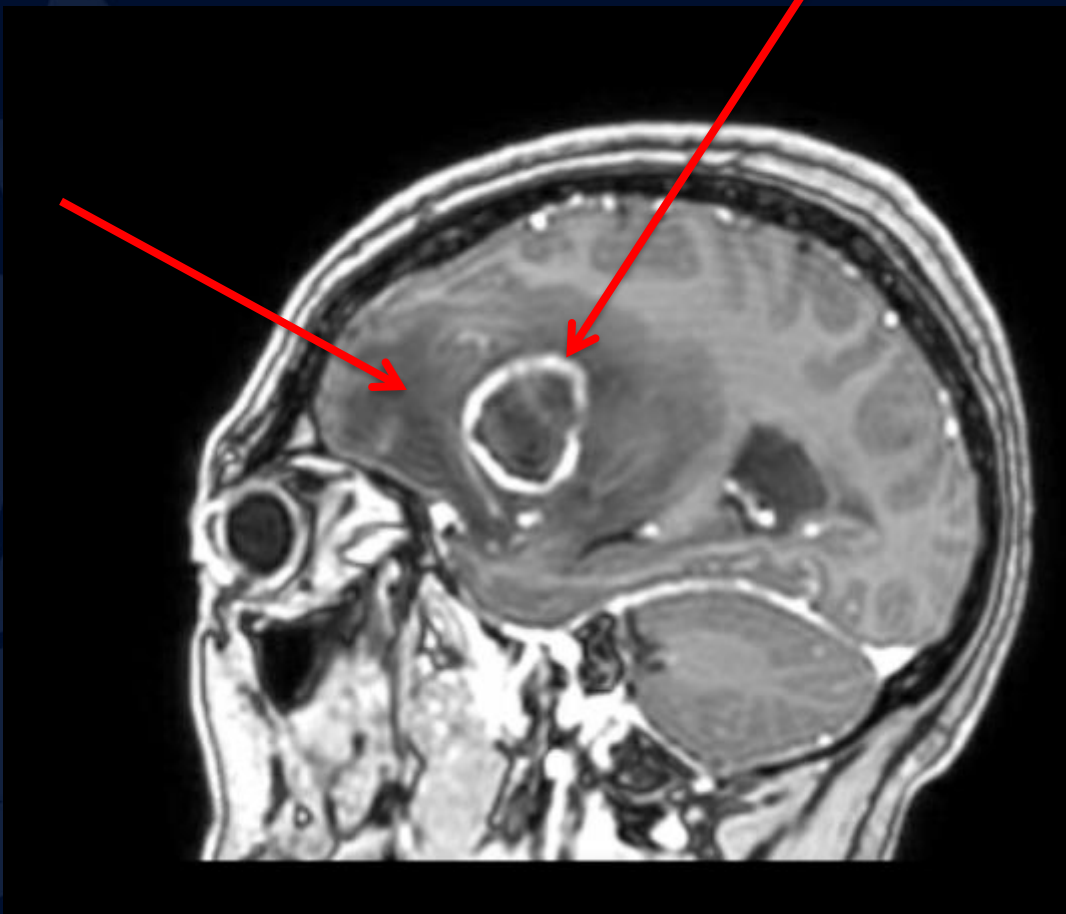
Midline shift
(approximately
7mm)

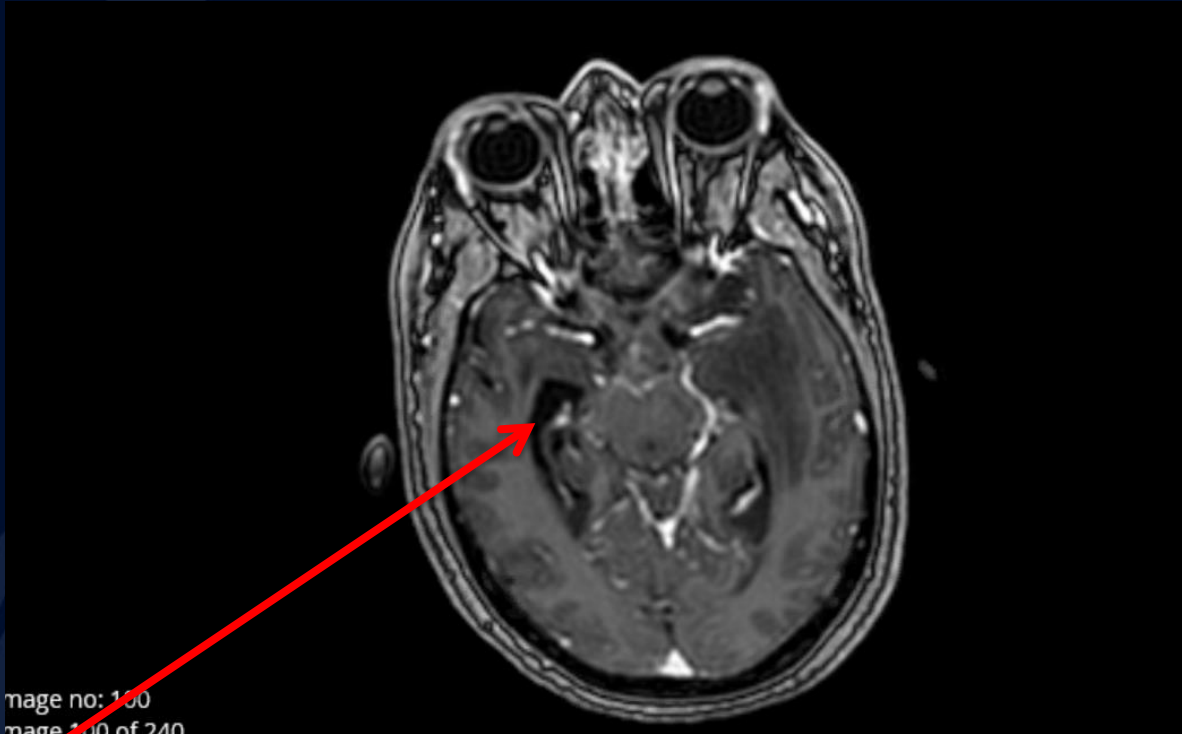


Incomplete medial
definition of ring-
enhancement,
indicative of an
abscess

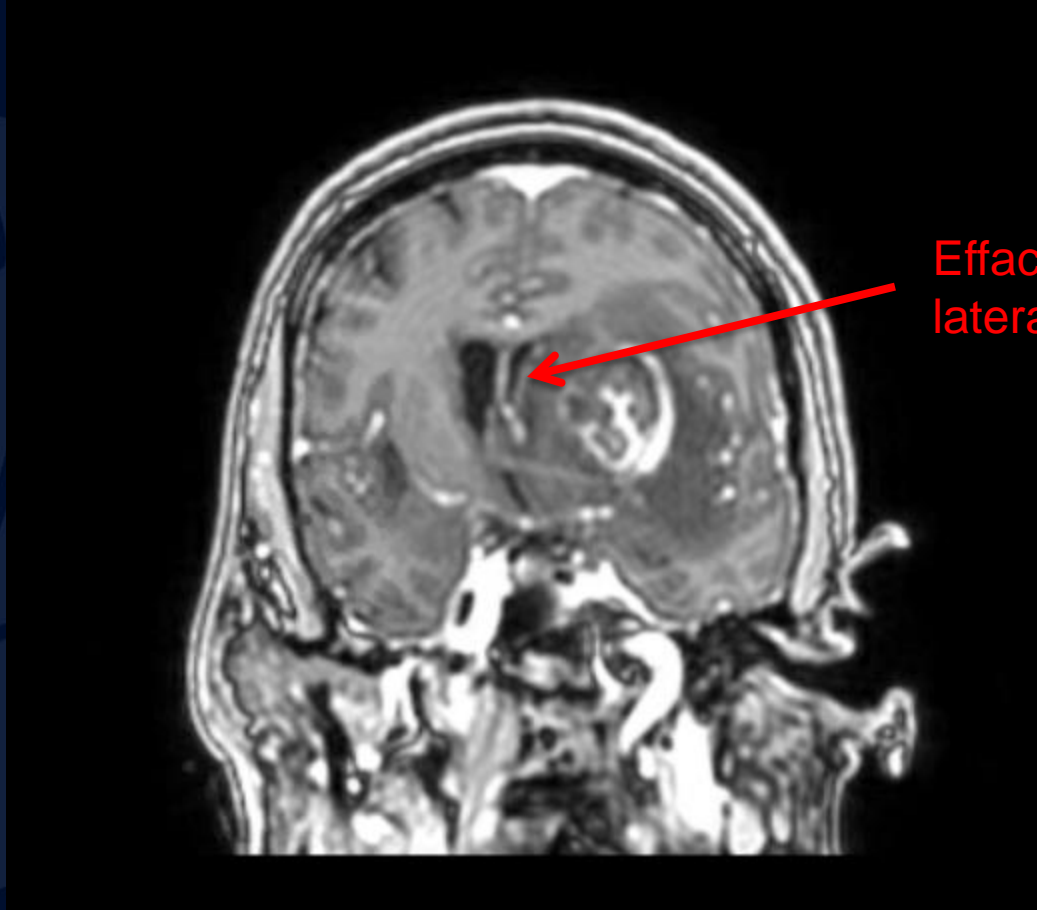
Abundant edema in left frontal lobe extending into left temporal lobe, low intensity

Ring-enhancing lesion

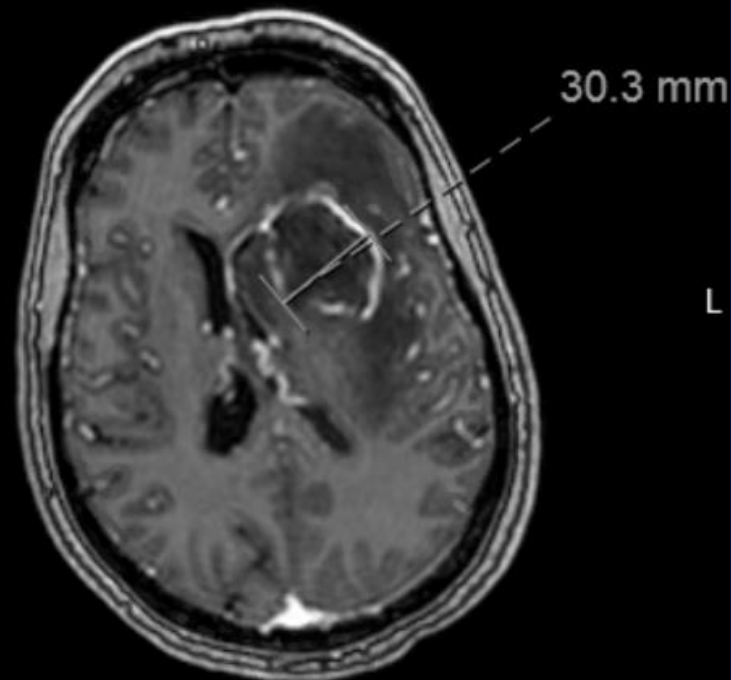
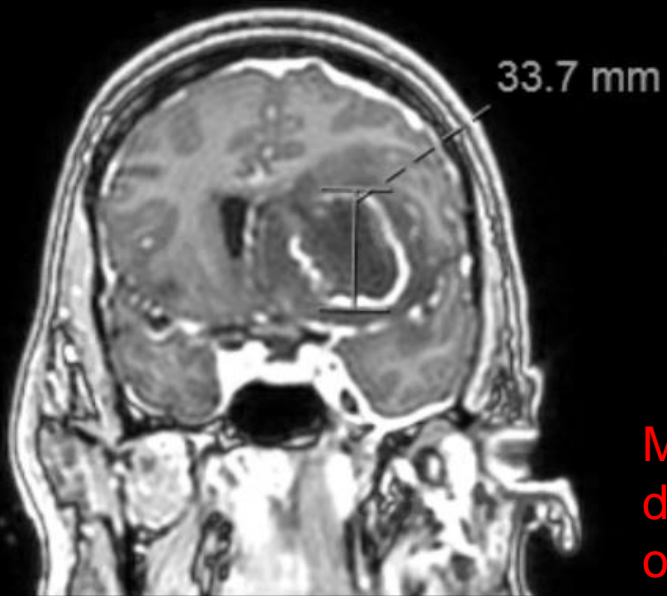




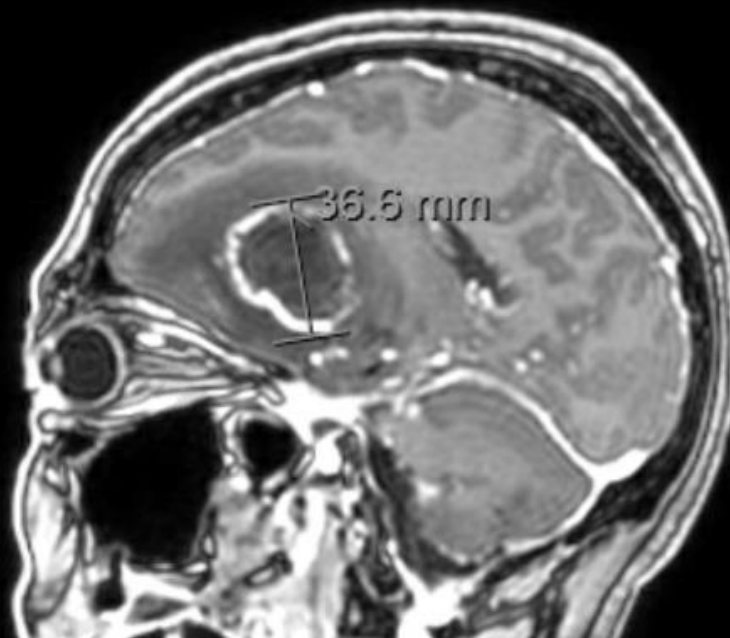
Mild enlargement of
right temporal horn,
indicating developing
hydrocephalus



Effacement of left lateral ventricle



Measuring
dimensions
of lesion



Ring-enhancing lesion differential diagnosis?

DR MAGICAL

D: Demyelinating disease

R: Radiation necrosis or Resolving hematoma

M: Metastasis

A: Abscess

G: Glioblastoma

I: Infarct (subacute phase), Inflammatory
(neurocysticercosis, tuberculoma)

C: Contusion

A: AIDS

L: Lymphoma (more common in immunocompromised)

A large, stylized oak 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 leaf's edge is serrated.

Diagnosis?

A large, stylized oak 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 background of the slide is a solid dark blue.

Brain Abscess

Brain Accesses

- **Epidemiology:** High risk groups include patients with congenital heart disease, infective endocarditis, lung infection, sino nasal infections, dental abscess, systemic sepsis
- **Etiology:** Caused by pathogens growing within brain parenchyma (streptococcus 35-50%, sterile 25%, mixed, staph aureus and staph epidermidis following neurosurgery, gram negative in infants, listeria in pregnant women and older patients, GBS and E. coli in neonates, many other organisms can affect immunocompromised individuals)

Brain Accesses

- **Presentation:** Nonspecific. The classic triad of headache, fever, and neurological deficit is only present in 20% of brain abscess patients. Headache is the most common symptom. Changes in mental status often indicate severe cerebral edema and are a poor prognostic sign. Seizures develop in 25% of cases. Vomiting, papilledema, and unilateral cranial nerve deficits suggest increased ICP and are a contraindication to performing an LP.

Brain Accesses

- Diagnosis: CT with and without Intravenous Contrast, MRI with and without Intravenous Contrast (preferred), DWI, and blood cultures aid in diagnosis. Histopathology provides definitive diagnosis.
- Treatment: Neurosurgical intervention with drainage by stereotactic aspiration or craniotomy as well as initiation of broad spectrum intravenous antibiotics that can be adjusted based on pathogens

References

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