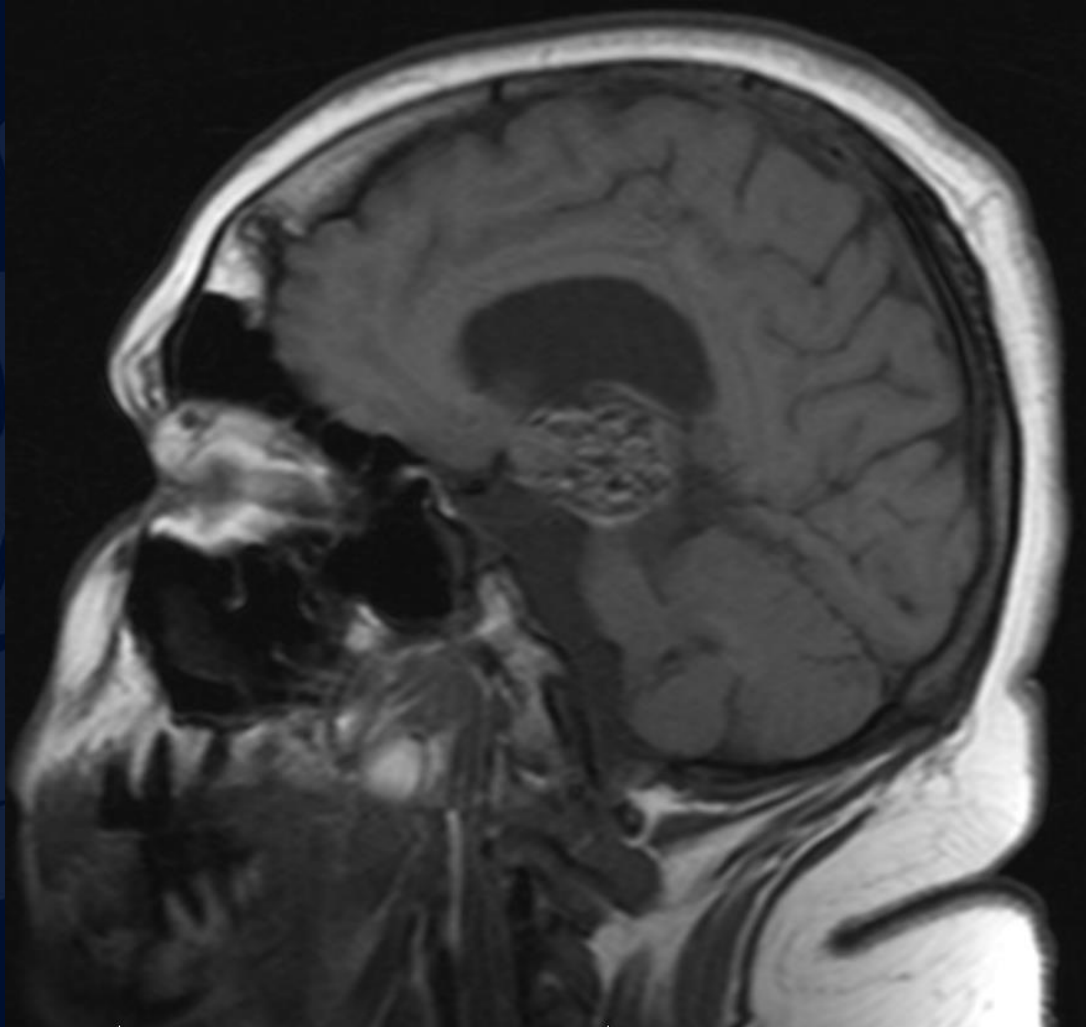


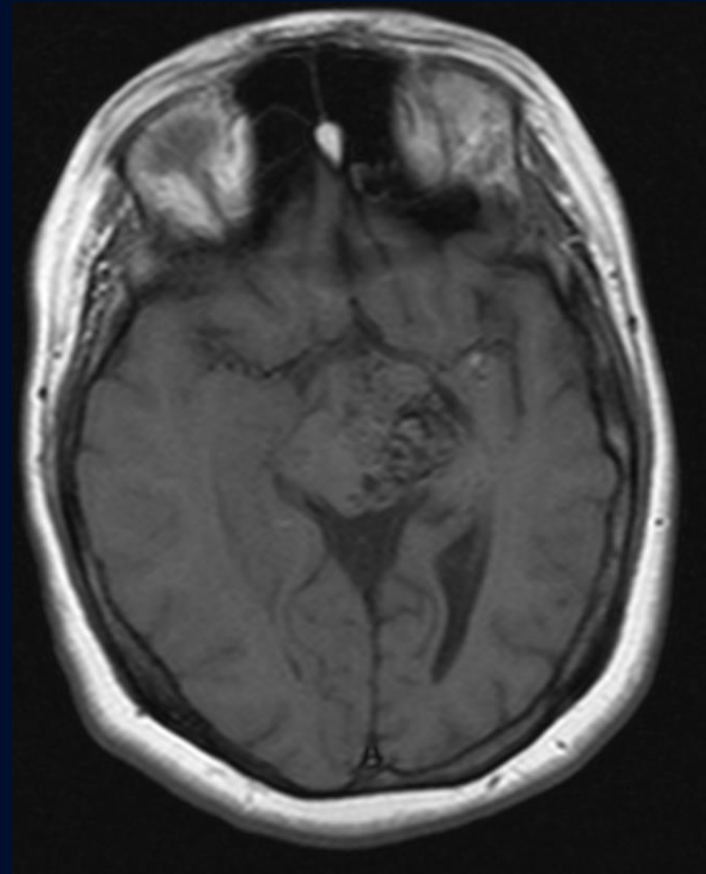
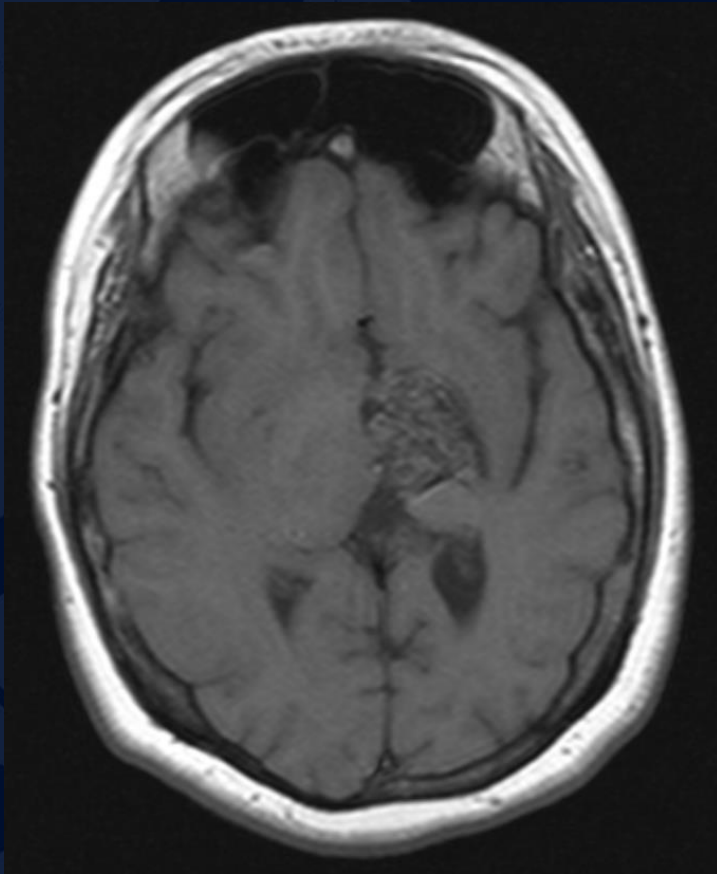
27 y/o female presenting with recent  
hemorrhage in the left thalamus and  
new onset night blindness

Maxime Braun, MS4  
University of Connecticut  
School of Medicine

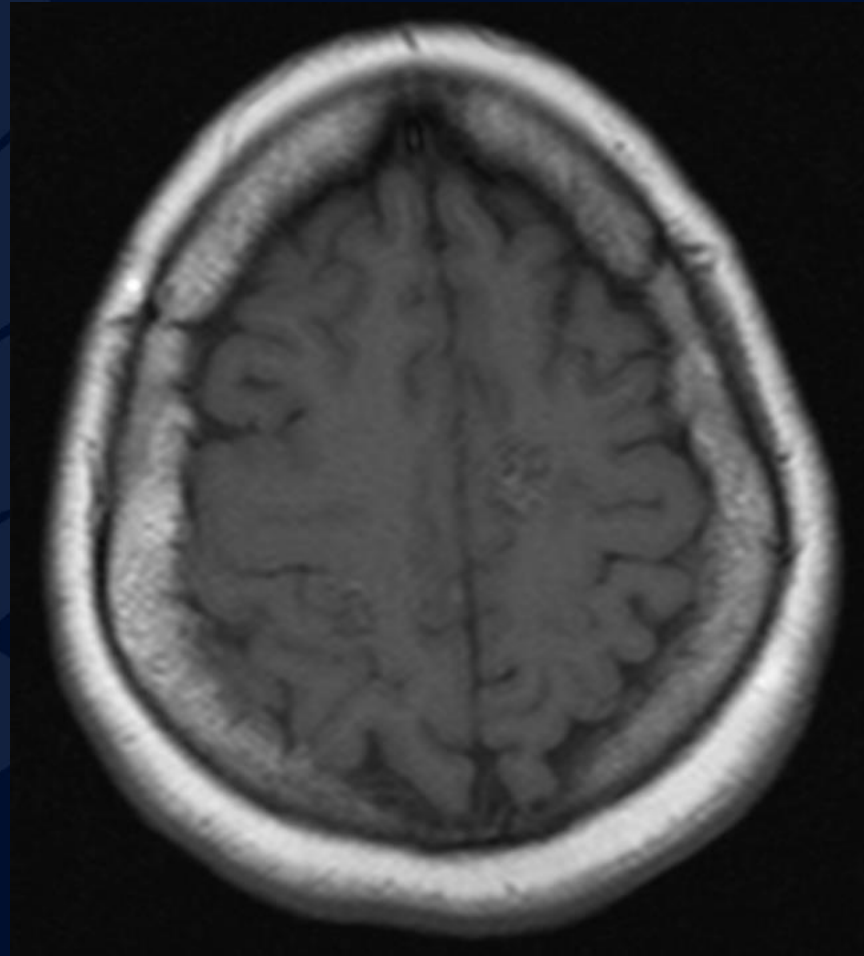
MR T1



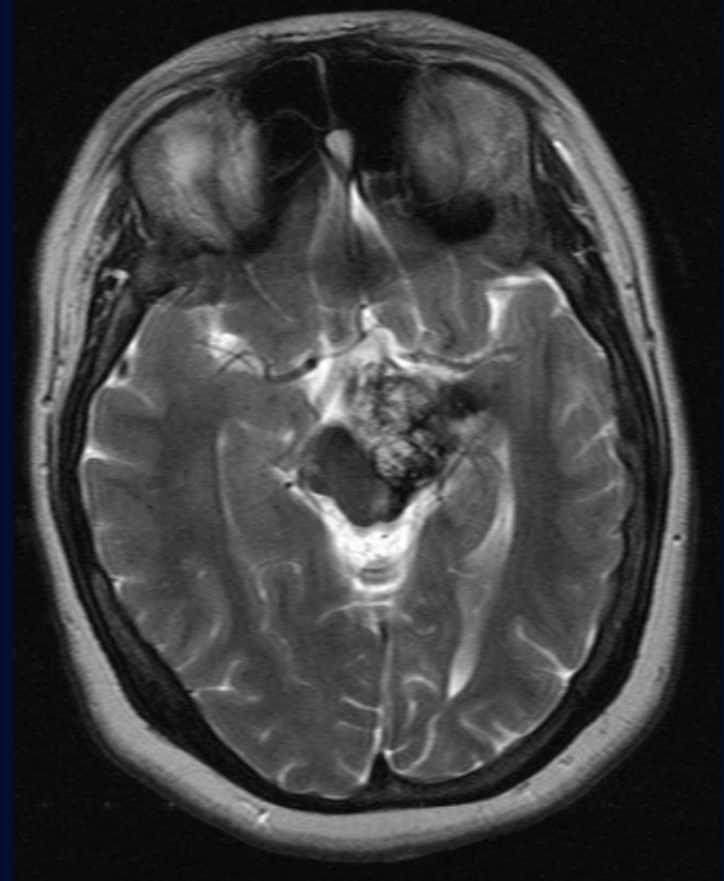
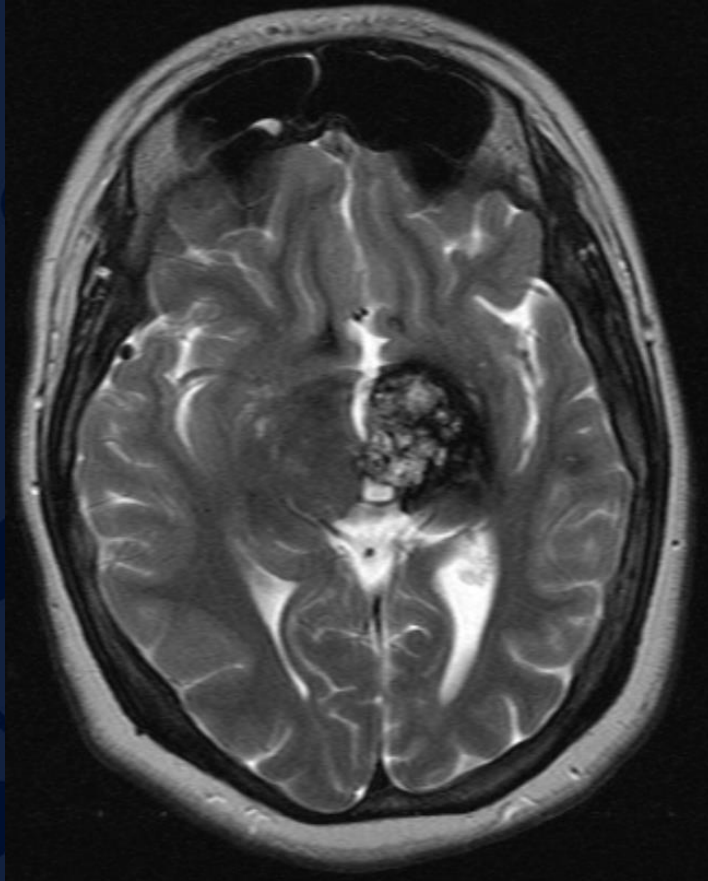
MR T1



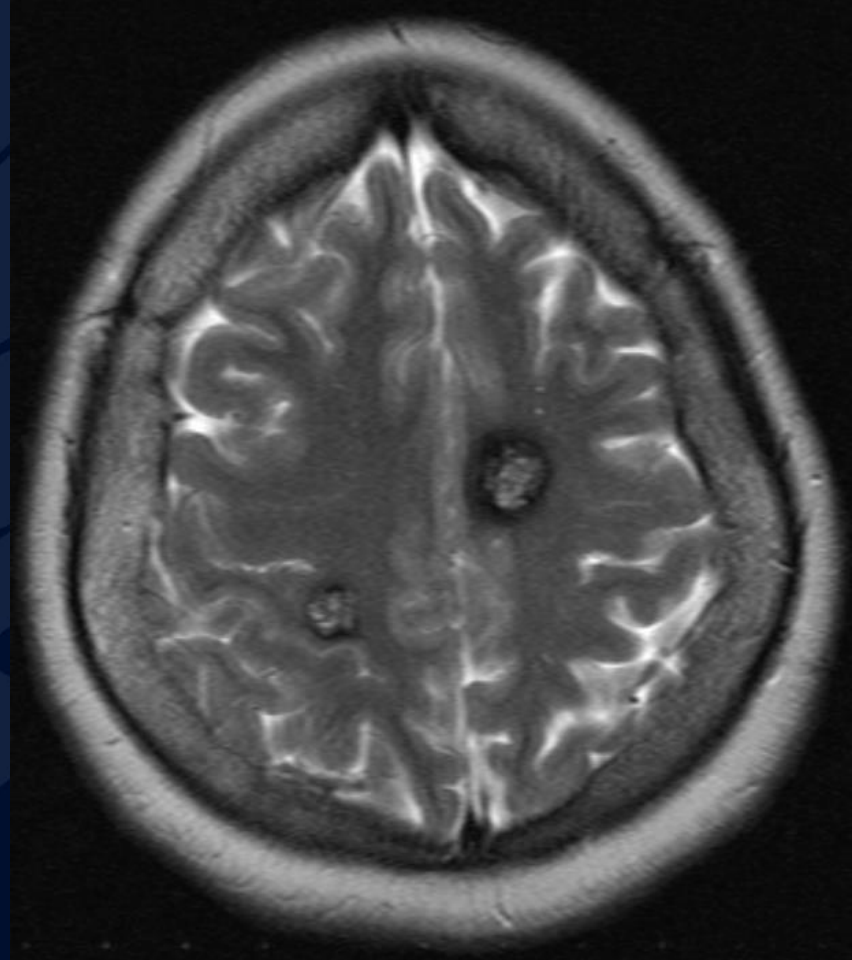
MR T1



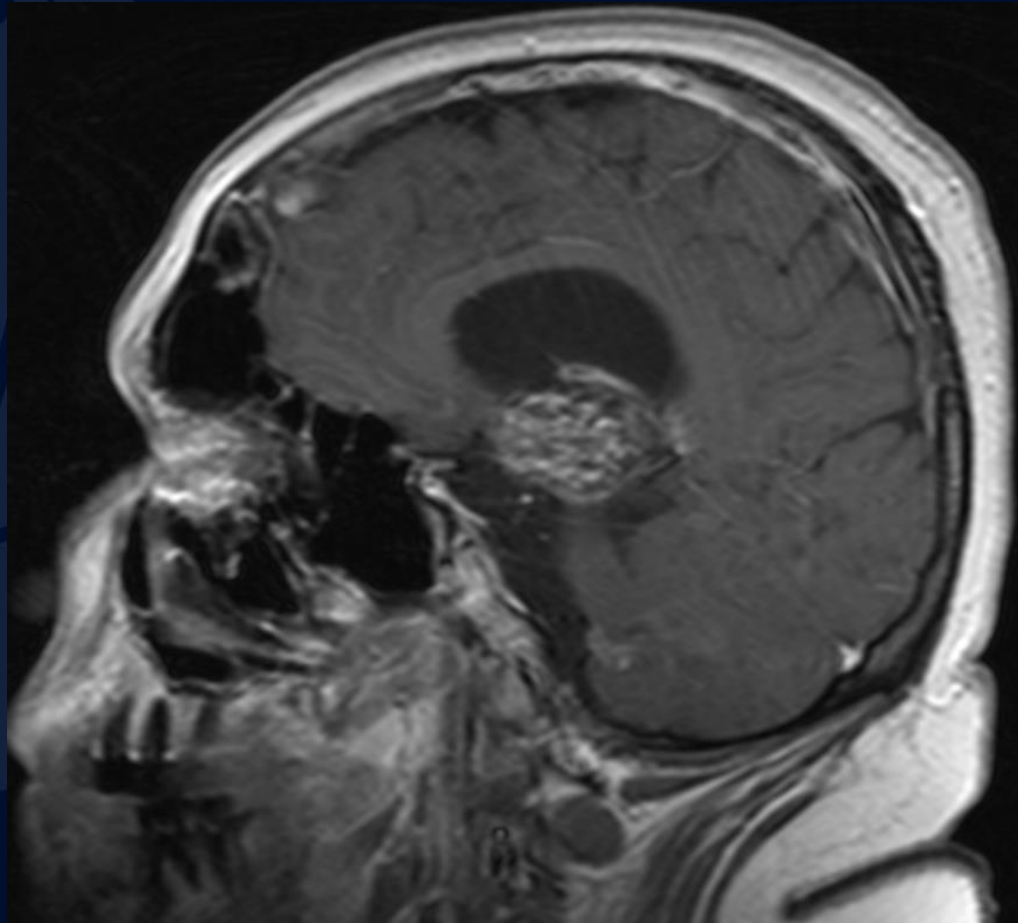
MR T2



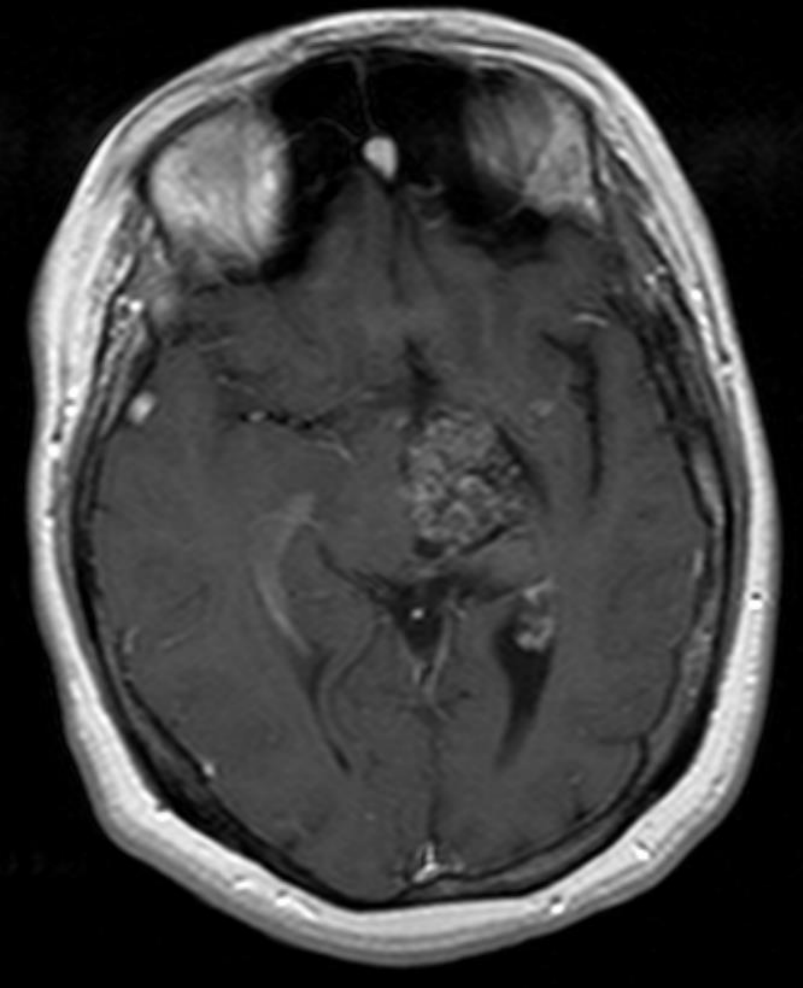
MR T2



MR T1 + Gad

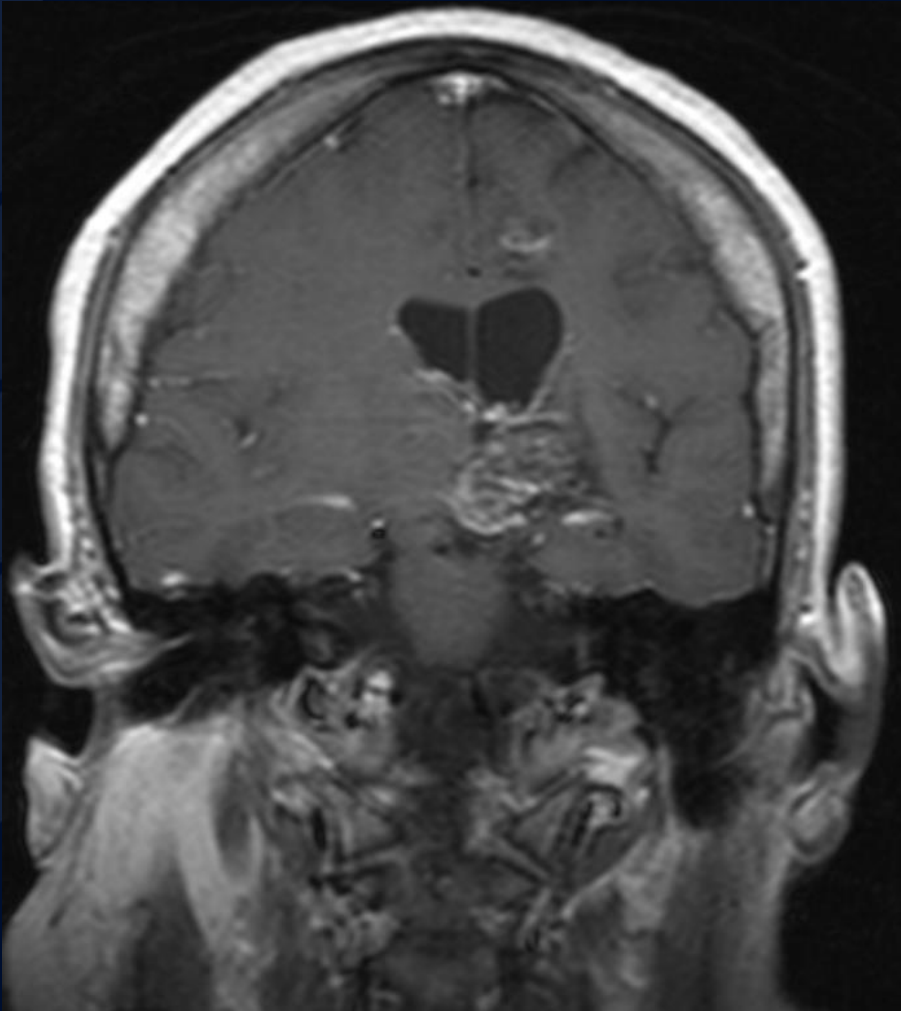


MR T1 + Gad





MR T1 + Gad

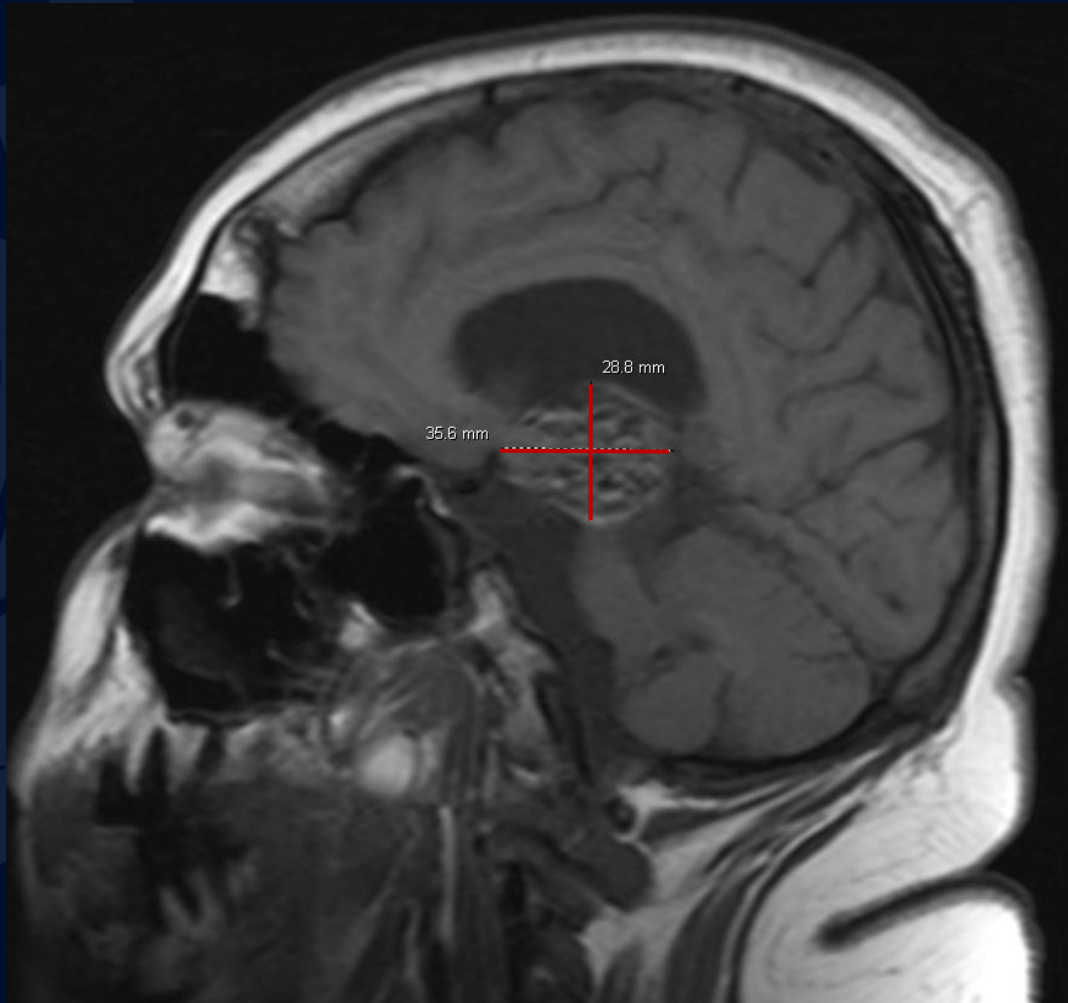


A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. It features detailed vein patterns and a lobed edge.

?

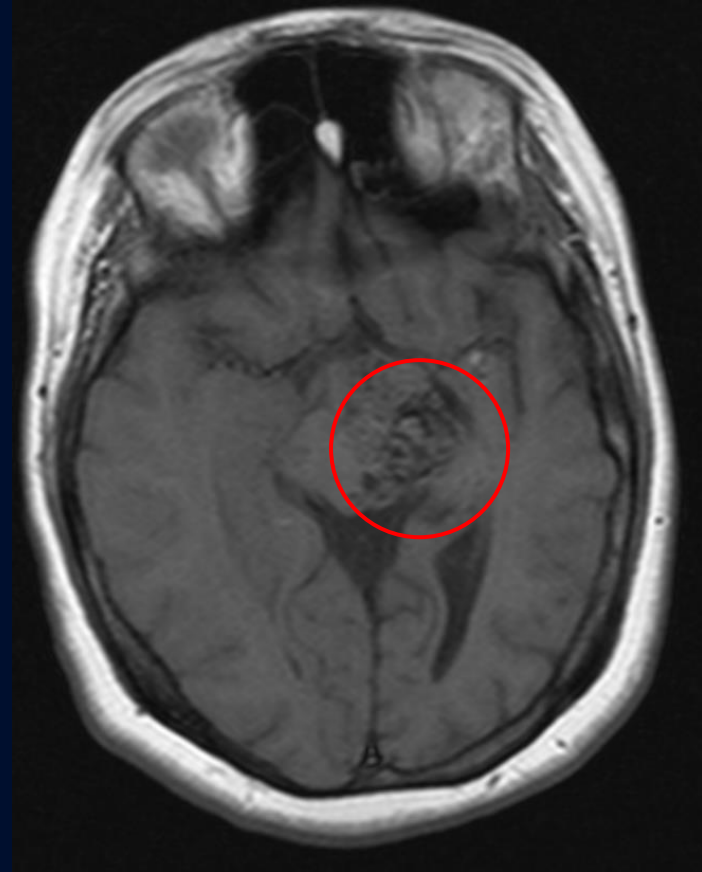
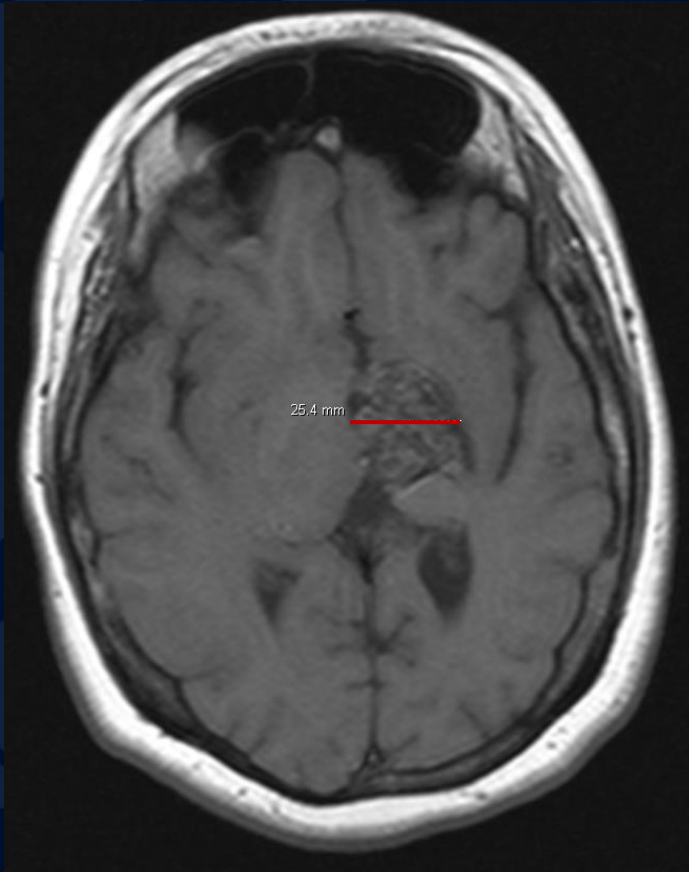
# Multiple cavernous hemangiomas

MR T1



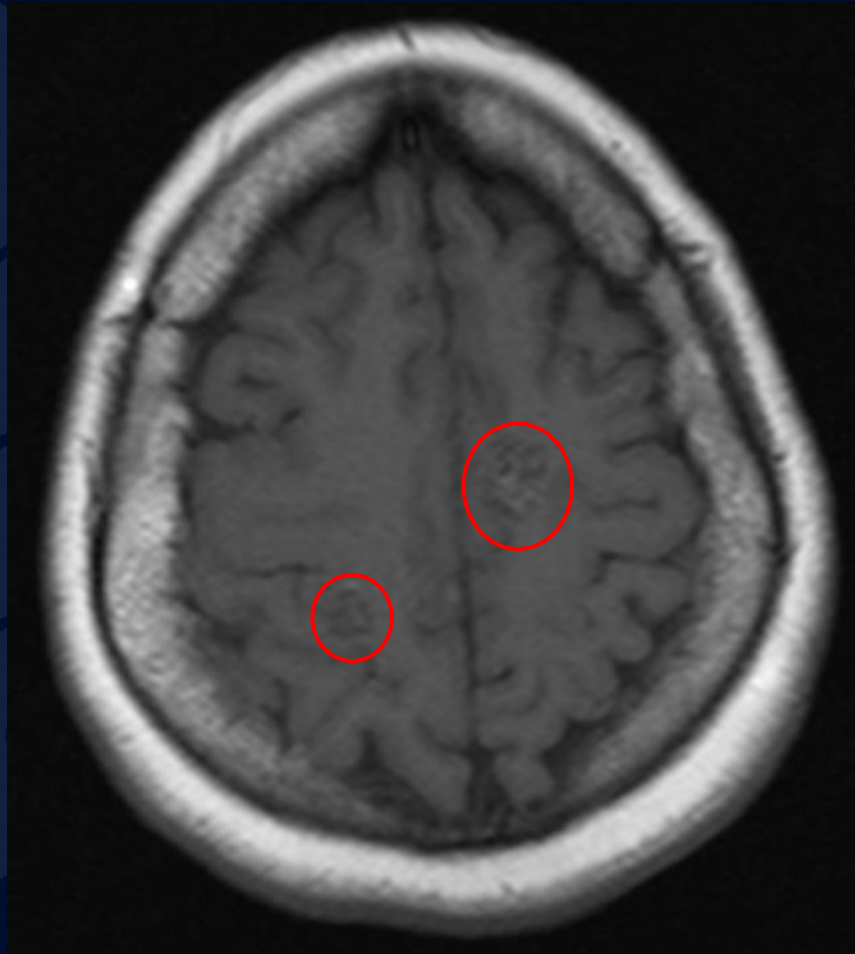
Heterogeneous lesion in the left thalamus

## MR T1



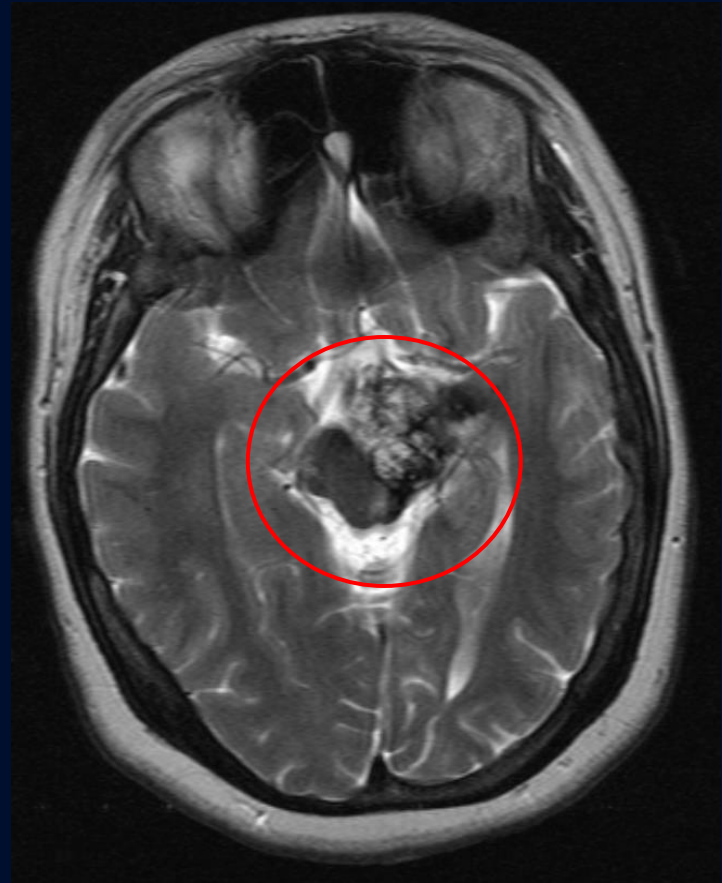
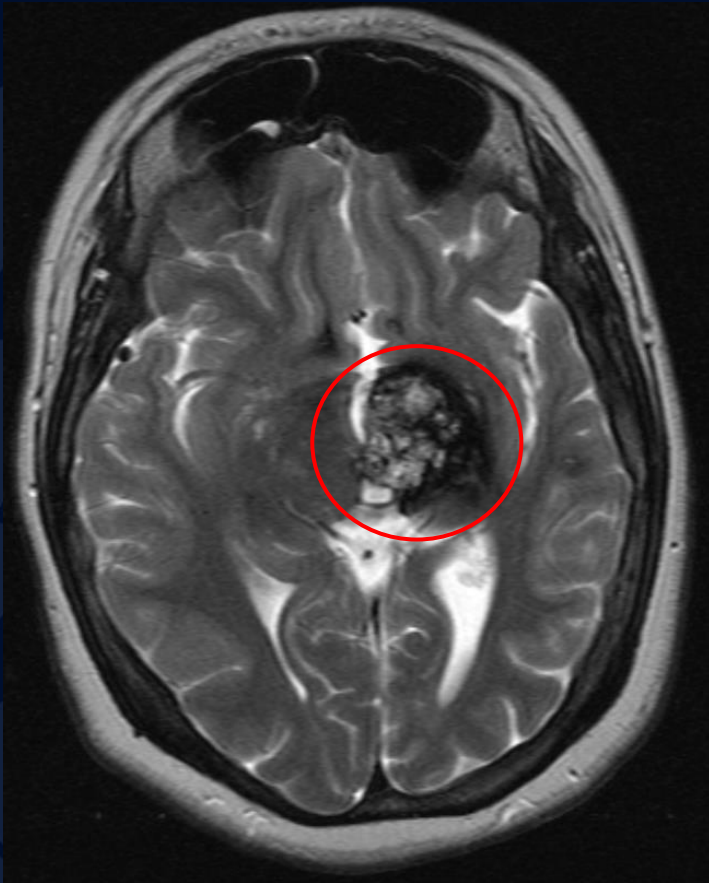
Heterogeneous lesion in the left thalamus  
with extension into the adjacent left  
cerebral peduncle

MR T1



Well-circumscribed heterogeneous lesions in bilateral frontal lobes without surrounding edematous changes

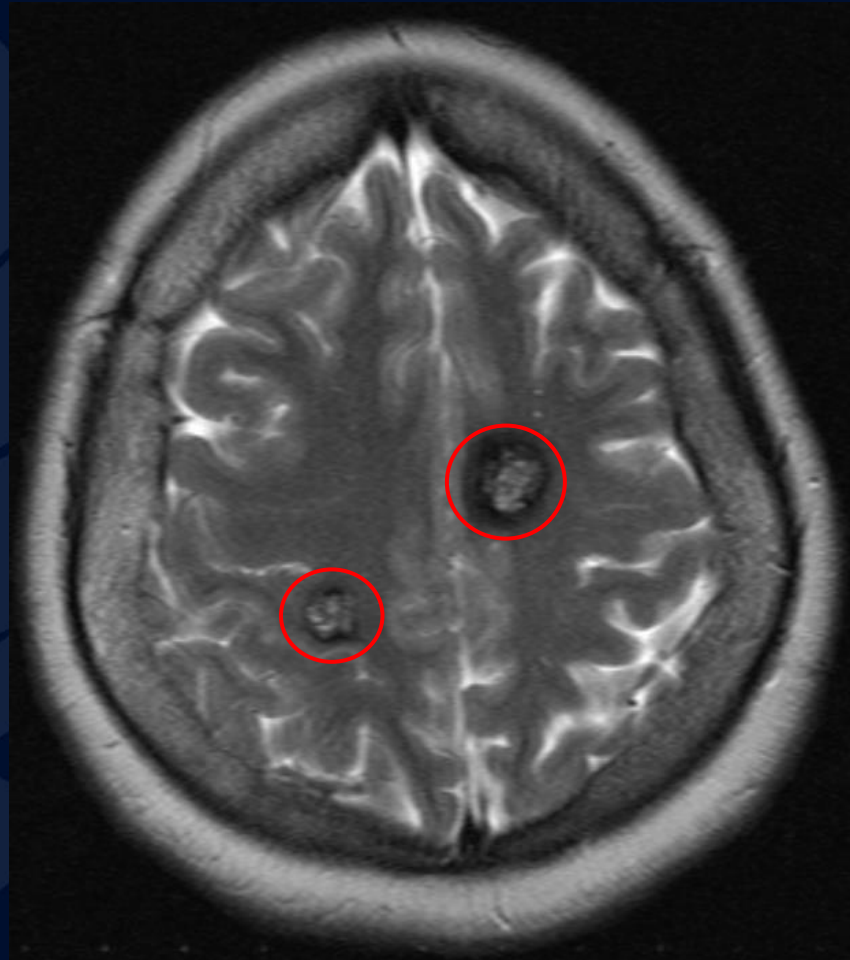
## MR T2



T2 heterogeneously enhancing lesion in the left thalamus  
with invasion of the left cerebral peduncle

Hypointense rim of lesion due to hemosiderin deposition  
from prior intraparenchymal hemorrhage

## MR T2

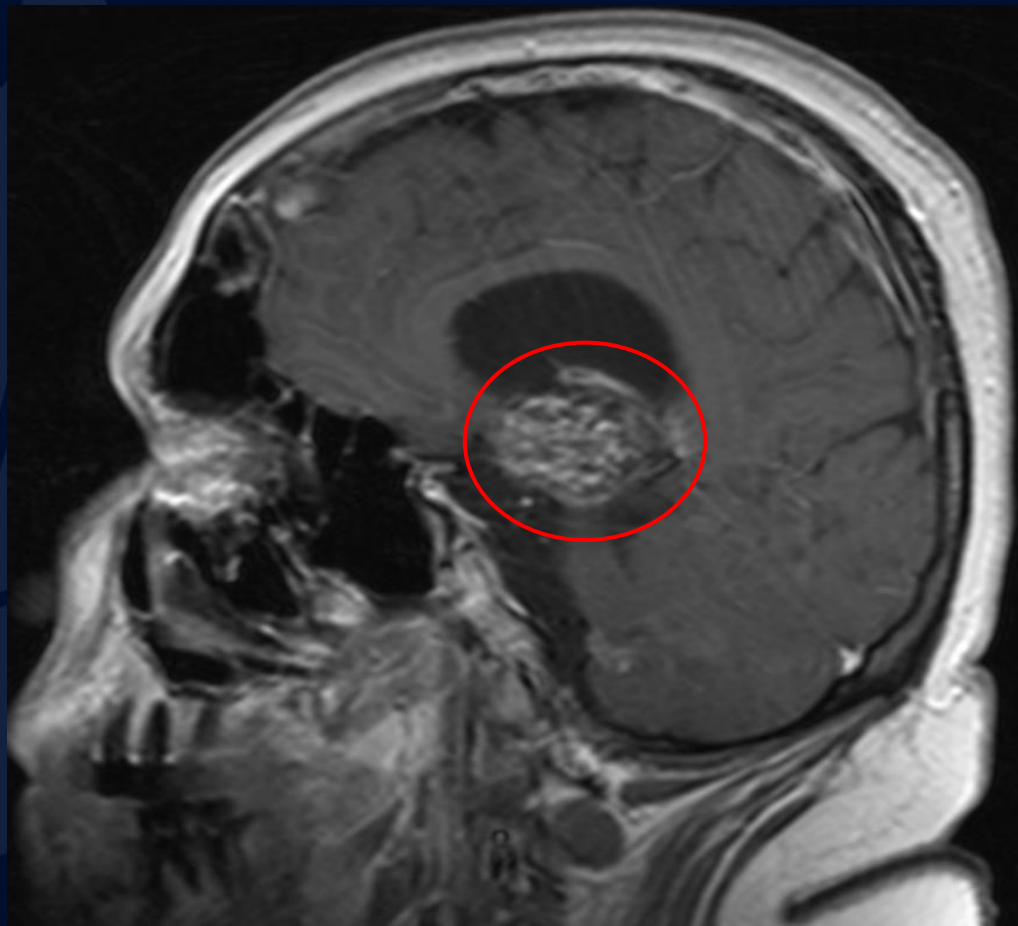


T2 heterogeneously enhancing lesions in bilateral frontal lobes with characteristic hypointense rim

No edematous changes

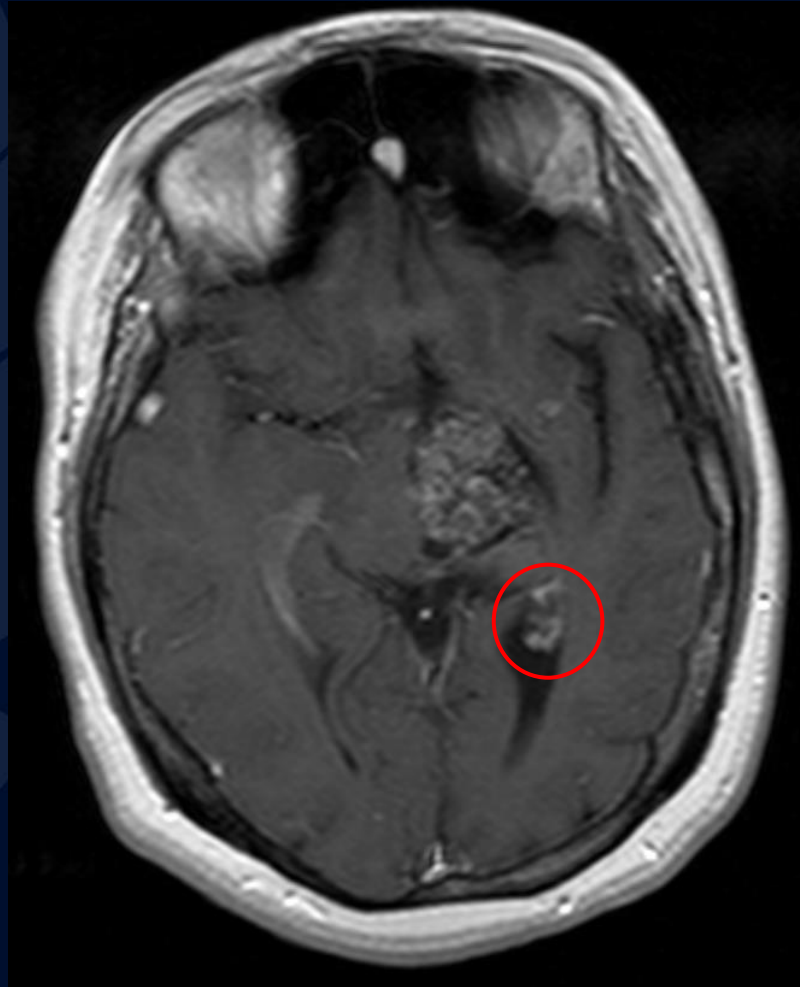


MR T1 + Gad



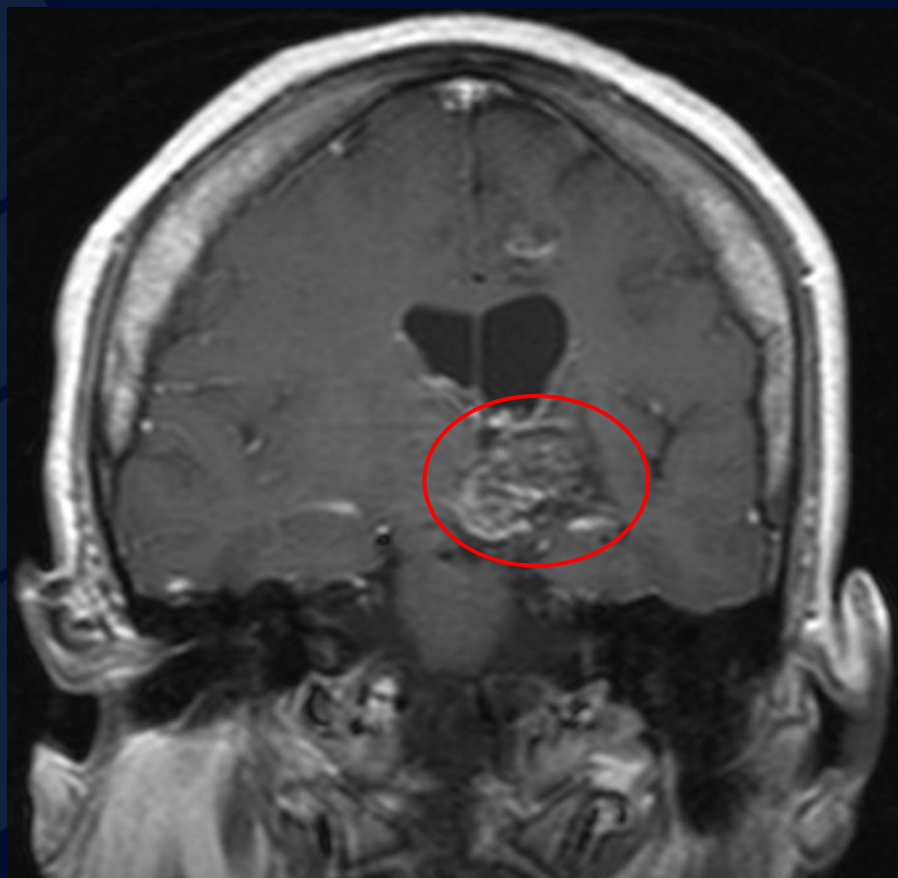
Moderate heterogeneous enhancement  
of lesion in the left thalamus

MR T1 + Gad



Extension of lesion into the posterior  
horn of the left lateral ventricle

## MR T1 + Gad



Heterogeneous enhancement of left thalamic lesion extending into the left cerebral peduncle

# Cavernous Hemangioma

## Summary

- A common, benign, intracranial vascular malformation that forms during development
- Also known as cavernous venous malformations or cavernomas

## Pathophysiology

- Grossly: characteristic "mulberry" appearance with engorged purple clusters of vessels filled with slow-moving or stagnant blood
- Histologically: clusters of hyalinized dilated thin-walled capillaries, with surrounding hemosiderin, and varying degrees of vessel thrombosis

## Epidemiology

- Most patients present symptomatically at 40-60 years of age with a single lesion.
- Multiple lesions may be due to familial multiple cavernous malformation syndrome
- Cavernous malformations can be commonly seen following cerebral radiotherapy
- ~40% (range of 20-50%) of cavernous malformations are incidental findings on neuro-imaging due to the lack of symptoms

# Cavernous Hemangioma

## Treatment & Management:

Asymptomatic cavernous hemangiomas are treated conservatively through observation, irrespective of location

- Serial routine MRIs to monitor changes, especially evidence of hemorrhage

Surgical removal may be considered in any of the following scenarios:

- The lesion abuts the surface of the brain stem
- Recurrent hemorrhages result in progressive neurological deficits
- Hemorrhagic blood is entering the surrounding parenchyma
- Growth of the cavernoma is causing visible compression of surrounding parenchyma

Surgical resection:

- Patients are treated with steroids preoperatively to limit edema
- Complete removal of the lesion, including hemosiderin ring, is required to avoid further recurring hemorrhagic events as well as to ensure complete seizure control
- Contraindication for surgical resection:
  - Presence of associated DVA due to risk of venous infarction
- Stereotactic radiosurgery is a potential alternative for surgically inaccessible lesions

# Cavernous Hemangioma

Differential diagnoses to consider

- Cerebral amyloid angiopathy
- Chronic hypertensive encephalopathy
- Diffuse axonal injury
- Cerebral vasculitis
- Radiation-induced vasculopathy
- Hemorrhagic metastases
- Hemorrhagic primary brain tumor
- Parry-Romberg syndrome

# References

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