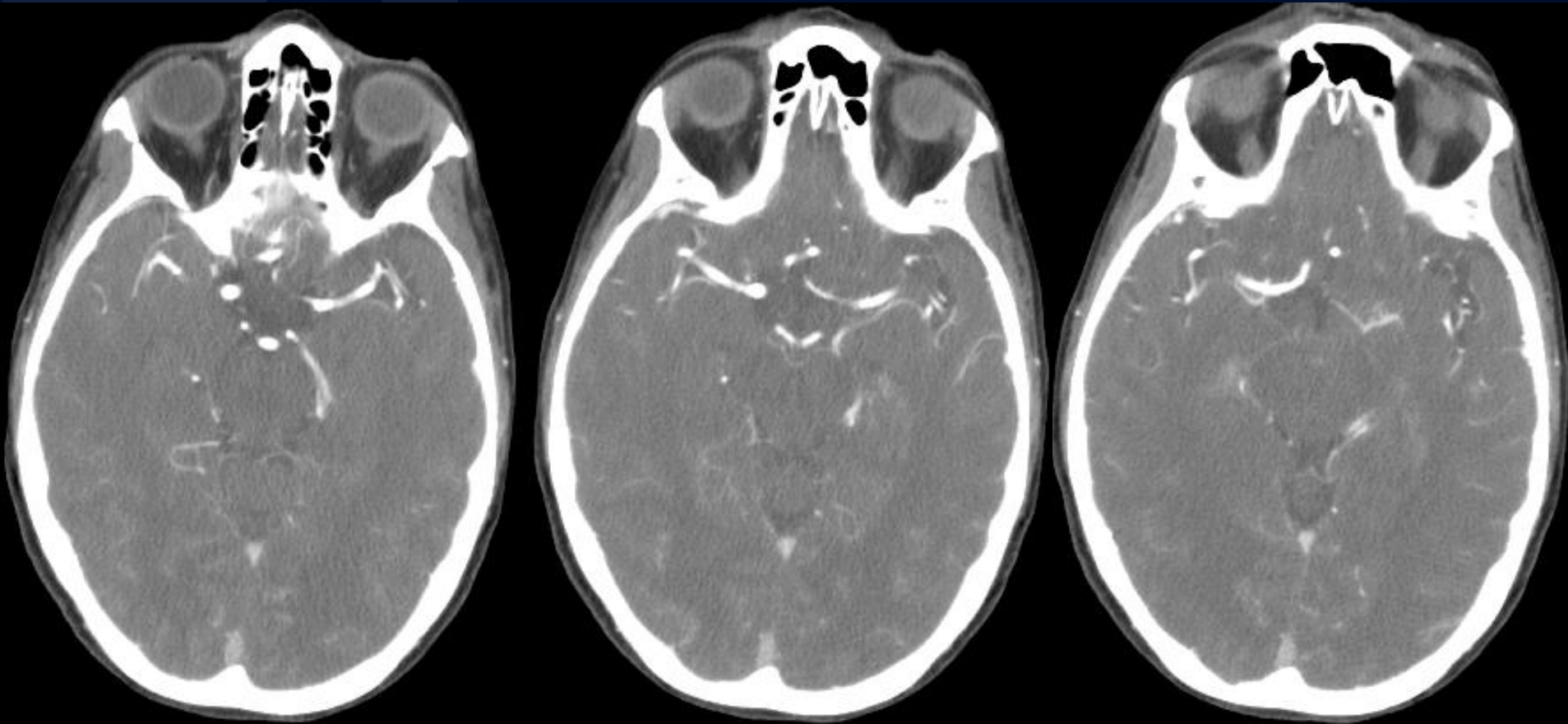


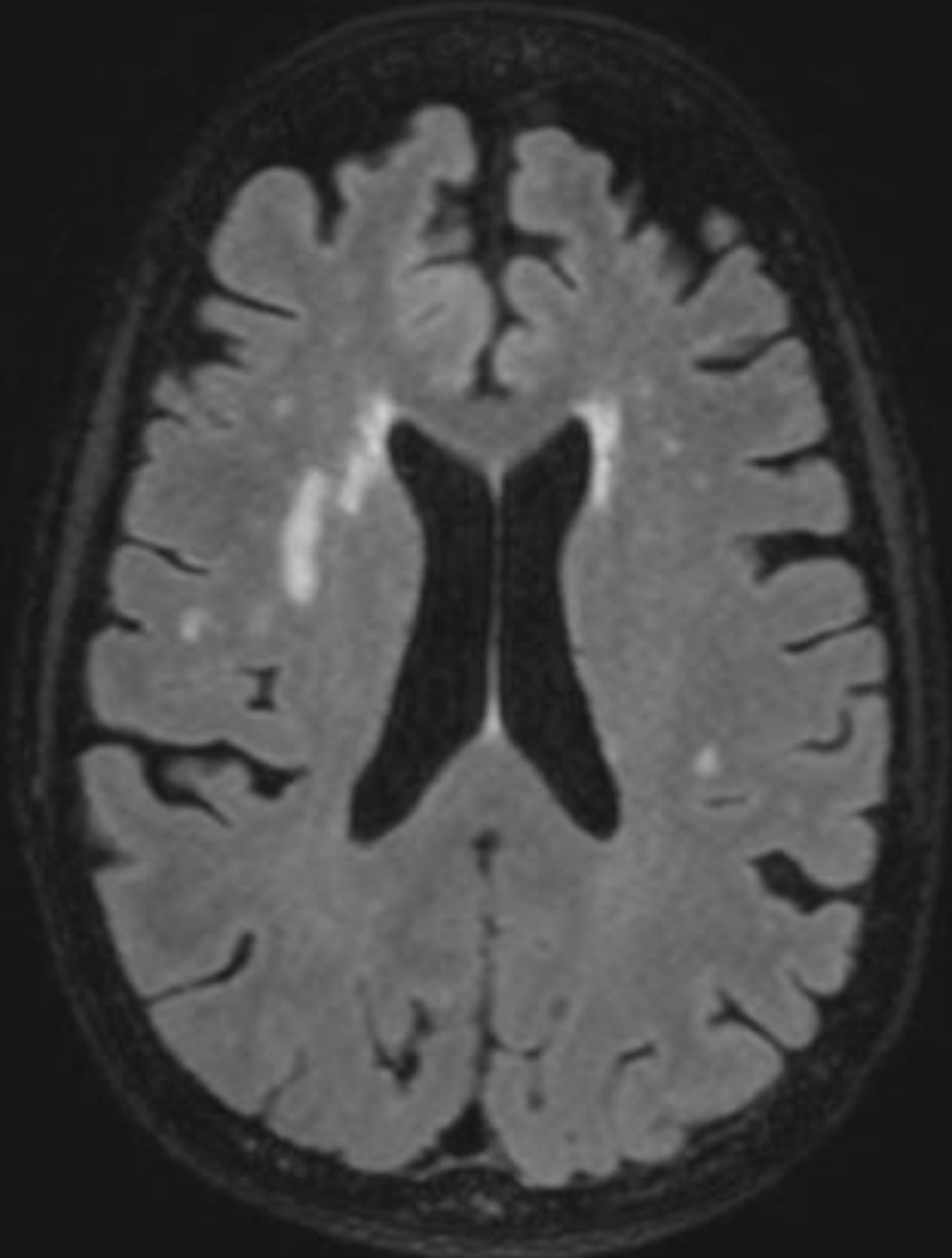
65-year-old female with history of  
multiple sclerosis presenting with  
subacute intermittent thunderclap  
headaches

Ricky Paramo, MS4

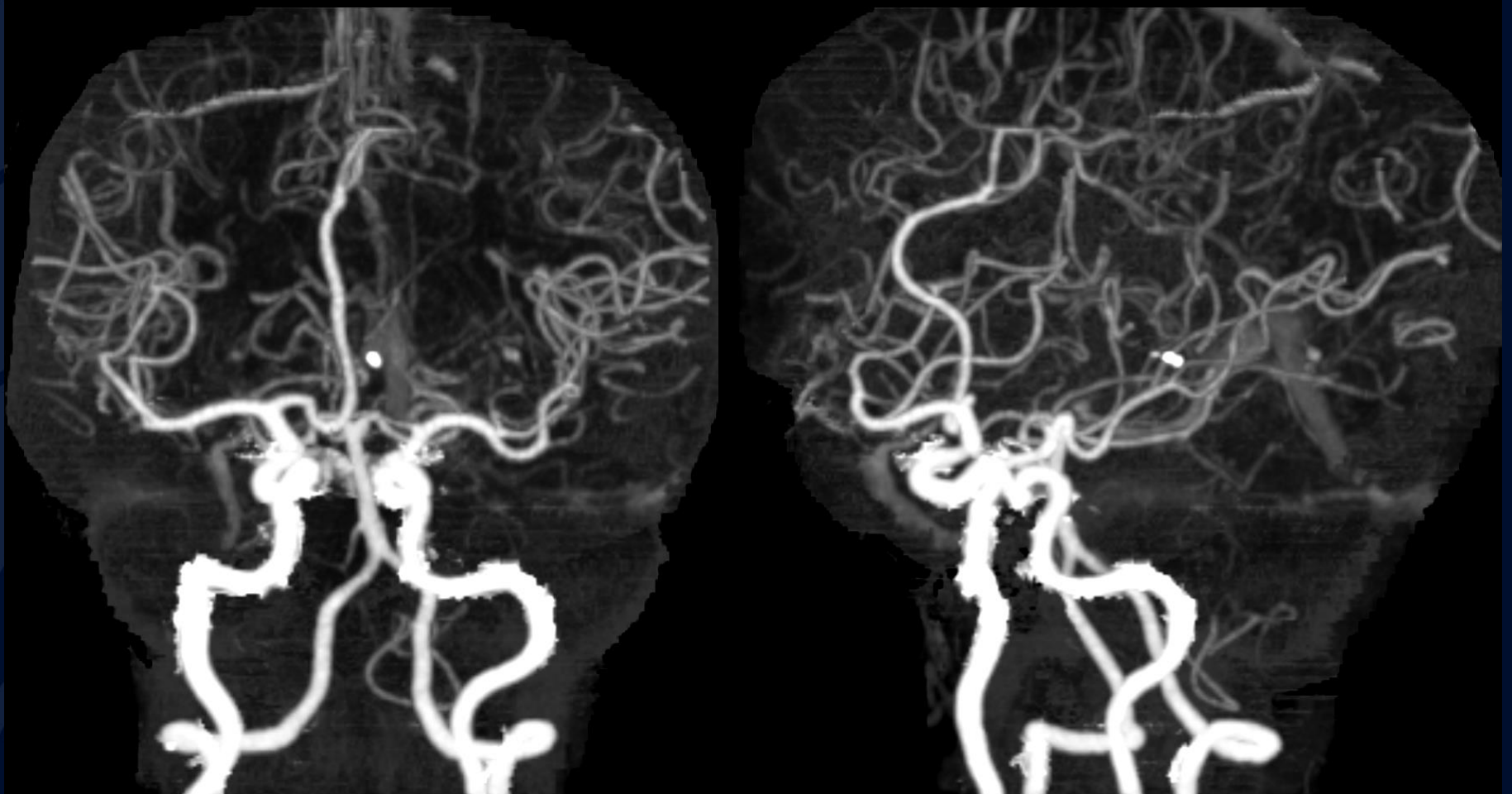
# CT Angiogram



# T2 Flair



# CT Angiogram

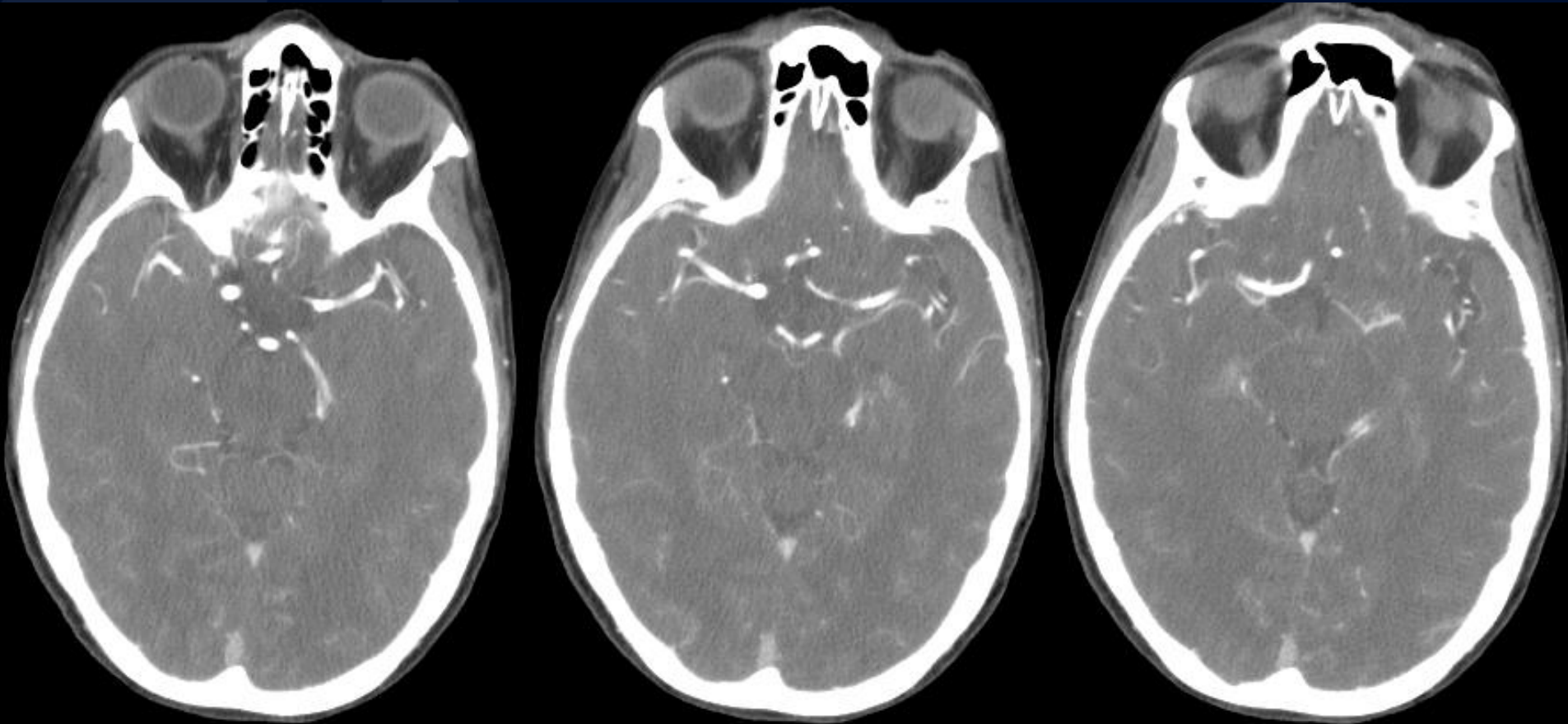


A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. It features detailed vein patterns and a lobed edge.

?

# Reversible Cerebral Vasoconstriction Syndrome (RCVS)

# CT Angiogram

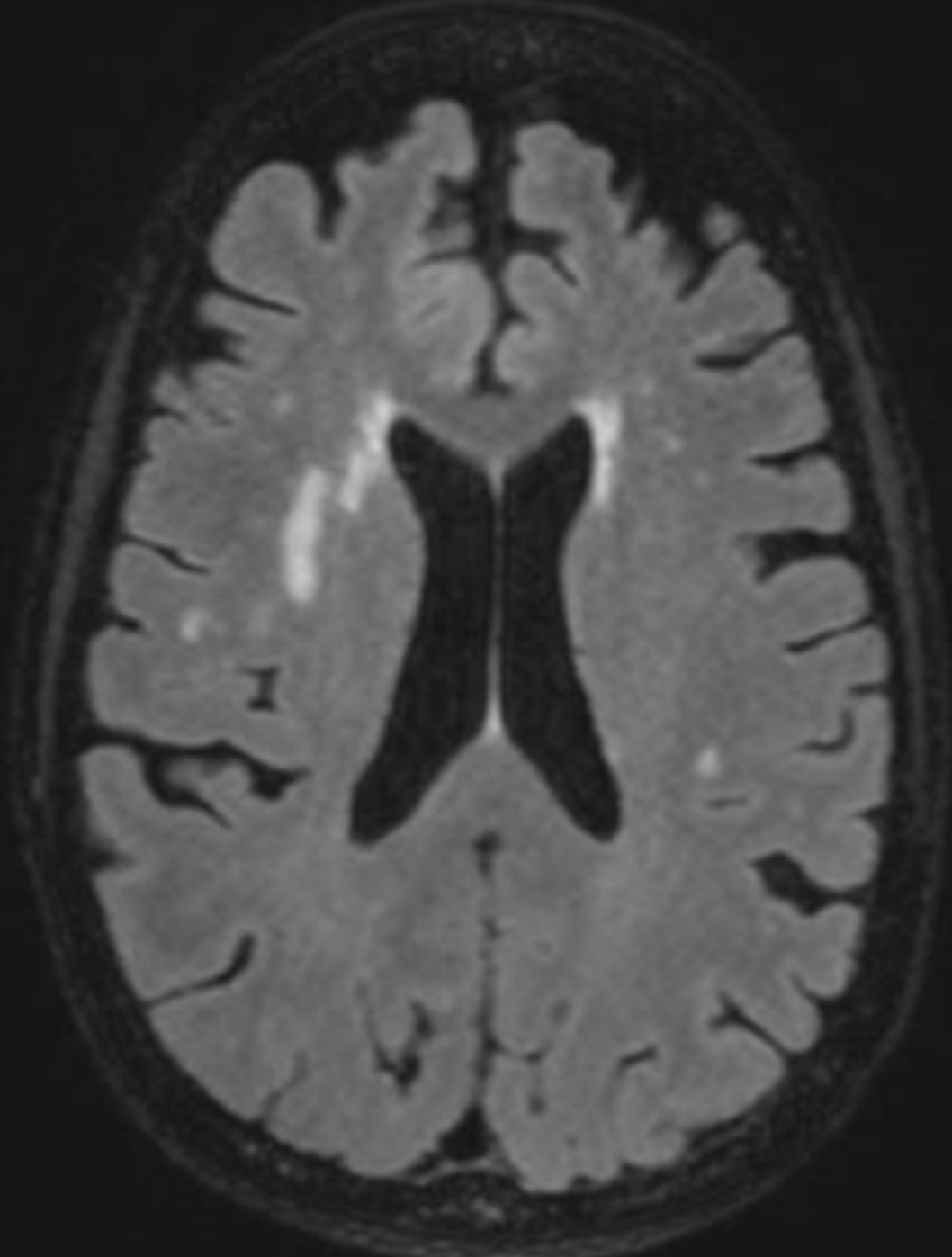


Patent circle of Willis; no high-grade focal stenosis, dissection, or aneurysm



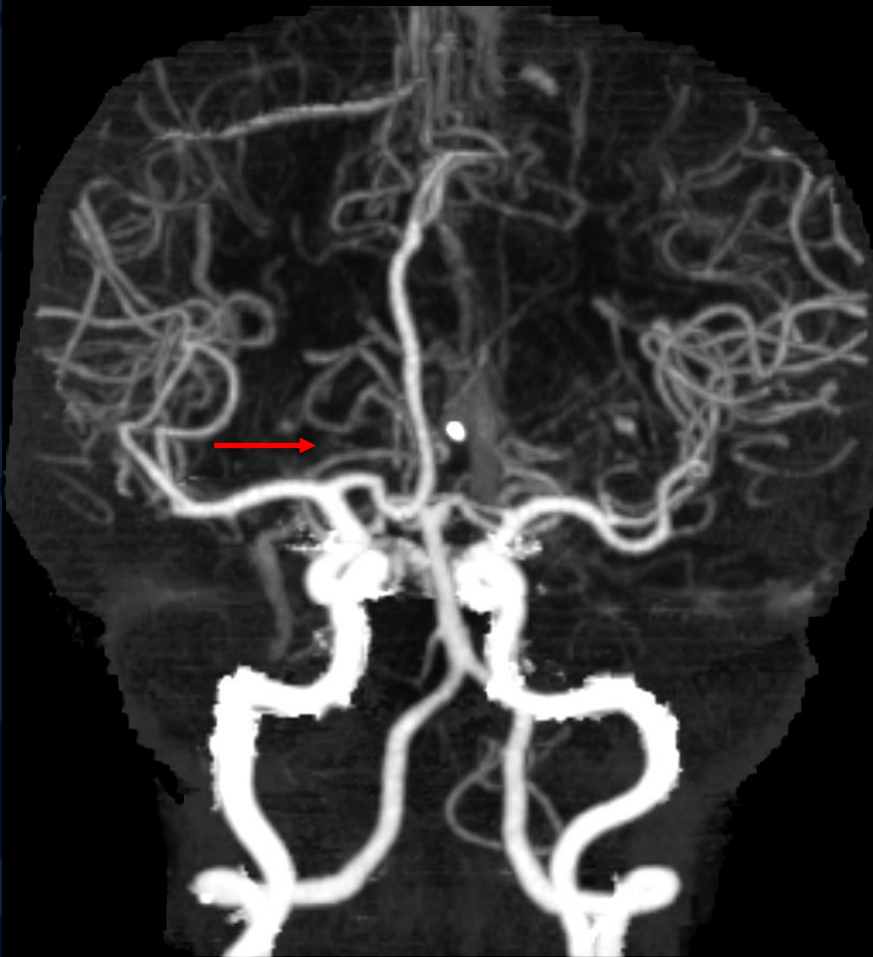
# T2 Flair

Supratentorial  
white matter  
lesions, consistent  
with patient's history of  
MS and unchanged  
from previous MRI 6  
years prior





# CT Angiogram



Azygous anterior cerebral artery



M2 branches with beaded contour irregularity R > L

# RCVS

## Epidemiology

- Incidence of 3 per 1 million adults
  - Age 20-50 years, females > men (F:M = 2.4:1)

## Pathophysiology

- Overactivated systemic sympathetic system – sudden release of vasoconstrictors such as catecholamines, neuropeptide Y or endothelin-1 resulting in abrupt dysregulation of cerebral vascular tone

## Clinical Presentation

- Thunderclap headache which may be associated with photophobia, nausea and/or vomiting
- Less often focal neuro deficits secondary to comorbid pathology (e.g., ischemia, hemorrhage, demyelination)
- Associated with various vasoactive substances (e.g., cannabis, SSRIs, etc.)
- Normal CSF studies

# RCVS

## Diagnosis

- Recurrent thunderclap headaches or single thunderclap headache
- Normal neuroimaging study

## Treatment / Prognosis

- Spontaneous resolution
- Complete long-term resolution without neuro-deficits in up to 90% of patients

# Imaging Findings

## CT

- Often normal

## MRI

- Hyperintensities may represent:
  - Vasogenic edema\* (38%)
  - Watershed infarct (29%)
  - Convexity subarachnoid hemorrhage (22-34%)
  - Lobar hemorrhage (6-20%)

## Angiography

- Narrowing and dilation (“string and beads”) of second- or third-order branches is most characteristic findings.

\*Early findings may include isolated cortical vasogenic edema and hyperintense vessel sign, when observed within hours of headache onset.

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- Case courtesy of David Cuete, <a href="https://radiopaedia.org/?lang=us">Radiopaedia.org</a>. From the case <a href="https://radiopaedia.org/cases/23768?lang=us">rID: 23768</a>