Headaches to Worry About

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- Your patient describes the worst headache of her life. What do you have to determine right away?
- 1 Primary v secondary
- 2 Are there any red flags?
- 3 Do I need to get any imaging?
- 4 Nothing. She’ll be fine, it’s probably a migraine.

Primary V Secondary

- 90 v 10
- Primary HAs can present atypically
  - Migraine
  - TTH
  - TACs
- ICHD3

S2NOOP4

- Systemic Symptoms (weight loss, fever, cough)
- Setting – underlying conditions: HIV, malignancy, children, immunocompromised, systemic disorders, post-partum
- Neurologic Exam
- Onset - thunderclap
- Onset - age
- Progressive
- Precipitation
- Positional
- Papilledema

Other Secondary Headaches

Nonvascular:

- Cervicogenic
- Cranial neuralgia
- Intracranial hypertension
- Intracranial hypotension
- TMJ
- Infection
- Brain tumor
- Medications

Vascular:

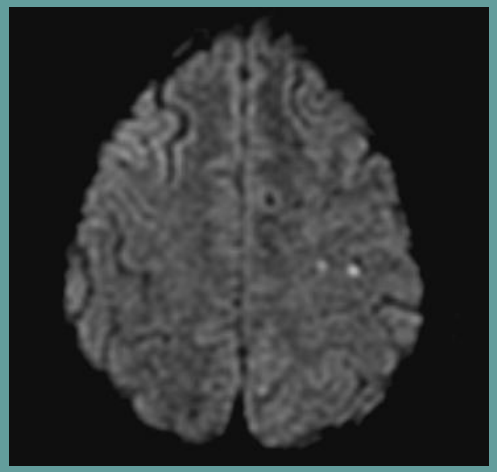
- Dissection
- SAH
- CVST
- RCVS
- AVM
- Cavernomas
- GCA

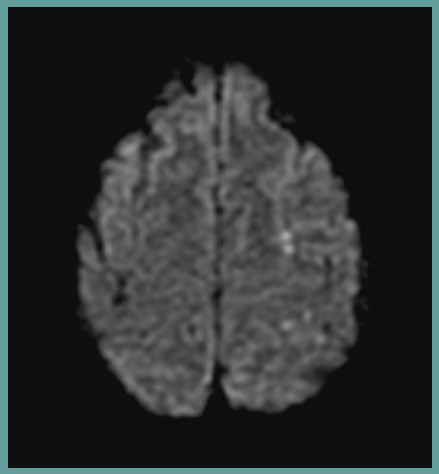
Case 1

- You're asked to admit to observation a 43yo elementary teacher with no PMHx and on no medications. While at home with her husband had the sudden onset of a 9/10 left-sided headache. She then had difficulty opening her right hand followed by numbness of the RUE. The weakness and numbness resolved within 10 minutes, but ever since she's heard a swishing in the left ear and her neck is stiff. She has normal VS: 105/61 HR76 RR16 and Afebrile. CTH in the ER is negative despite ongoing head pain. An MRI has already been ordered by Stroke.

What's the Diagnosis?

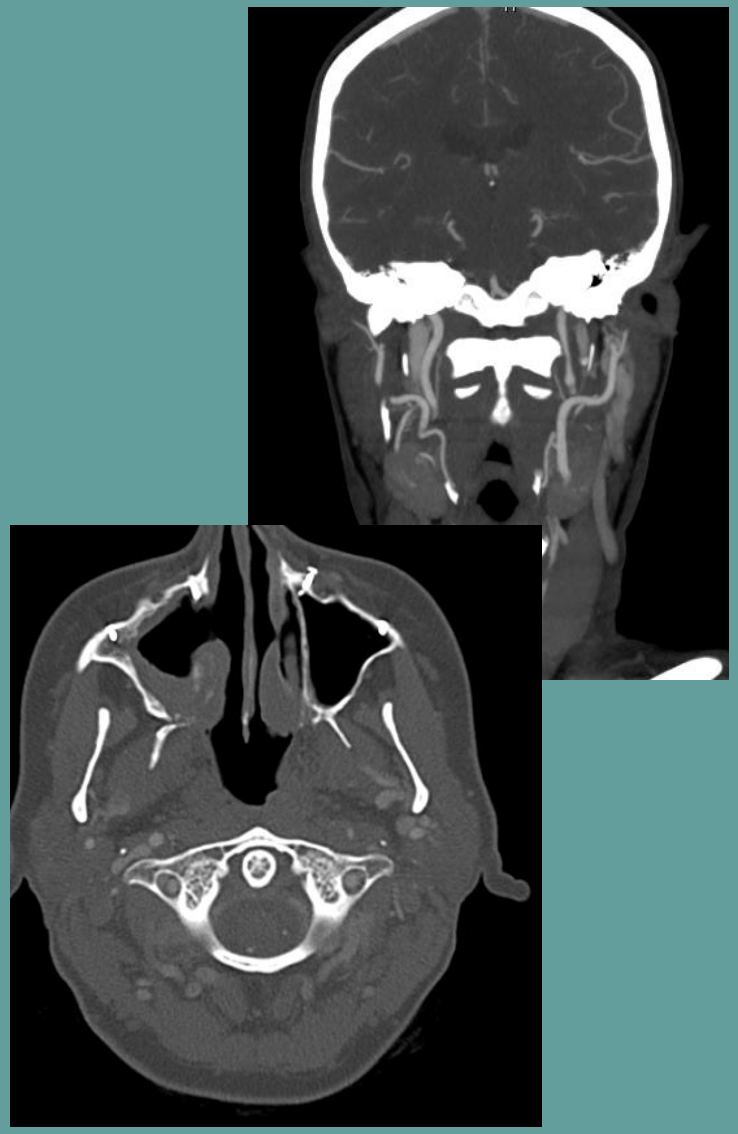
- A multifocal bacterial abscess
- B Acute ischemic stroke
- C Migraine hyperintensities
- D Demyelinating disease





- She then had a CTA head and neck that looks like this… Any ideas?

- A carotid atherosclerosis
- B carotid dissection
- C Looks normal to me
- D Venous sinus thrombosis



Cervical Artery Dissection

- One of the leading causes of stroke in young people.
- Possible etiologies: trauma, whiplash, chiropractic HVLA, strong cough or vomiting, fibromuscular dysplasia, collagen vascular disease, spontaneous
- Typically with ipsilateral neck pain

How would you treat her?

- A aspirin 81mg daily
- B low-intensity heparin drip
- C Apixiban
- D Coumadin with lovenox bridge

TClap HA DDx

- Aneurysmal SAH
- Unruptured IC aneurysm
- Cervical artery dissection
- CVST
- RCVS
- ICH
- PRES
- Acute stroke
- Pituitary apoplexy
- Fulminant intracranial infection
- Colloid cyst
- CSF leak
- Primary TClap HA
- Cough, Exertion and Sexual HA

Case 2

- 63yo gentleman with a history of HTN and on losartan at home was at the grocery store when he had a headache that was thunderclap in onset. He got a bit dizzy and called his wife, who called 911. In the ER he had a CTH.

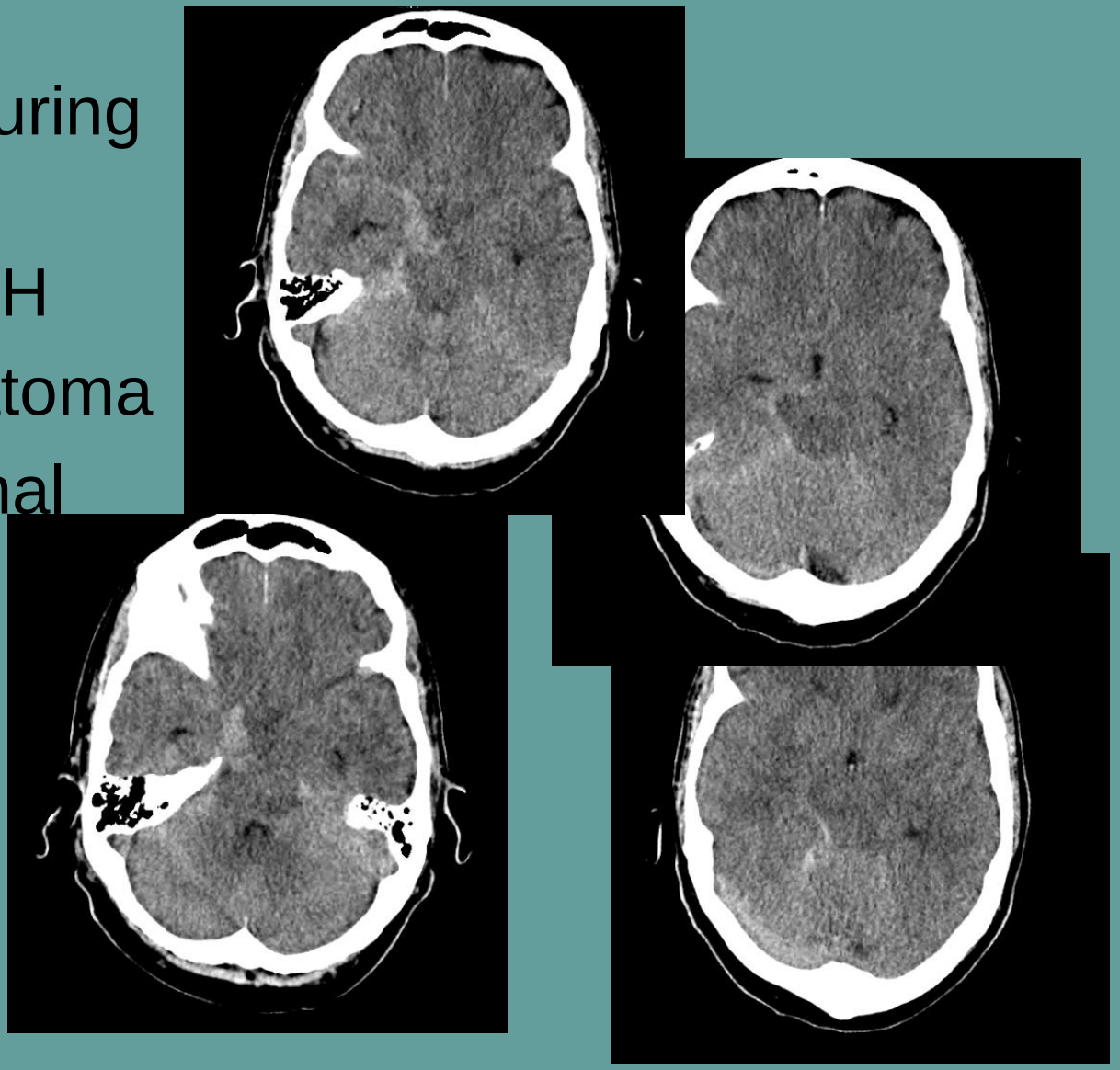
What's the diagnosis?

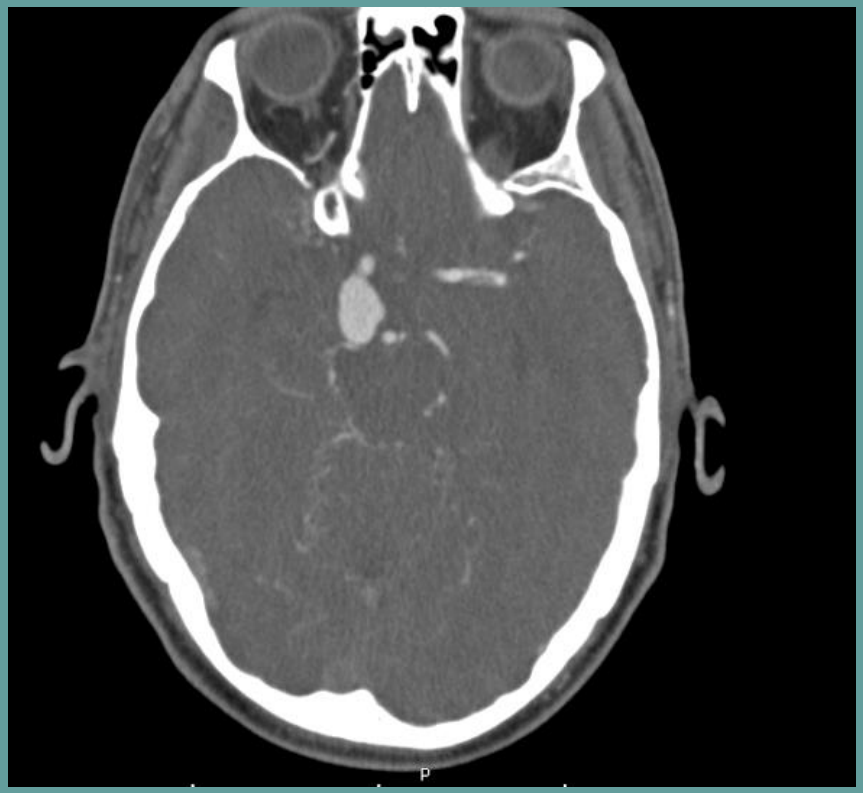
A Contrast leak during angiogram

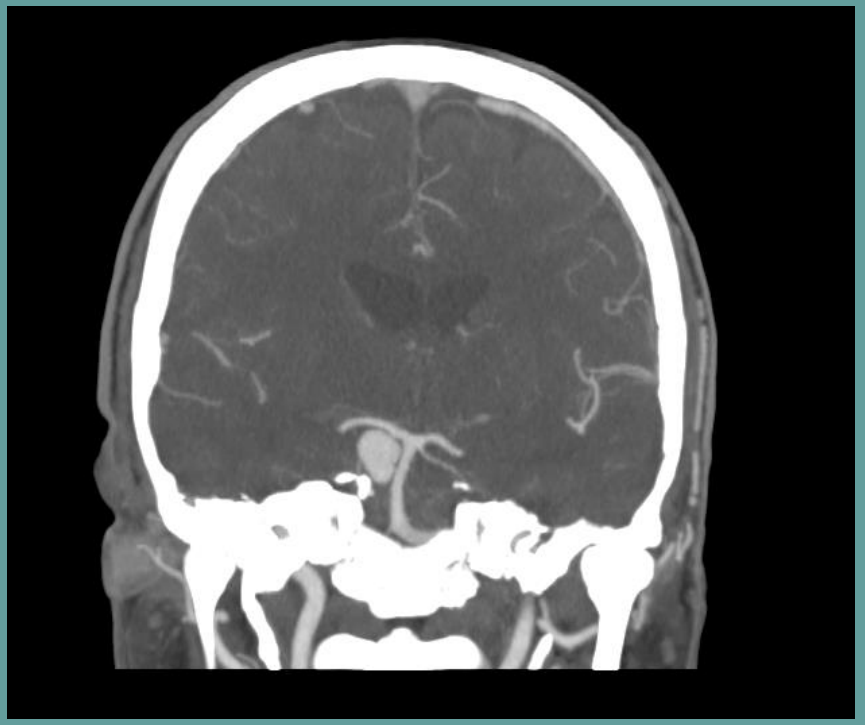
B Aneurysmal SAH

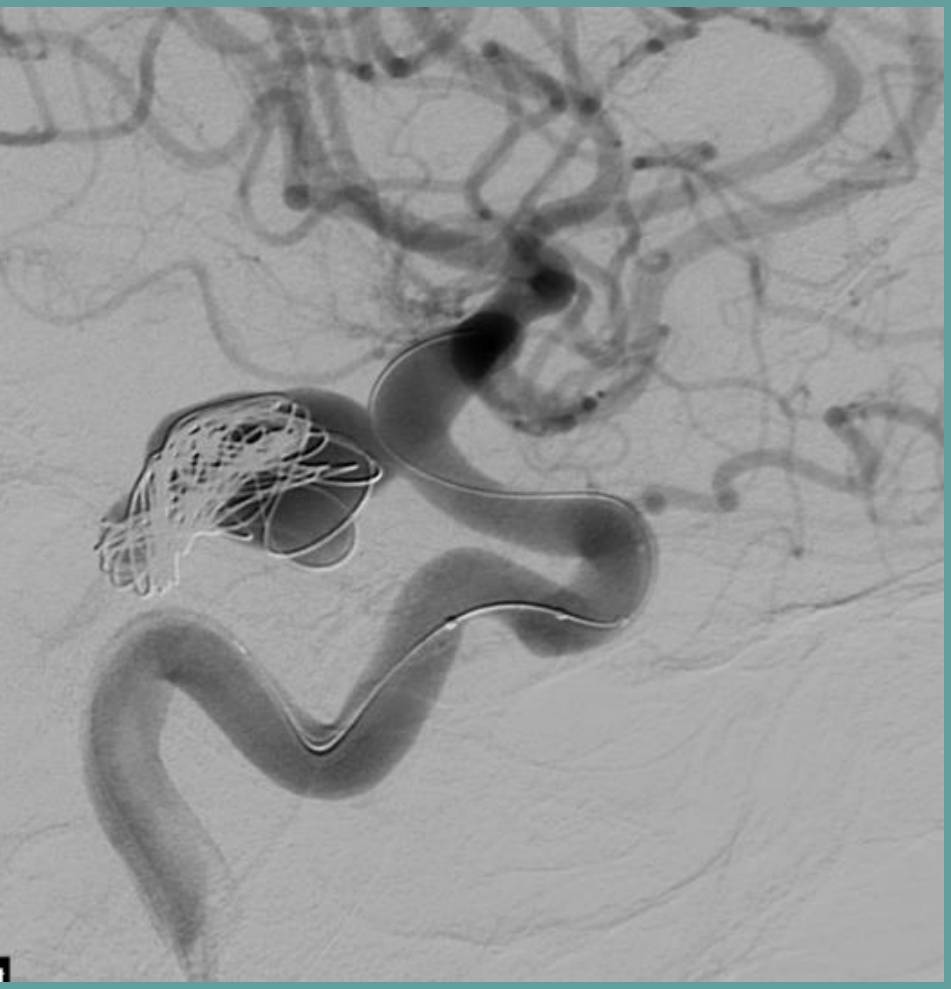
C Subdural hematoma

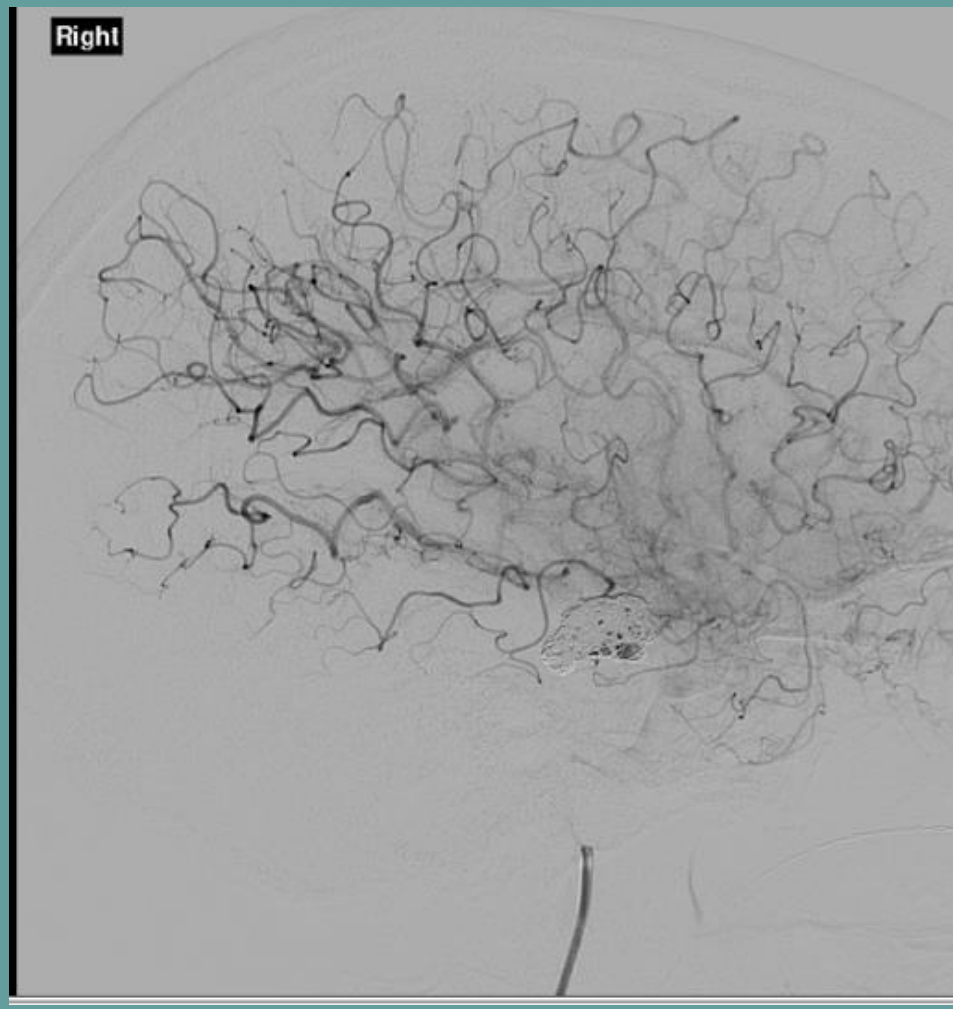
D Intraparenchymal hemorrhage







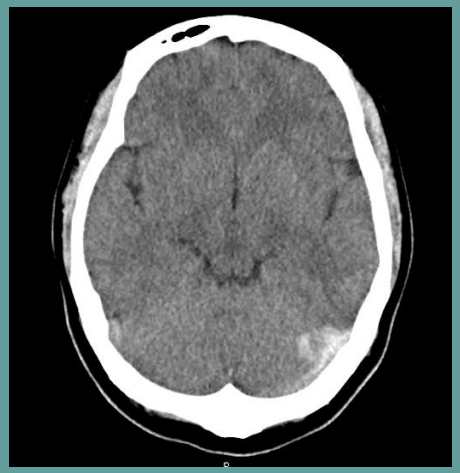
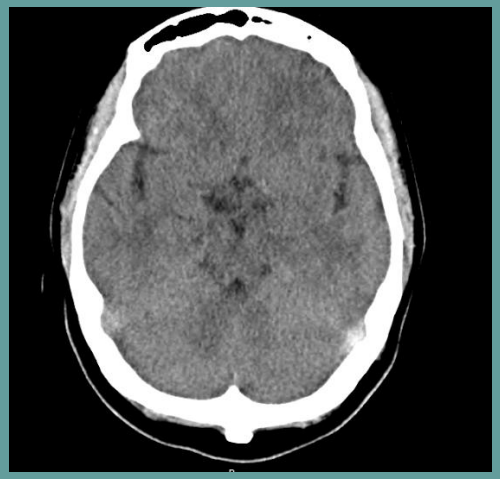
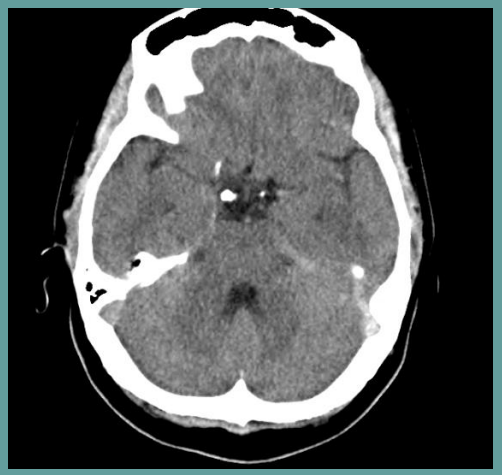



Right

Case 3

- 23F with no significant past medical history is one-week postpartum with an uneventful pregnancy and delivery. She developed a headache after going home from the hospital 3 days ago. She describes it's intractable, an 8/10 retro-orbital pressure with associated nausea. She has no prior history of headaches. She comes to the ER where HR and RR are normal. She's afebrile. BP 155/89. CTH is completed.

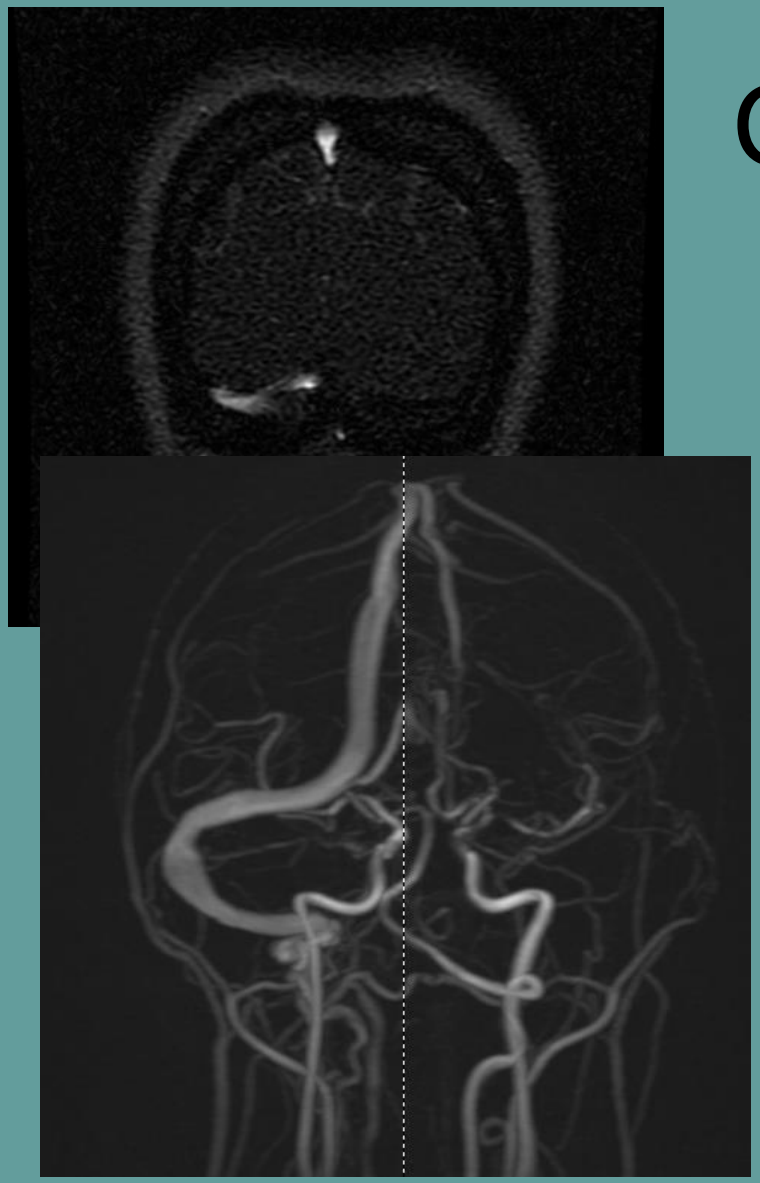
What's the diagnosis?

- A Intraparenchymal hemorrhage
- B Subarachnoid hemorrhage
- C Calcified nodule
- D Idiopathic intracranial HTN

What’s the most likely cause?

- A Eclampsia and associated HTN
- B Pituitary Apoplexy
- C Venous sinus thrombosis
- D Reversible Cerebral Vasoconstriction Syndrome



CVST

- RFs: hypercoag states, cancer, HRT, OCPs, pregnancy and post-partum, dehydration
- Mimics IIH
- Present with
  - Venous infarcts
  - Intracranial Hemorrhage
  - Seizures
- Treatment: acute and ongoing

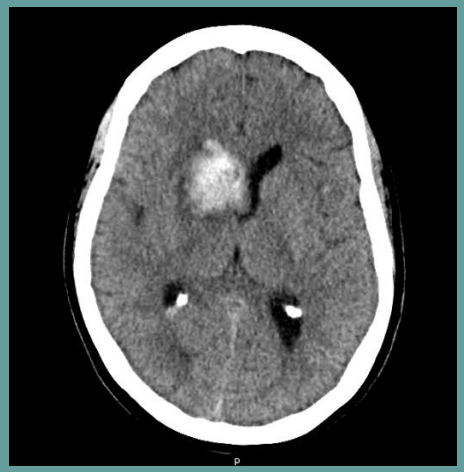
How would you treat her?

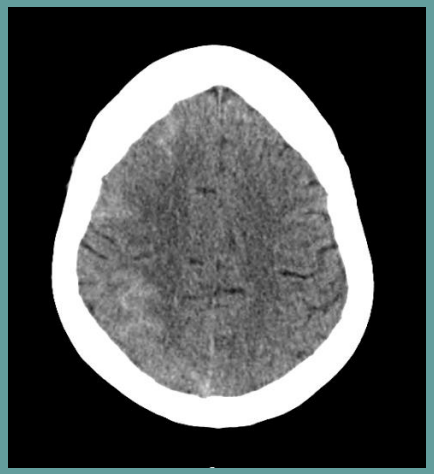
- A Levetiracetam 500mg IV BID
- B Heparin drip and transition to OAC
- C Intra-arterial alteplase
- D Nicardipine drip to keep SBP < 140
- E B and D

Case 4

38yo woman with a history of anxiety requiring Wellbutrin and citalopram, as well as trazadone for sleep, presented to the ER with left-sided weakness for one day and a five-day history of recurrent thunderclap headaches, lethargy and syncopal episodes. She also had a CTH in the ER.

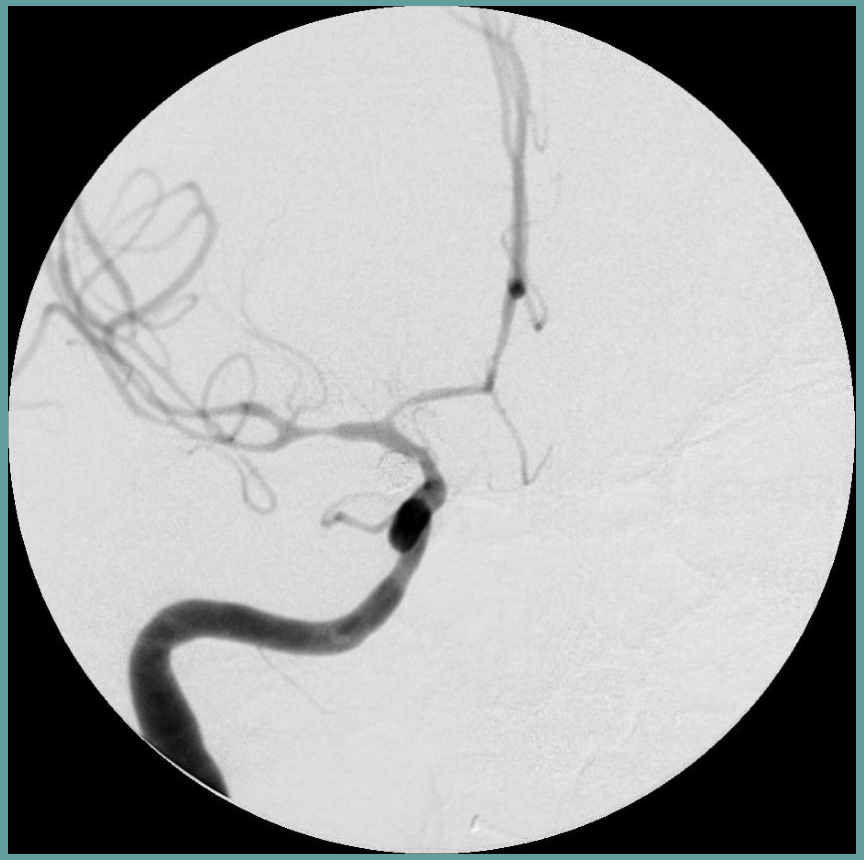
What's the diagnosis?





- A Intracranial hemorrhage
- B Calcified caudate head
- C Subarachnoid hemorrhage
- D Ischemic stroke
- E Both A and C

After angiogram, what's the secondary diagnosis?

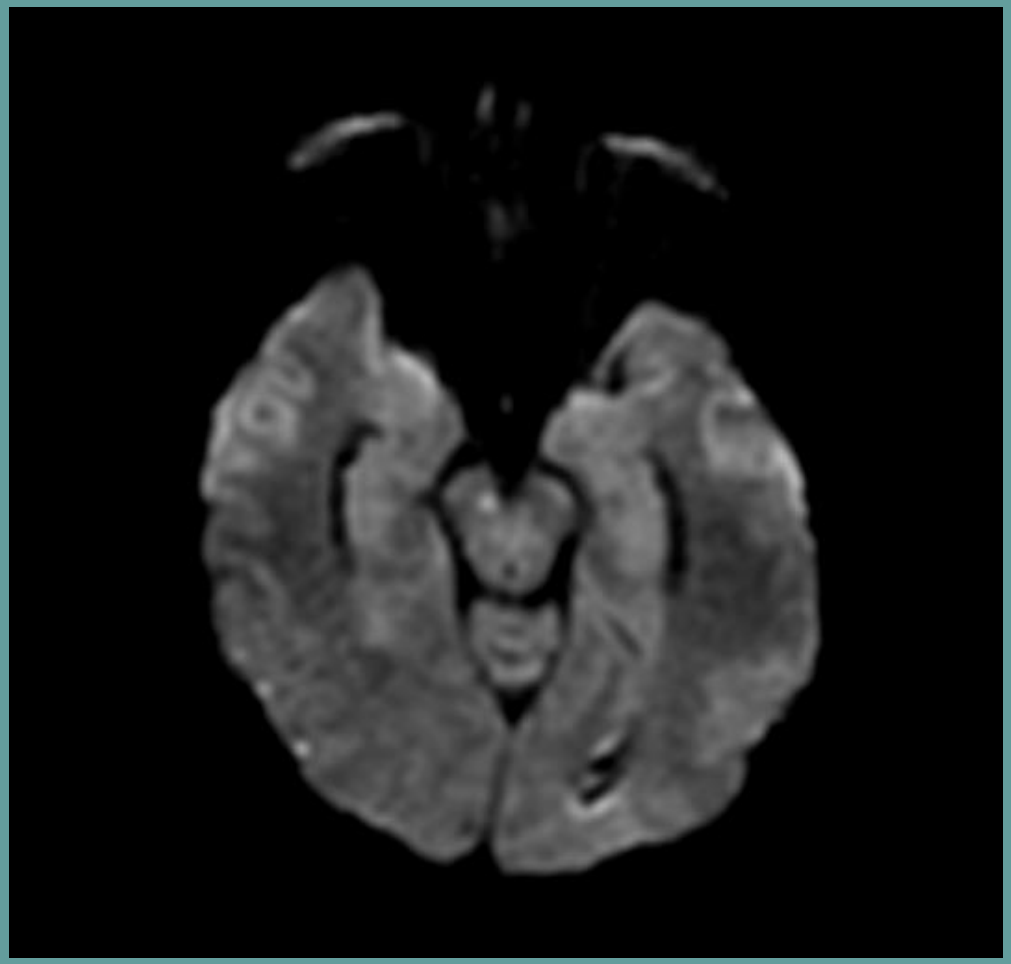


- A RCVS
- B vasospasm secondary to aneurysmal SAH
- C primary angitis of the CNS
- D Intracranial arterial dissection

RCVS

- Vasospasm typically triggered by serotonergic or adrenergic stimulus.
- Recurrent Thunderclap Headaches
- Women 20-40
- Substances: SSRIs/SNRIs, illicit drugs decongestants, triptans and ergots
- Delayed imaging findings in 30-70%
- Associated with PRES, stroke, ICH, SAH

- Treatment:
  - Nimodipine 60mg Q4 initially and then can transition to verapamil
- Follow-up imaging
  - 3 months or sooner PRN
- Headache
  - Address phenotype, but avoid possible triggers



Case 5

69yo woman with two weeks of a diffuse, nearly constant headache that brought her to the ER because it's impacting her daily activities as it's a 6/10. She has a history of migraines but hasn't had one since menopause started. She's had moderate generalized fatigue, some jaw aching that worsens during meals.

She has a normal neurologic exam.

She had a normal CTH in the ER.

Labs are remarkable for a platelet count of 435, Hb 11, normal CMP and TSH

What is most likely on your DD?

- A New Daily Persistent Headache
- B Migraine with status migrainosus
- C Temporal arteritis
- D Tension type headache
- E Headache secondary to TMJ

What if I give you more history?

- She has no TTP of the supraorbital or occipital nerves but winces with palpation of her temporal arteries.
- Five days ago she had a 20-second episode of right eye vision loss and described it like a curtain came down over the eye.

What would you check next?

- A ESR and CRP
- B CTA head and neck
- C TA biopsy
- D temporal artery ultrasound

ACR diagnostic criteria for GCA

3 or more of:

- Age >50
- New-onset headache
- ESR >50 mm/hour
- Temporal artery tenderness or diminished temporal artery pulse
- Abnormal temporal artery biopsy

- AION or CRAO in 1/3rd to ½; typically unilateral and then the next within days to weeks
- Medium to large arteries
- Can affect the thoracic and abdominal aorta
- Ischemic stroke if carotids/verts involved – look at other risk factors
- Fever, malaise, LOA
- Jaw claudication (external and internal carotid involvement) pain with muscle activity not biting down which is dental pain. Relieved with rest
- Scalp and tongue or oral mucosa necrosis

How would you treat?

- A 1 g solumedrol x 3 days
- B prednisone 40mg daily
- C prednisone 60 mg daily
- D aspirin 81mg daily

GCA

- Started on Solumedrol 1g/day and transitioned to 80mg PO.
- Temporal artery biopsy