AMSER Case of the Month: August 2018

New Onset Unilateral Headache

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Patient Presentation

- 40 y/o woman presents with new onset right temporal headache
- No trauma history
- Past Medical History
  - Anti-phospholipid syndrome
  - Bilateral adrenal hemorrhage
  - Recent hospitalization for pyelonephritis
- Medications
  - long-term steroid replacement therapy
  - Anticoagulation - Lovenox
- Physical Exam
  - No focal neurologic deficits
- T max 39.2, tachy to 104, O2sat: 97--99% on RA, RR 18--24, normotensive 130s--140s systolic

Pertinent Labs

- PT: 16.4, PTT: 138.5, INR: 1.3
- BUN: 12, Cr: 0.81
- Blood Cultures – NGTD

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

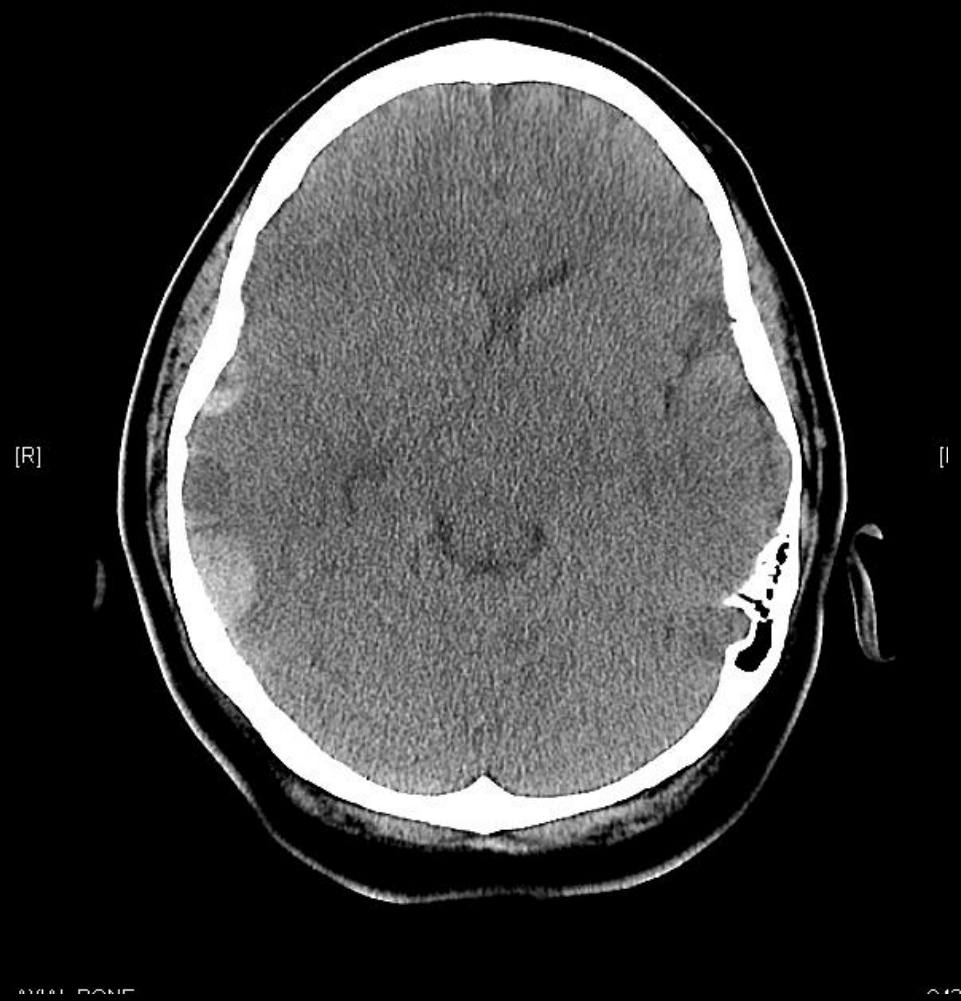
Variant 3: Sudden onset of severe headache

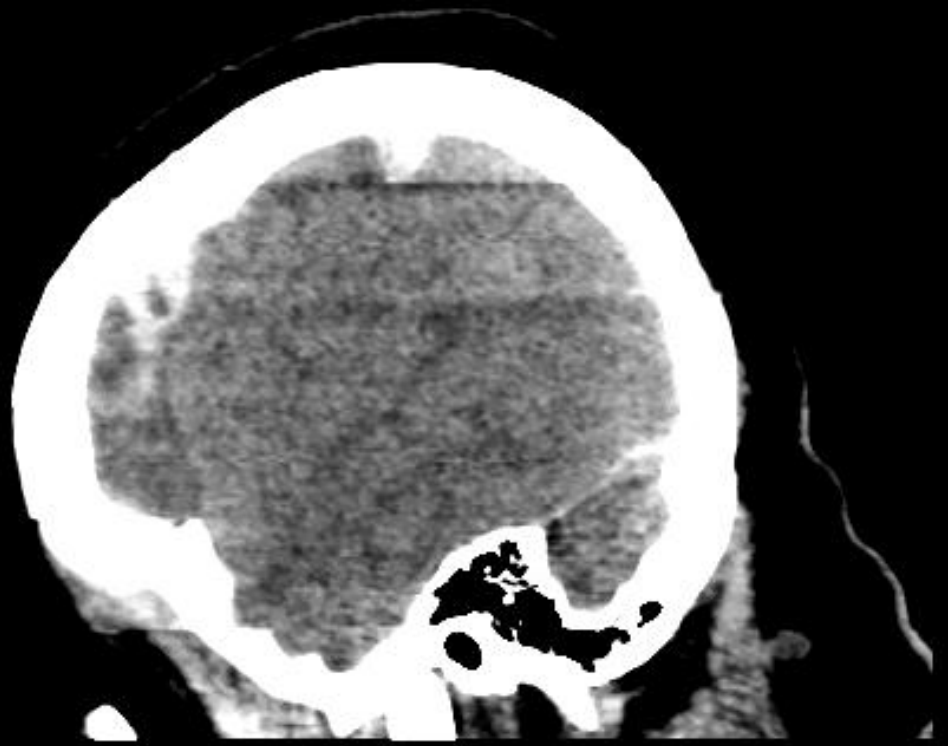
Radiologic Procedure	Rating	Comments	RRL*
CT head without IV contrast	9		☢☢☢
CTA head with IV contrast	8		☢☢☢

Variant 4: Sudden onset of unilateral headache or suspected carotid or vertebral dissection or ipsilateral Horner syndrome.

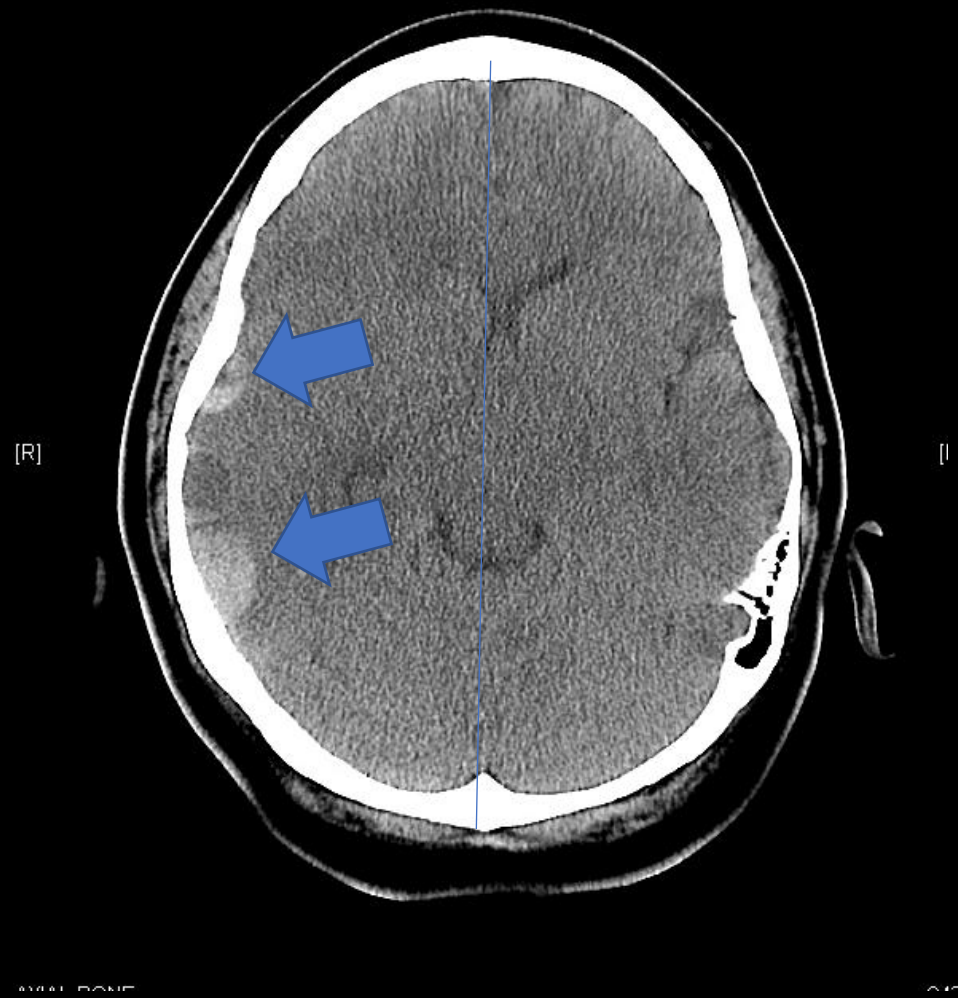
Radiologic Procedure	Rating	Comments	RRL*
CTA head and neck with IV contrast	8		☢☢☢
MRA head without IV contrast	8		O
MRA neck without and with IV contrast	8	Include T1 fat-saturated axial images in this procedure	O
MRI head without and with IV contrast	8	Perform this procedure with DWI sequences.	O
MRI head without IV contrast	8	Perform this procedure with DWI sequences.	O

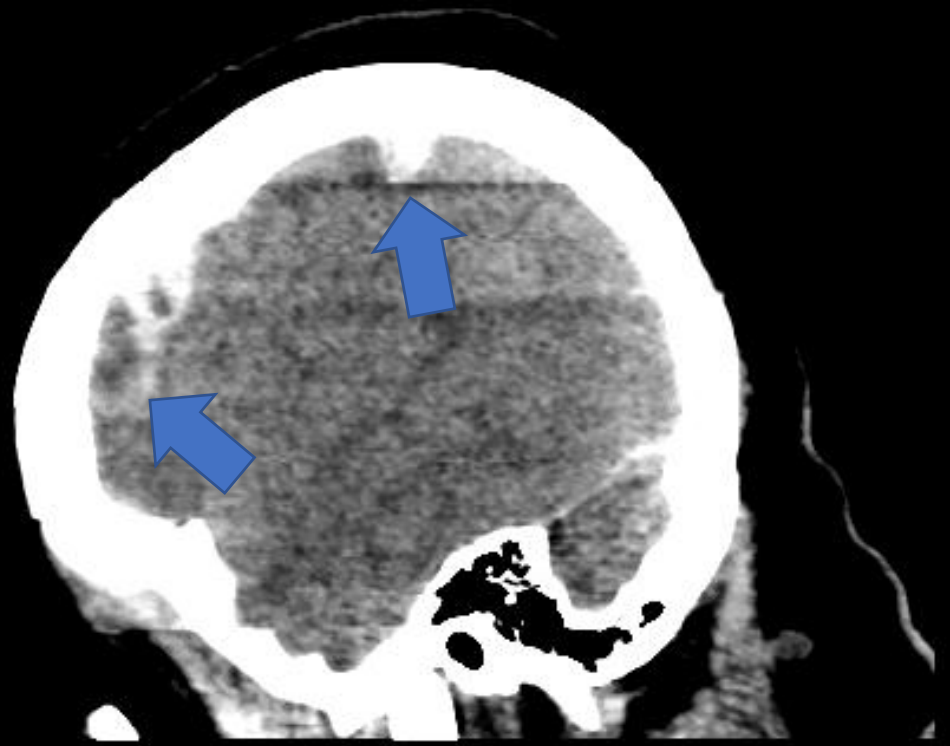
Findings: Multiple extra-axial lesions with fluid–fluid levels consistent with acute hemorrhage in dependent portion.
Mass Effect with Midline Shift of 3mm



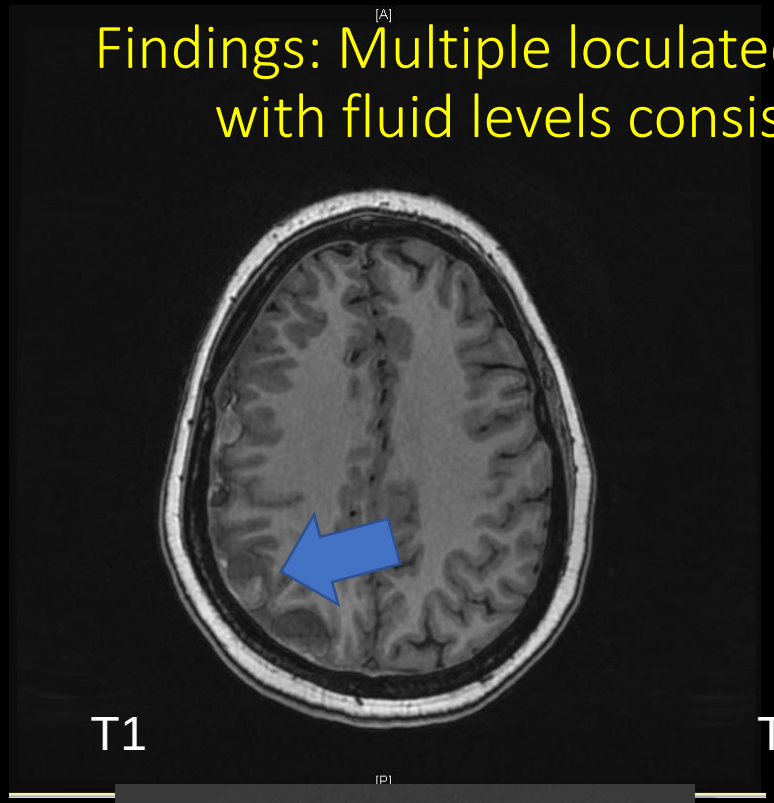


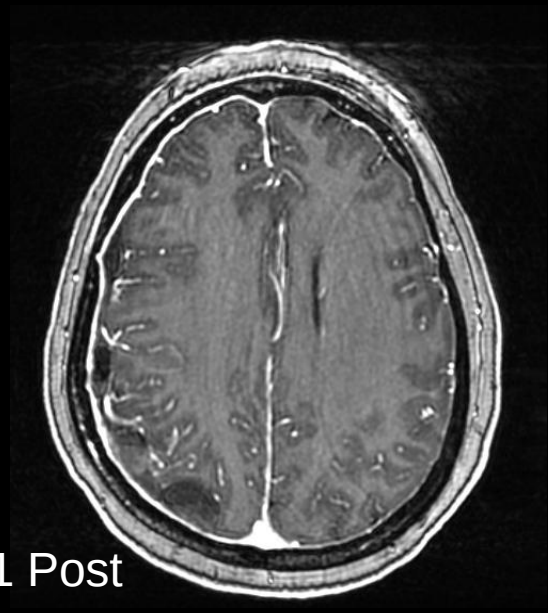
Findings: Multiple extra-axial collections (arrows) with fluid–fluid levels consistent with acute hemorrhage in the dependent portion. Mass effect with midline shift of 3mm.

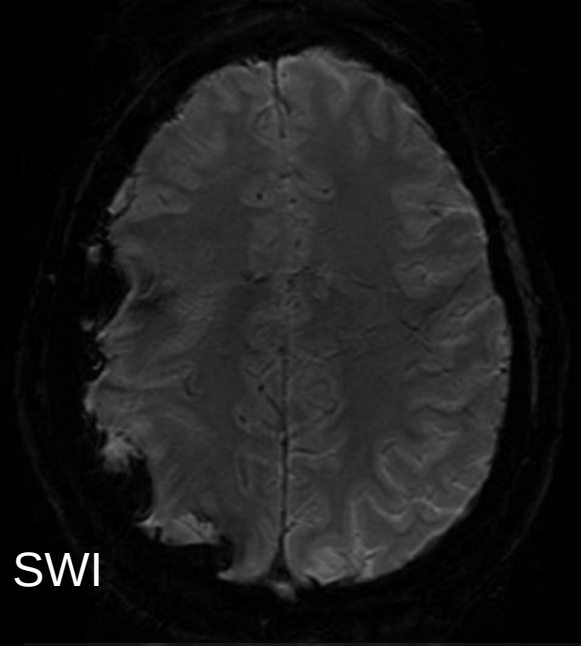


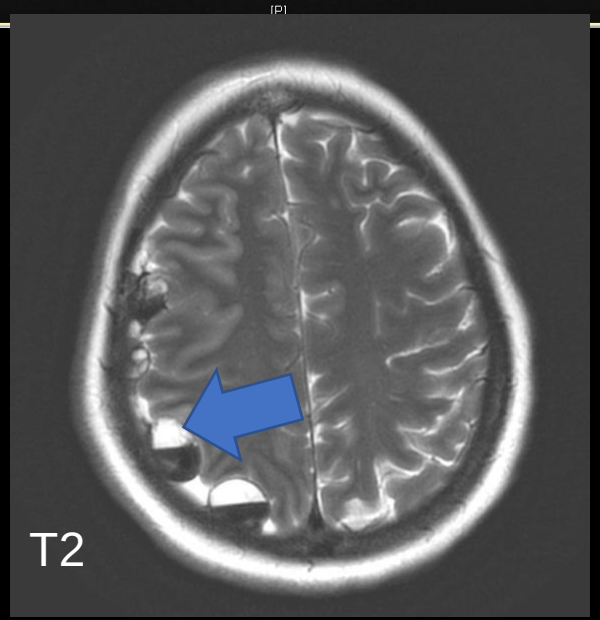


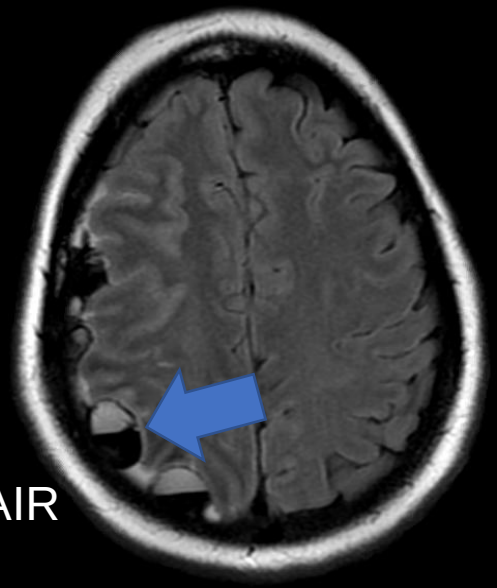
Findings: Multiple loculated extra-axial collections (arrows) along right hemisphere with fluid levels consistent with acute hemorrhage in dependent portion

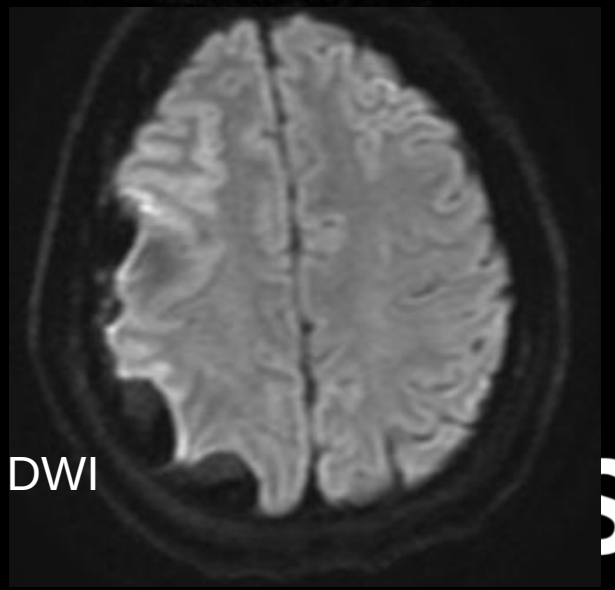












Findings: Additional Studies

- CTA Head: Demonstrated diffuse stenosis of cerebral vessels (ICA, Right M1, Right M2) consistent with vasculitis
- CTA Head Venogram: performed to rule out venous infarct, showing no evidence of dural sinus thrombosis

Final Dx:

Recurrent subdural hemorrhage with layering suggestive of coagulopathy.

Also Consider:
- Vascular Malformation
- CNS Vasculitis
- Meningitis with abscess formation
- Metastatic disease

Case Discussion

Subdural Hematoma

- Often secondary to trauma in adult patients
- This unusual presentation of subdural hematoma with fluid level from recurrent bleeding suggests presence of anticoagulation therapy or underlying coagulopathy.
- Fluid layering results from a hematocrit effect with acute hemorrhage dependent to serum component.

Correlating Diagnostics

•Patient underwent craniotomy revealing subdural bleeding which was evacuated.

•Pathology sent from areas of bleeding consistent with blood clot, normal dura

•Micro demonstrated negative cultures from wound and lesion.

•Prognosis for subdural hematoma requiring surgery is poor with 50-90% mortality and only 20% fully recover

References:

American College of Radiology. ACR Appropriateness Criteria®: Headache. Available at: https://acsearch.acr.org/docs/69482/Narrative/. Accessed 05/22/2018.

Sharma, R; Gaillard, F. Subdural haemorrhage. https://radiopaedia.org/articles/subdural-haemorrhage. Accessed 06/17/2018.

Reddy, B. (2017). Imaging of intracranial pathologies with fluid levels : A radiological approach to the diagnosis. European Congress of Radiology. https://doi.org/10.1594/ecr2017/C-0609