

How Reliable are CT and MRI?

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Or Rather...

- How reliable are
 - the clinical signs?
 - the scans themselves?
 - the radiological interpretation?

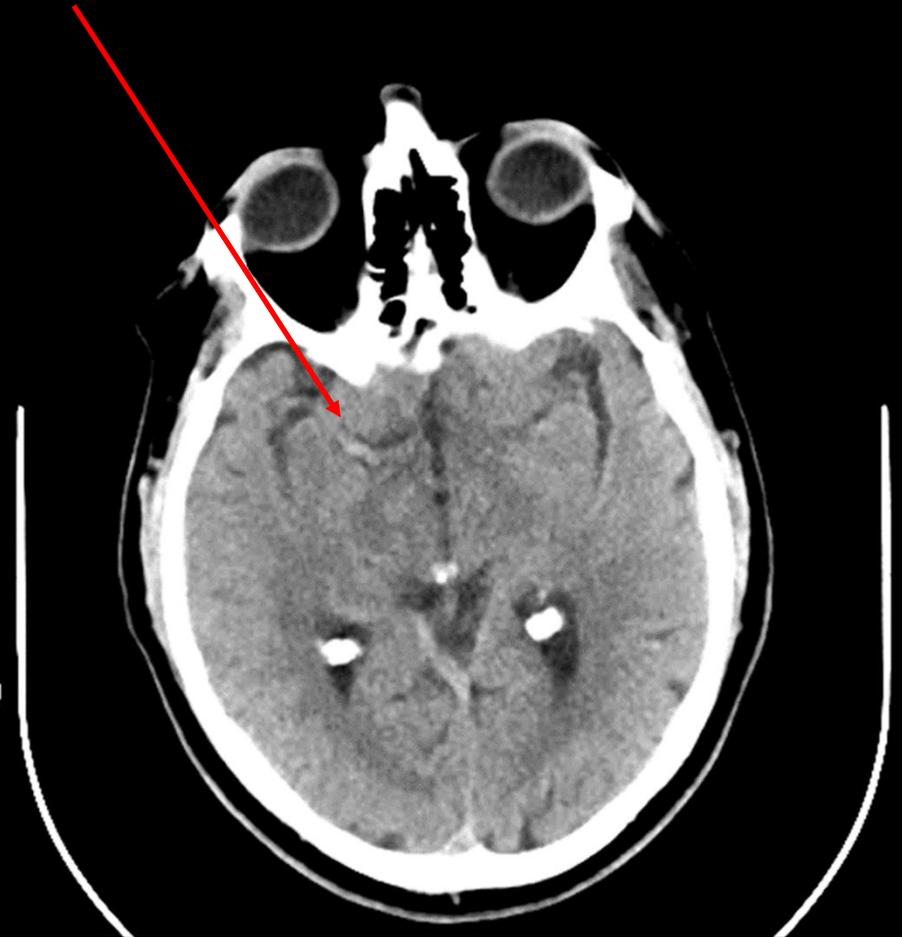
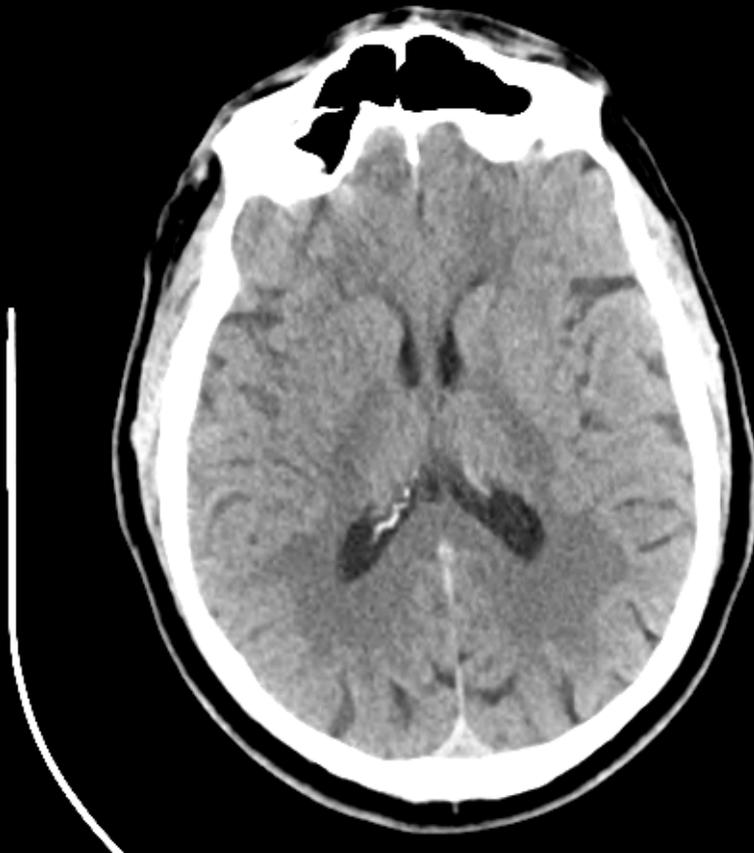
Case 1

- 66 year old lady one week post large anterior myocardial infarction
- Presents with dense left hemiplegia of 3 hours duration.

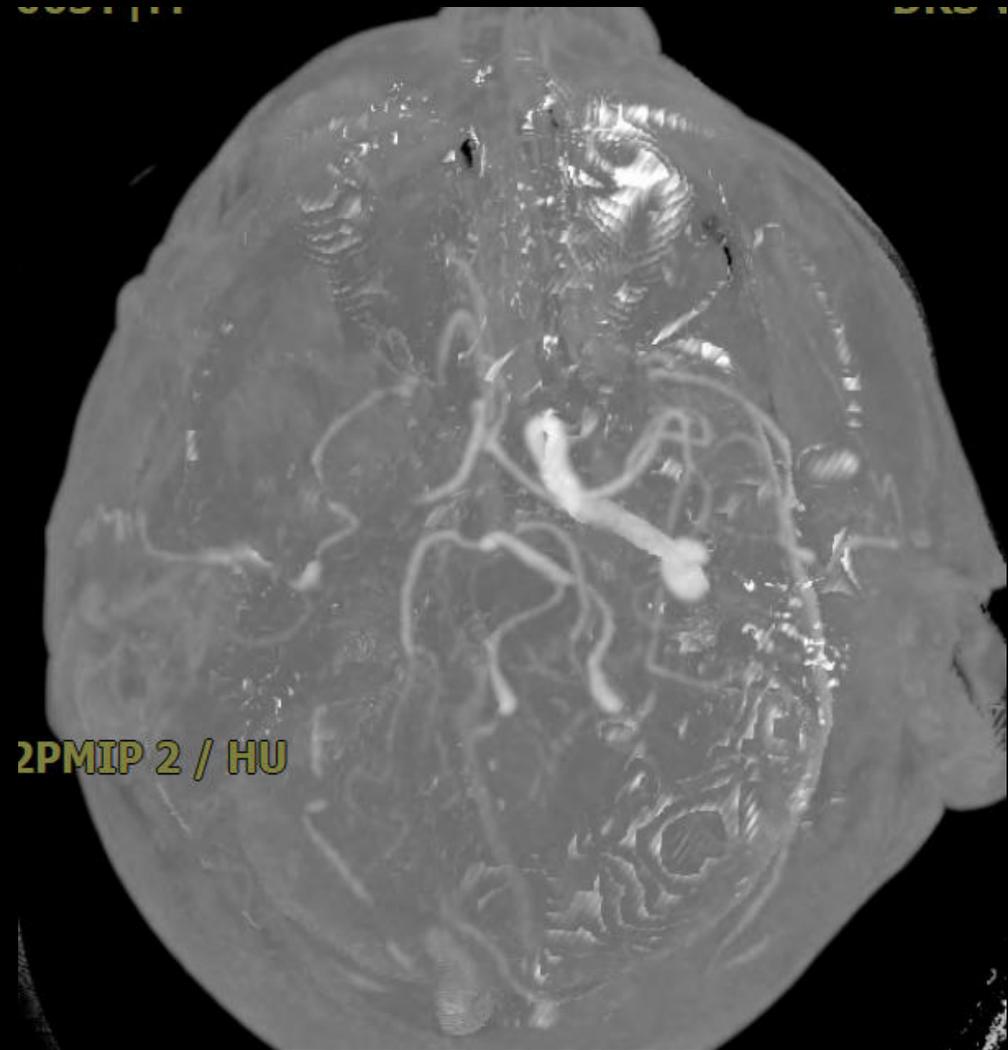
Case 1 – CT scan

Early stroke changes

“Dense right MCA” sign

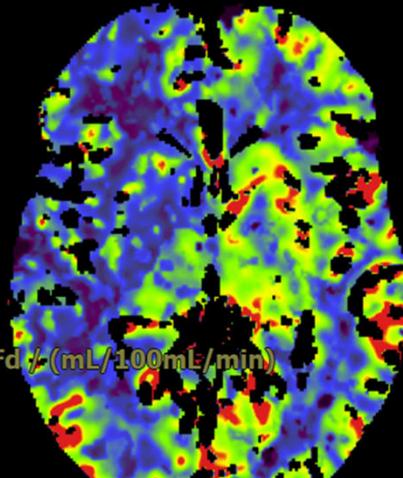


CT Angiogram
Done as Perfusion scan
Not a dedicated angiogram

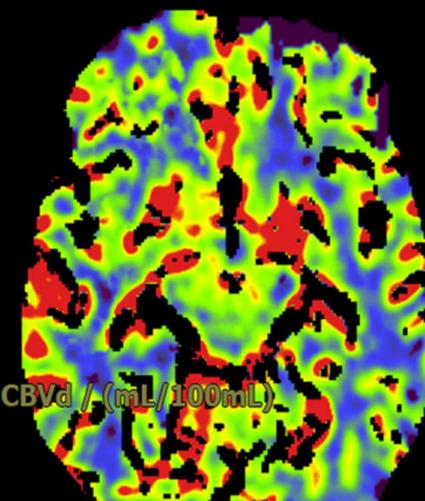


Case 1- CT Perfusion scan

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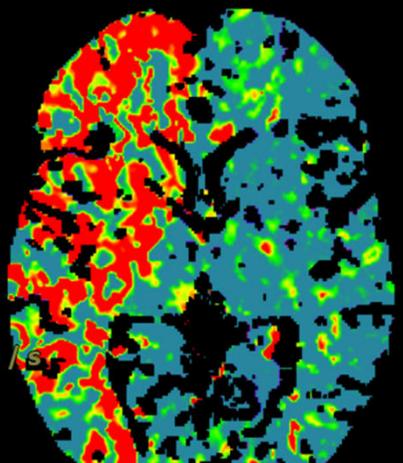
Cerebral Blood Flow CBFd / (mL/100mL/min)



Cerebral Blood Volume CBVd / (mL/100mL)



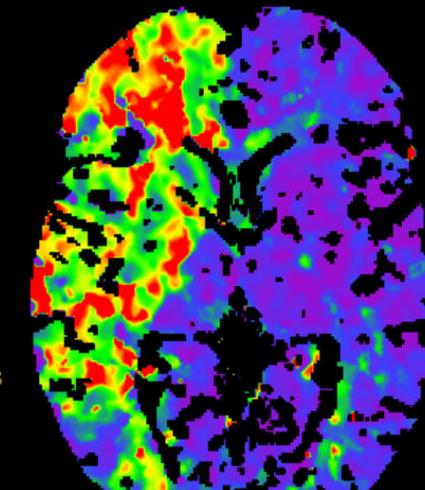
27/04/2017
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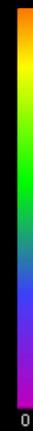
Mean Transit Time MTTd / s



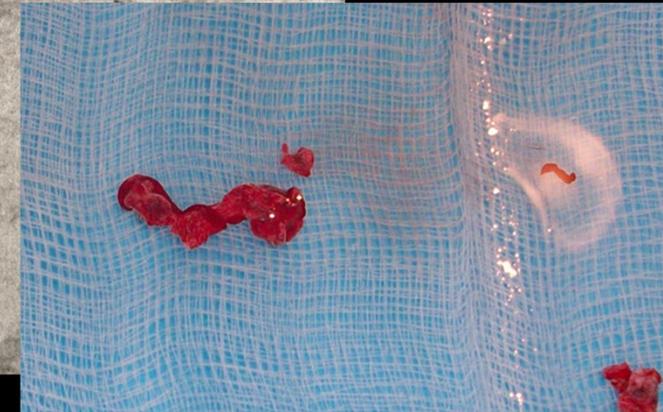
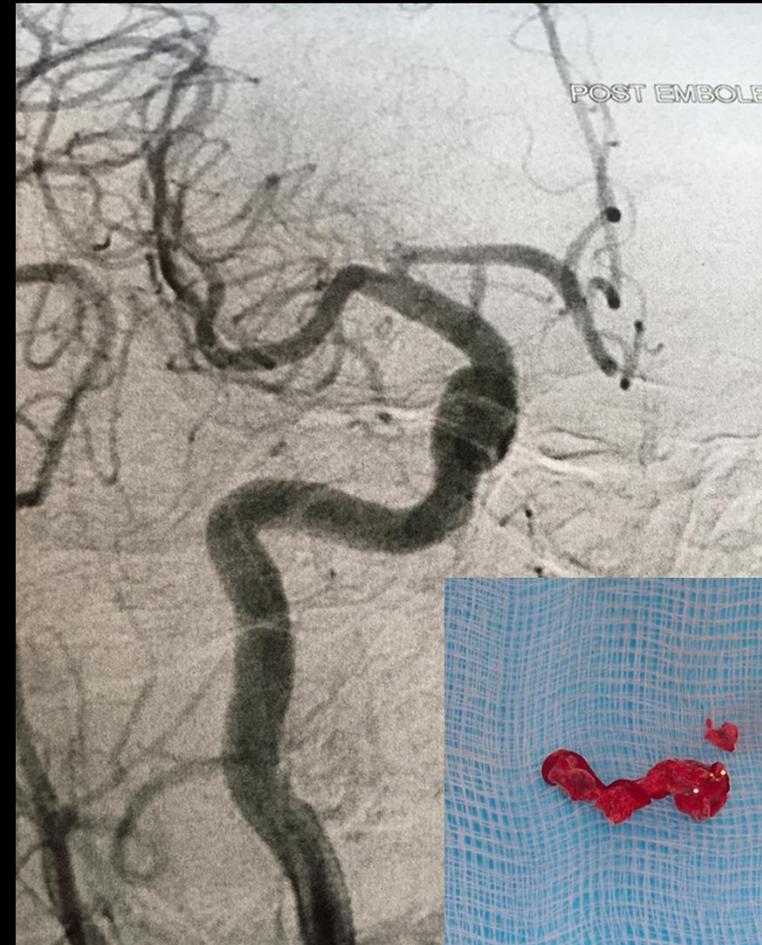
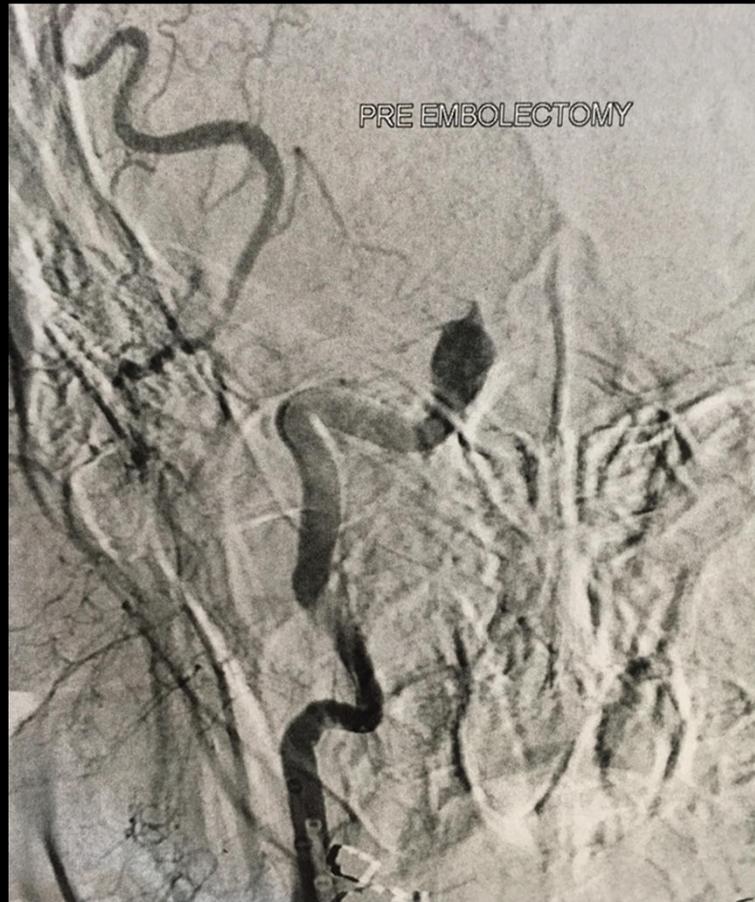
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Time To Drain TTDd / s

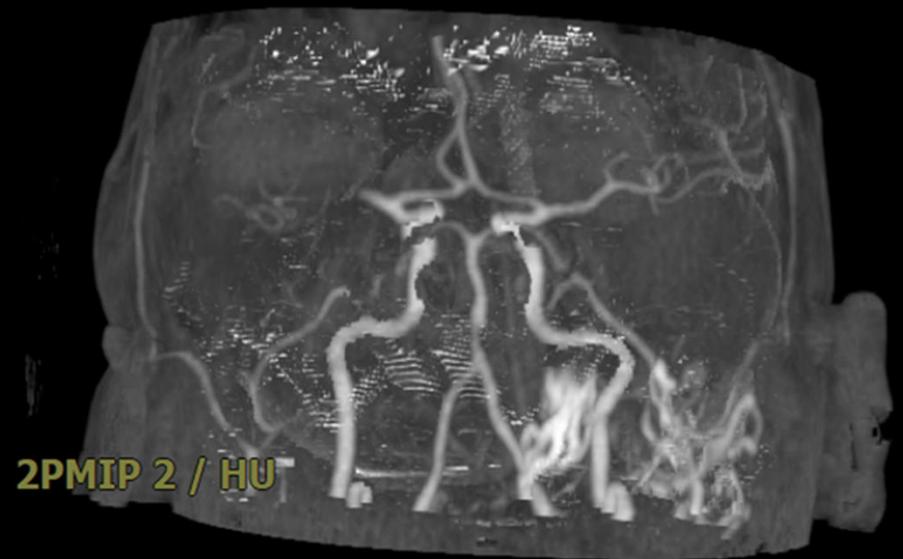


Right ICA-T occlusion – Pre and Post Stent-retriever



Case 2 – Problems with perfusion scan

- 77y old male AF with dense left hemiplegia of 2 hours duration



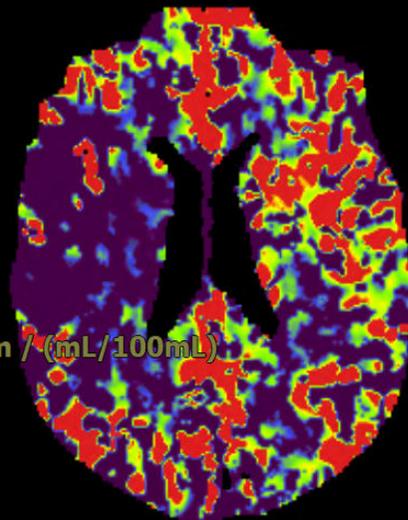
Case 2

Perfusion scan shows large infarction

High Aspects Score and only 2 hours duration – intervention done

MRS = 0

11/09/2015
11:11:35

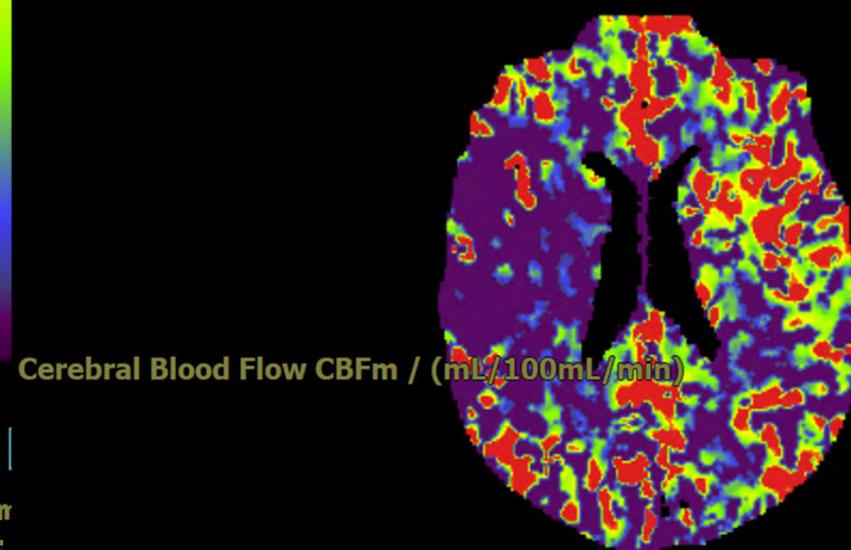


kV:

11:11:39

Act

Zoom
WL : kV



Zoom :
100%

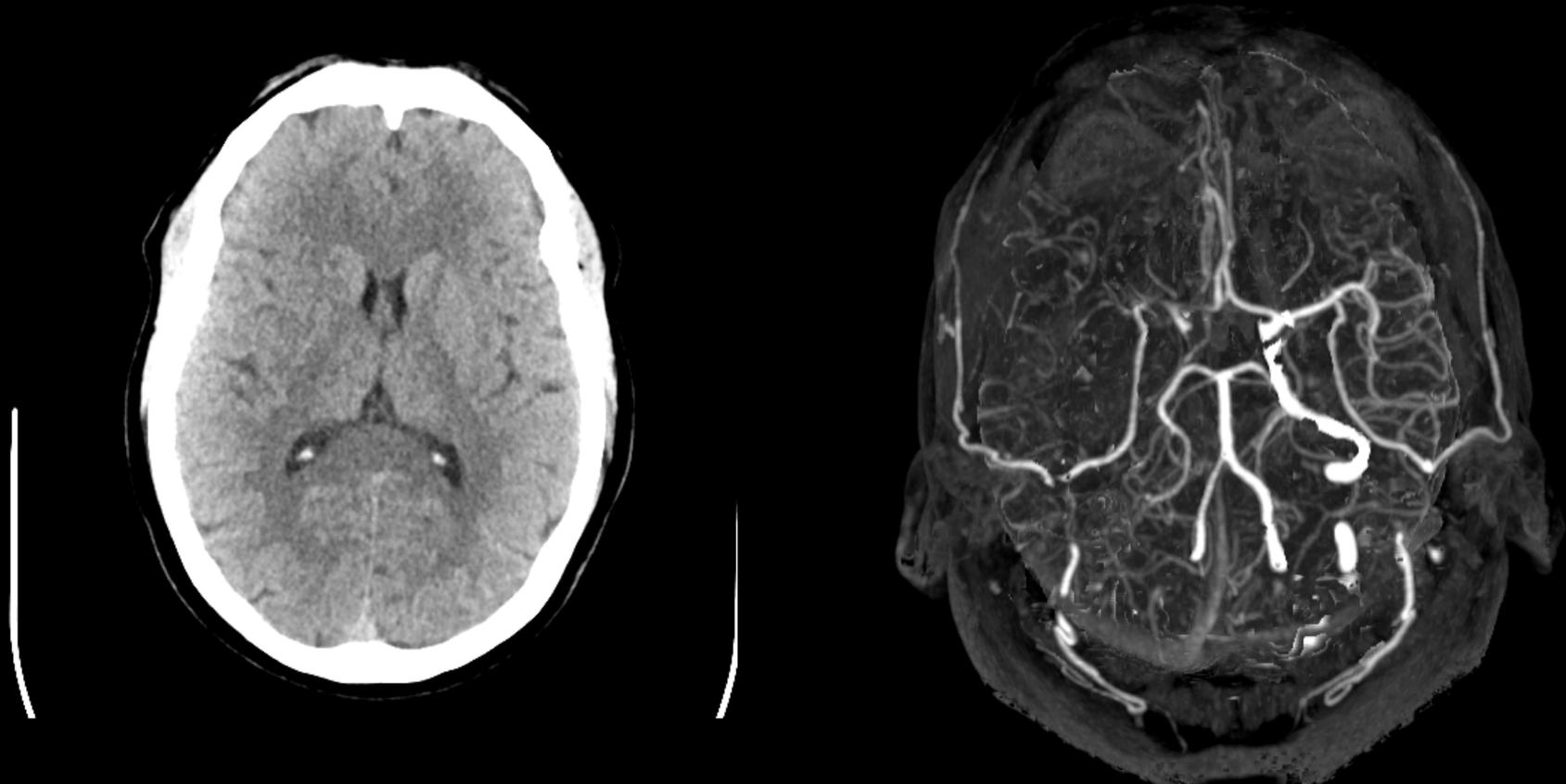
Case 3 – When symptoms and scan don't match?

- 62y old male presents with left hemiplegia
- After CT scan NIHSS =1. Mild facial weakness only.
- 5 Months prior had TIA – similar left hemiparesis



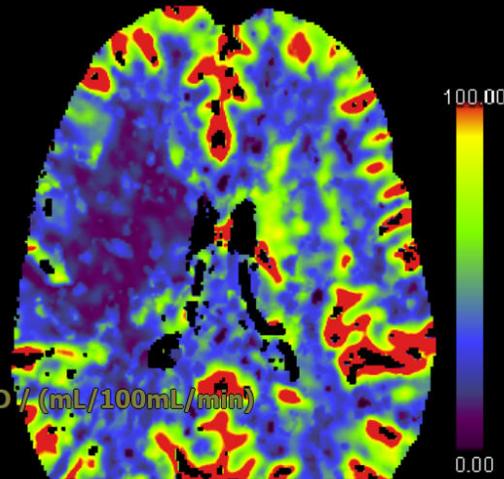
Ct – minimal changes

Complete ICA and proximal MCA occlusion– good collateral supply

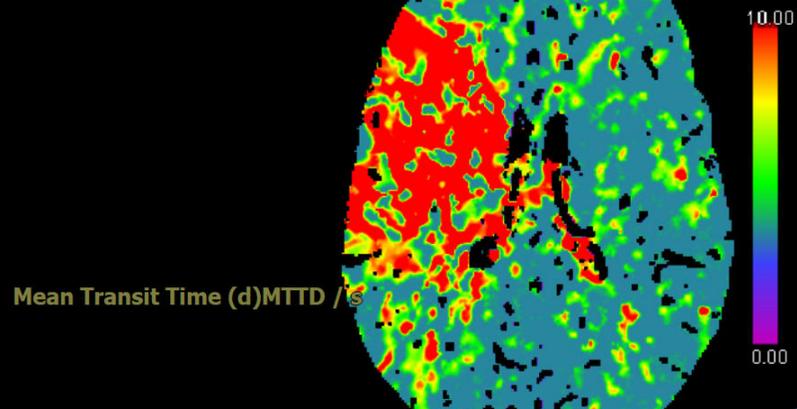


Perfusion scan showed large area of brain at risk
However patient minimal symptoms (NIHSS=1) – so no intervention done

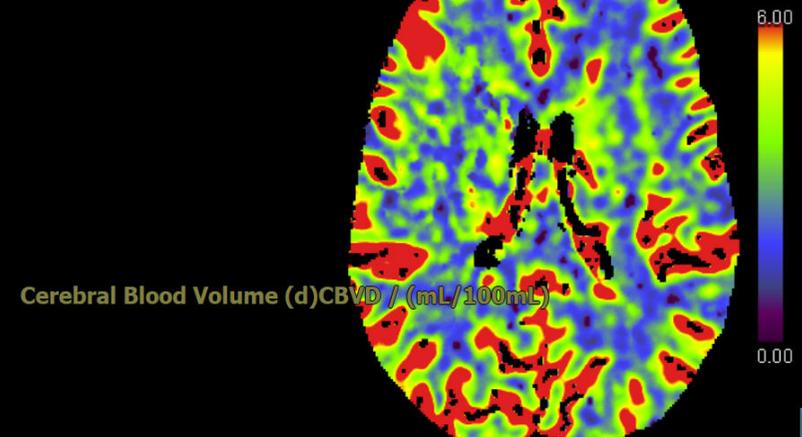
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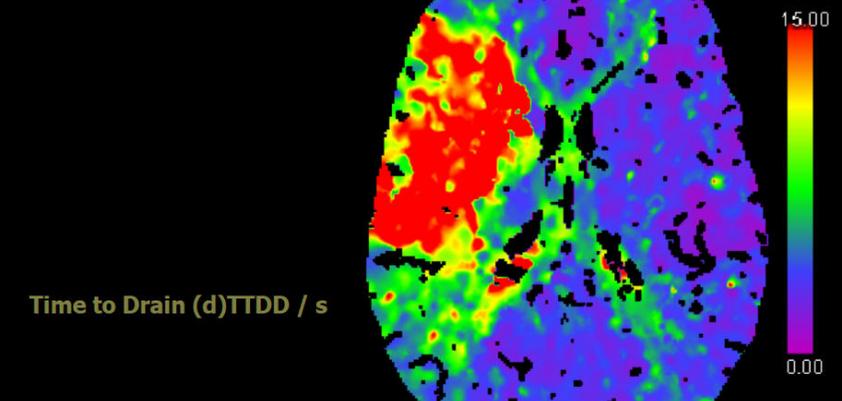
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CT scan 2 days later



Case 4 – Who is on call reporting on the scans?

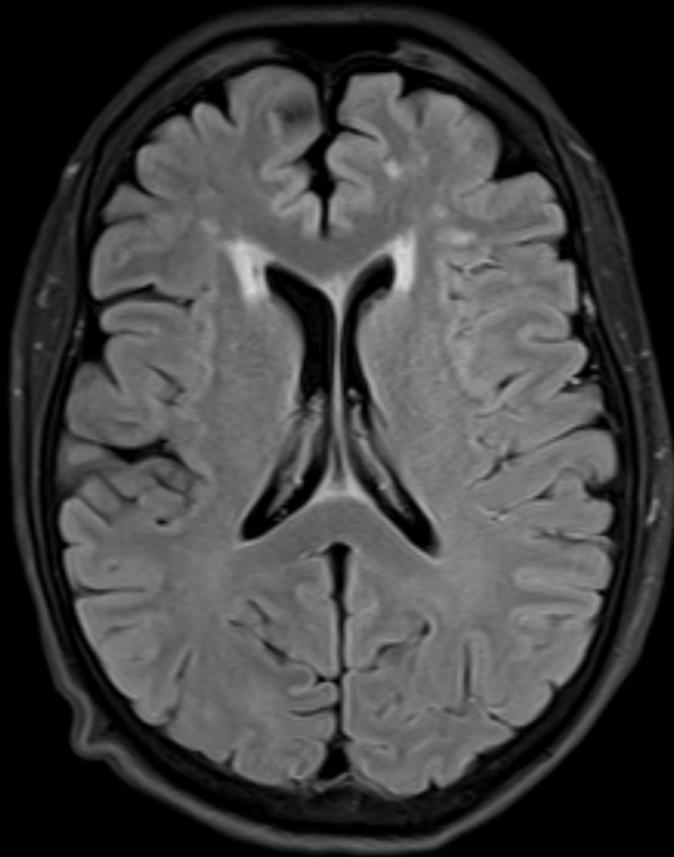
- 69y old lady presents with Right hemiplegia of 4 hours duration
- 9pm at night
- Ct scan – Early changes left cortex
- Allergic to iodine



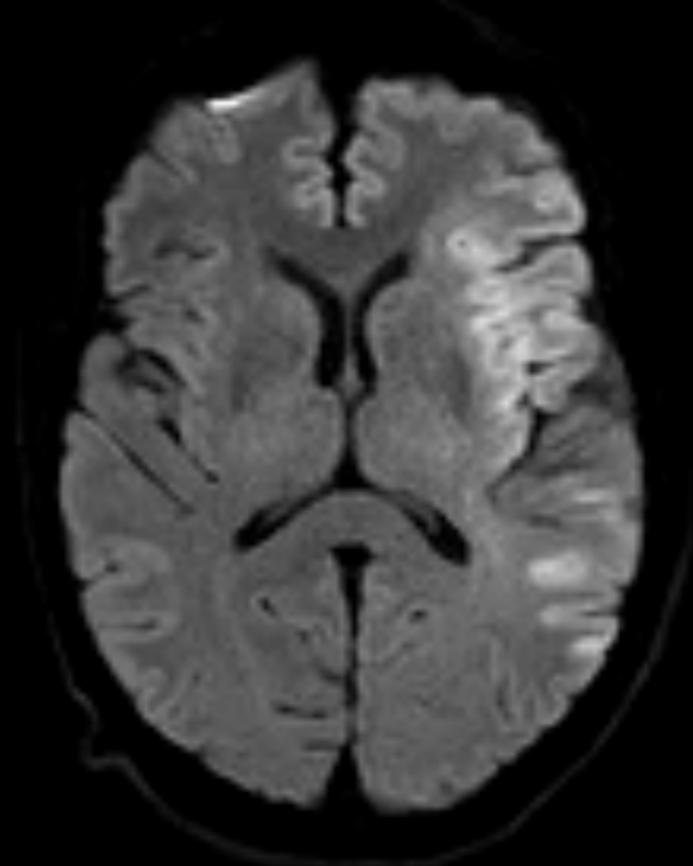
Case 4 — MR angio shows Left MCA M2 occlusion



Case 4 - Who is on call?



Flare sequence / T2 weighted scan



Diffusion / DWI scan

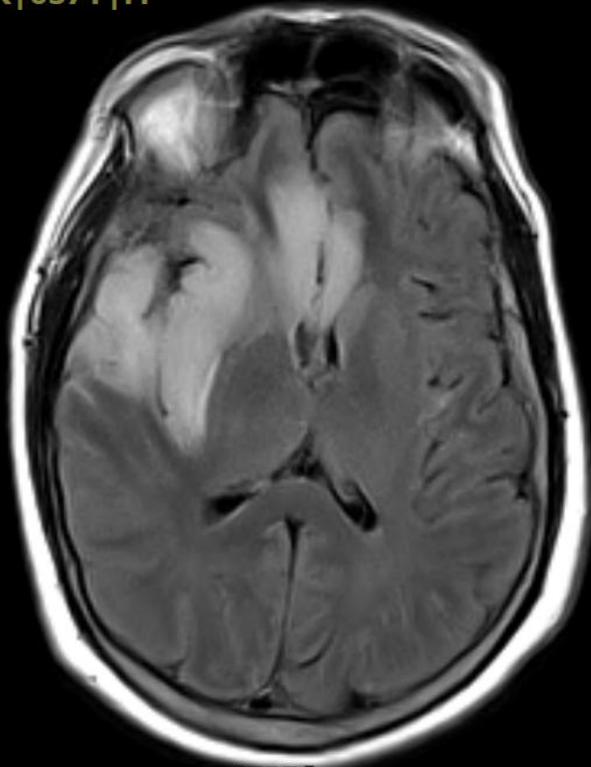
Case 5 – Stroke Mimics

- 57y old male presents with left weakness few hours duration
- Obtunded, Mild fever
- Ct – normal
- No CTA available
- Lytic given for stroke
- No response



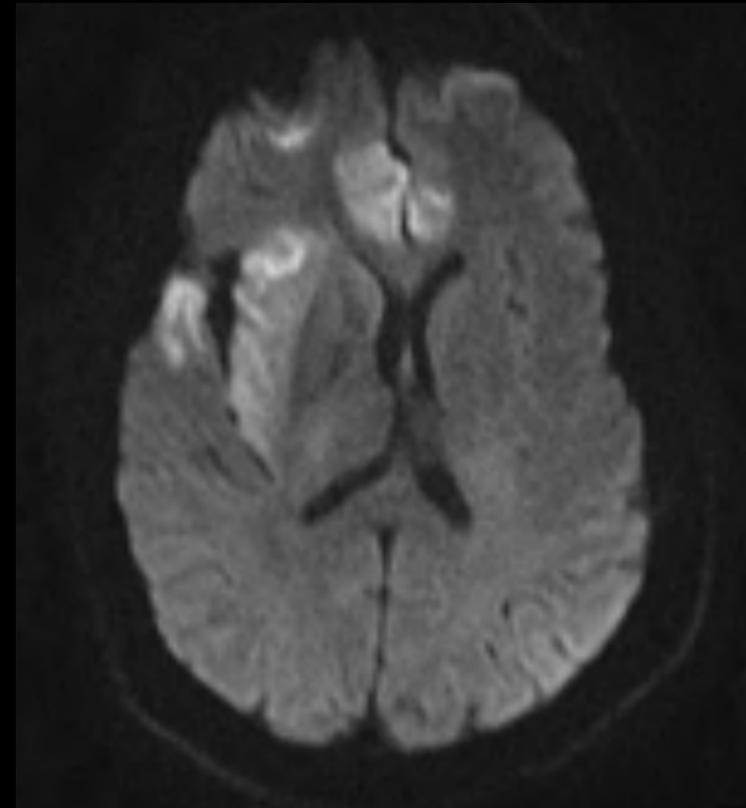
Case 5 – Stroke mimics

IR|057Y|M



[FPR]

Flare sequence



Diffusion scan

Case 6 – Coma ? Cause

- 68y old lady HPT, DM. No previous stroke
- Collapsed at home
- ER – GCS 5/15, intubated, quadraplegia
- 2 Hours duration at time of CT
- Diagnosis?

Coma ? cause

Normal Scan
Further Investigations?



CT Angiogram – Bilateral Carotid Occlusions



Conclusion

- Sometimes difficult to decide on what is the best management for the patient
- Not all cases straight forward
- Need to consider all the various factors
 - symptoms and signs + stroke duration
 - CT and MR findings
 - Who is reporting on the scans afterhours?

Conclusion

- If in doubt – pull it out!