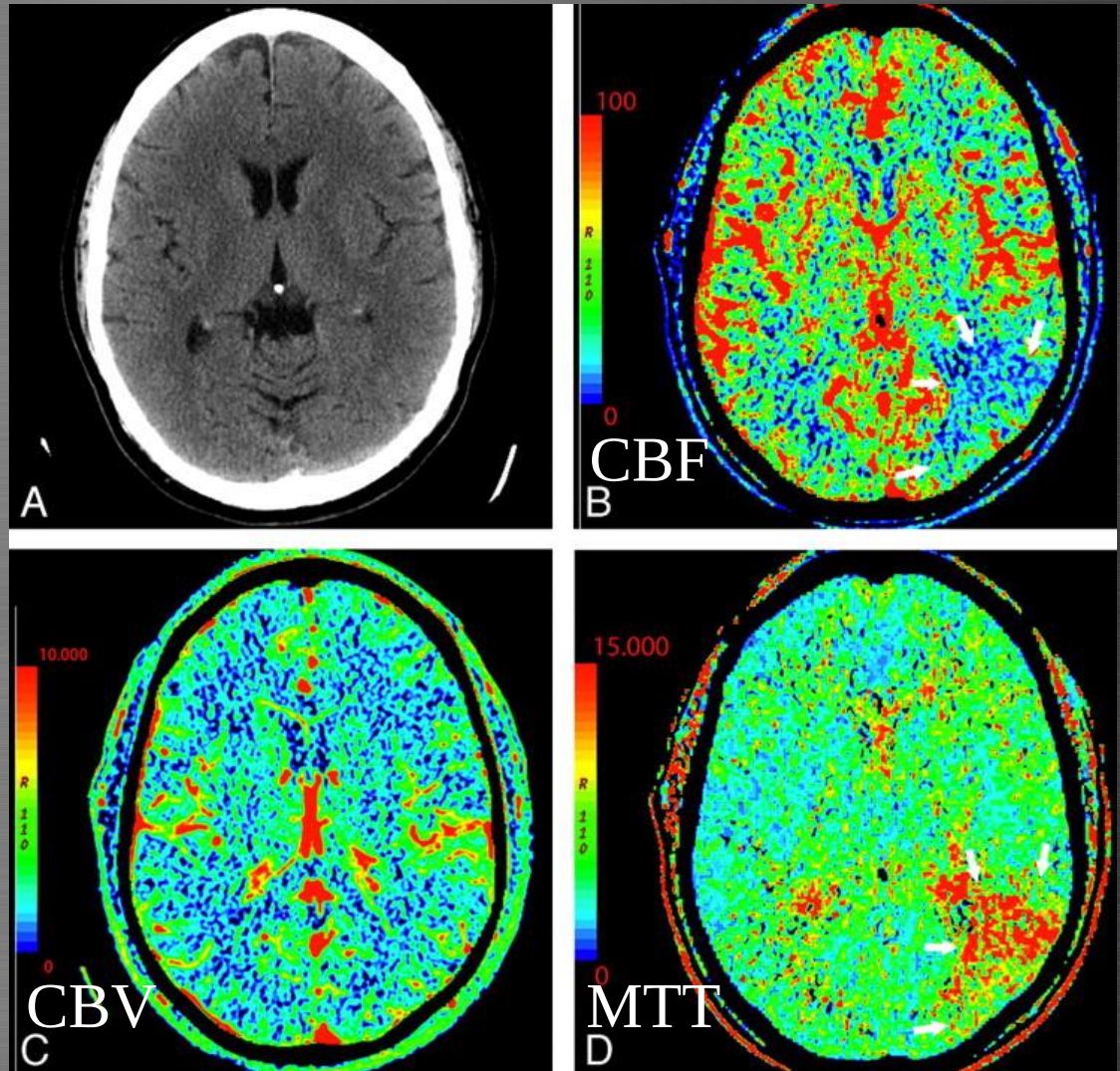


Ischemic Penumbra

- Look at MTT and TTD for defect.
- They will be prolonged / increased.
- Look at CBV
- $CBV < MTT \ \& \ TTD = \text{Penumbra}$

Ischemic Penumbra

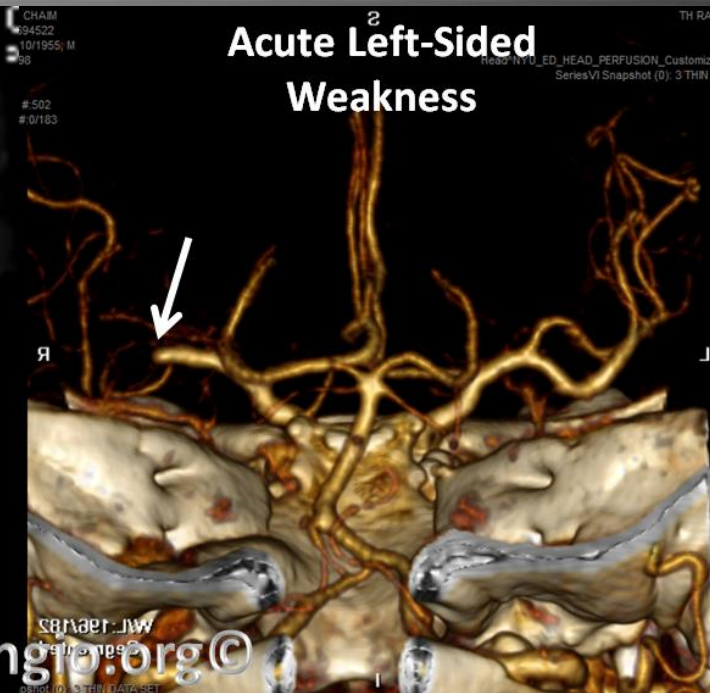
- Decreased perfusion within the posterior segment of the left MCA territory (*arrows*).
- MTT = prolongation within this same region (*arrows*).
- CBF = decreased flow
- ***CBV = Normal***
- $CBV < MTT$ = mismatch ischemic penumbra.



Seven Months Ago



**Acute Left-Sided
Weakness**

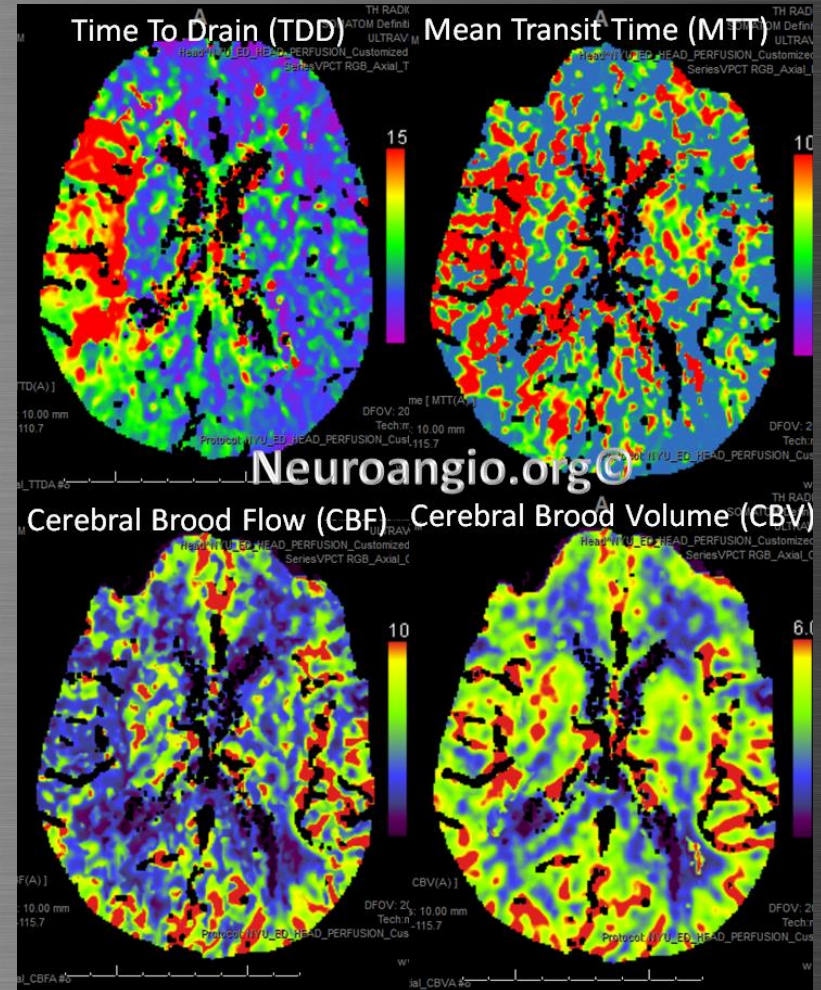


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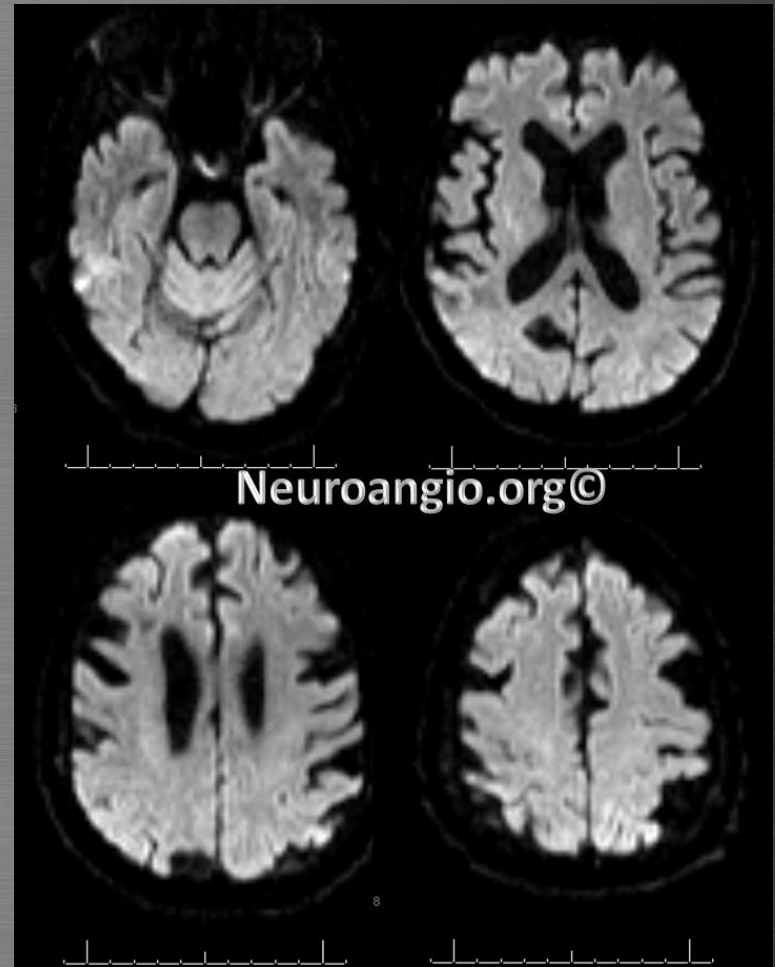
Ischemic Penumbra

Large right MCA territory

- Delayed Mean Transit Time (MTT) and Time to Drain
- Reduced CBF
- Maintained CBV

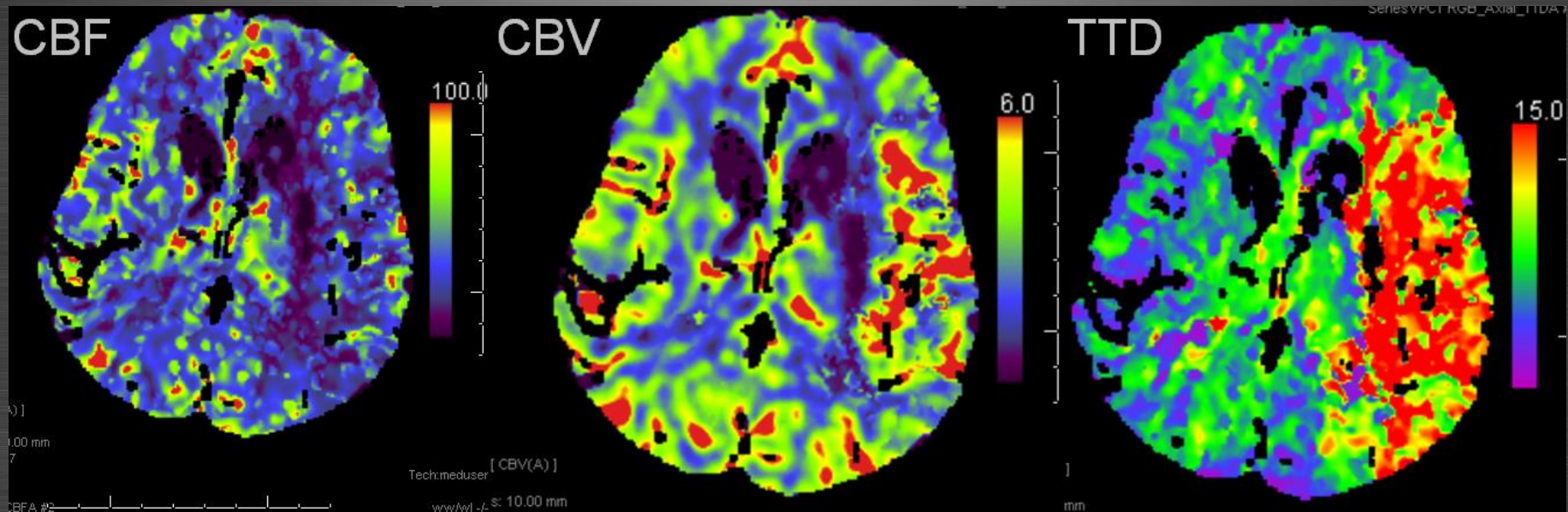


Post-procedure diffusion MR shows no ischemia



Ischemic Penumbra

Left MCA syndrome



- TTD - decreased left MCA territory.
- CBF - down in the lenticulostriate area, but relatively good over the temporal lobe.
- **CBV is increased**
 - Key factor, implying that temporal lobe vascular bed has vasodilated effectively.
 - Thereby increasing its volume and almost normalizing temporal lobe CBF.
 - This is generally is a great situation to be in.