

# Ictal Findings on CT Perfusion

Tuba Kalelioglu, MD

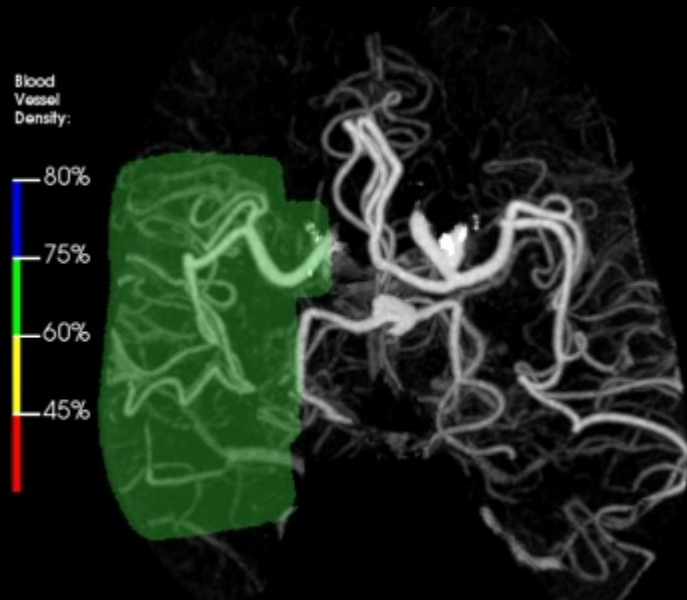


UNIVERSITY  
*of*  
VIRGINIA

# Clinical Presentation

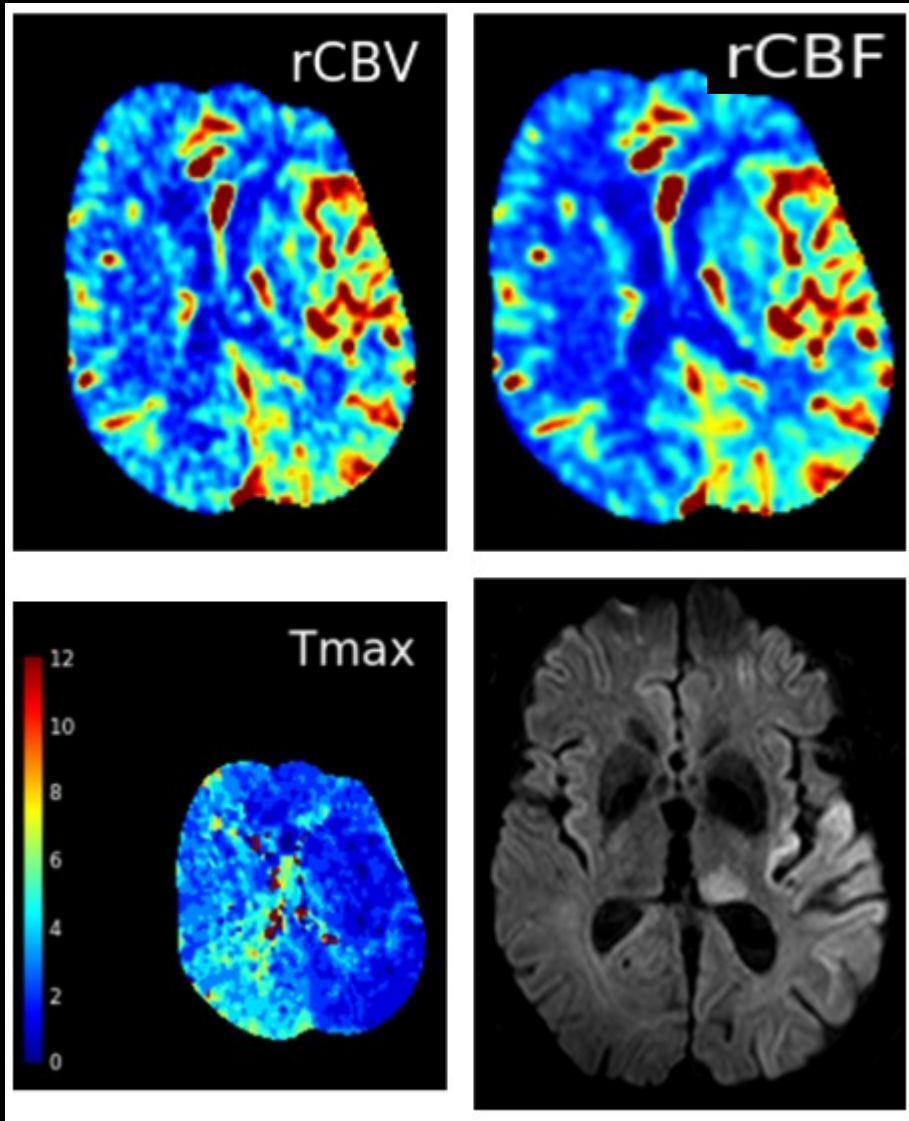
- A 77 year old male presented to the ED with aphasia and right sided weakness. Last known well was unknown. His examination was notable for aphasia, right sided paucity of movement and decreased response with noxious stimulation in addition to an intermittent right gaze deviation.

# Imaging Discussion



- CT head did not show acute large territory infarct or bleeding (not shown).
- CTA head and neck showed increased blood vessel density in left parietotemporal convexity while vessel density threshold assessment software detected decreased vessel density on the right side by mistake. No large vessel occlusion.

# Imaging Discussion



- CT Perfusion showed shorter Tmax values in the left hemisphere compared to the right hemisphere. Increased CBF and CBV values were demonstrated in the left hemisphere compared to the right hemisphere.
- DWI showed diffusion restriction in posterior insula, temporal and parietal lobes as well as in pulvinar.
- Combination of clinical and imaging findings were favored to represent ictal changes.

# Management and Outcome

- Patient underwent seizure workup and antiepileptic therapy has been started.

# Take Home Points

- Ictal and postictal changes can alter CT perfusion findings which could be challenging to interpret for radiologists. Being familiar to CT perfusion patterns in the setting of ictal and interictal states is helpful to make diagnosis and guide the treatment.

# References

- Gelfand JM, Wintermark M, Josephson SA. Cerebral perfusion-CT patterns following seizure. *Eur J Neurol*. 2010 Apr;17(4):594-601. doi: 10.1111/j.1468-1331.2009.02869.x. Epub 2009 Nov 24. PMID: 19968701.