

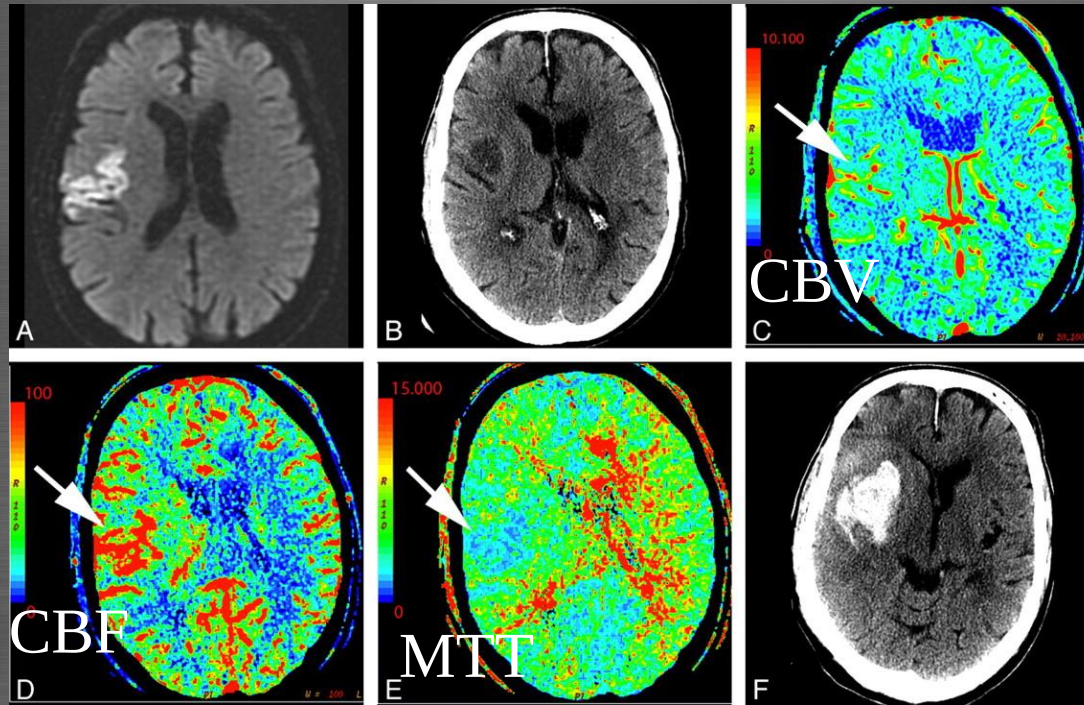
Postischemic Hyperperfusion

- Restoration of perfusion pressure to normal or near-normal values in a cerebrovascular territory affected by prior severe ischemia
- Due to either spontaneous or therapeutic recanalization of occluded vessels.
- Hyperperfusion following cerebral ischemia in the early acute stage tends to last a short time and has been associated with better prognosis.
- On the other hand, postischemic hyperperfusion persisting into subacute stages of ischemia indicates a less favorable prognosis and is associated with increased edema and hemorrhage.

Recanalization

- In the setting of main vessel occlusion followed by recanalization, CBV and CBF are increased within the distal territory of interest compared with contralateral brain.
- When interpreting CTP in the setting of acute stroke syndrome, one must be aware of this phenomenon.
- Correlating with the clinical history may be particularly useful.
- Areas of hyperperfusion after an ischemic event should not be erroneously identified as contralateral areas of hypoperfusion and acute infarction.

Postischemic hyperperfusion



- DWI sequence obtained 2 days after symptoms demonstrated an acute/subacute right frontal infarct.
- Several hours later, the patient had new contralateral symptoms, which prompted this CTP study.
- NCCT at that time demonstrated the right frontal opercular infarct.
- CT perfusion demonstrates asymmetric perfusion with relatively
 - **Increased CBV**
 - **Increased CBF**
 - **Decreased MTT**
- Following day, the patient's symptoms progressed, and follow-up NCCT shows hemorrhage in the region of subacute infarction.