

## Case Presentation

### History of present illness:

59-year-old male, active smoker with no past medical history presented with sudden onset left sided headache, sensory loss, and visual deficit.

### Physical exam:

Left hemi-anesthesia except for minimal sensation along CN V with extinction along V3, left hemianopia, and left limb ataxia with no proprioception (all joints). Strength was normal (5/5) on the left side.

### Clinical and Rehabilitation course:

On admission to acute inpatient rehabilitation (AIR), he ambulated with knee hyperextension only 10 feet in the parallel bars with moderate assistance. Examination revealed absent light touch of the left tongue and buccal mucosa. The patient could discern salt and sweet on the left tongue though in a greatly diminished fashion. Food consumption and appetite were normal during inpatient rehabilitation.

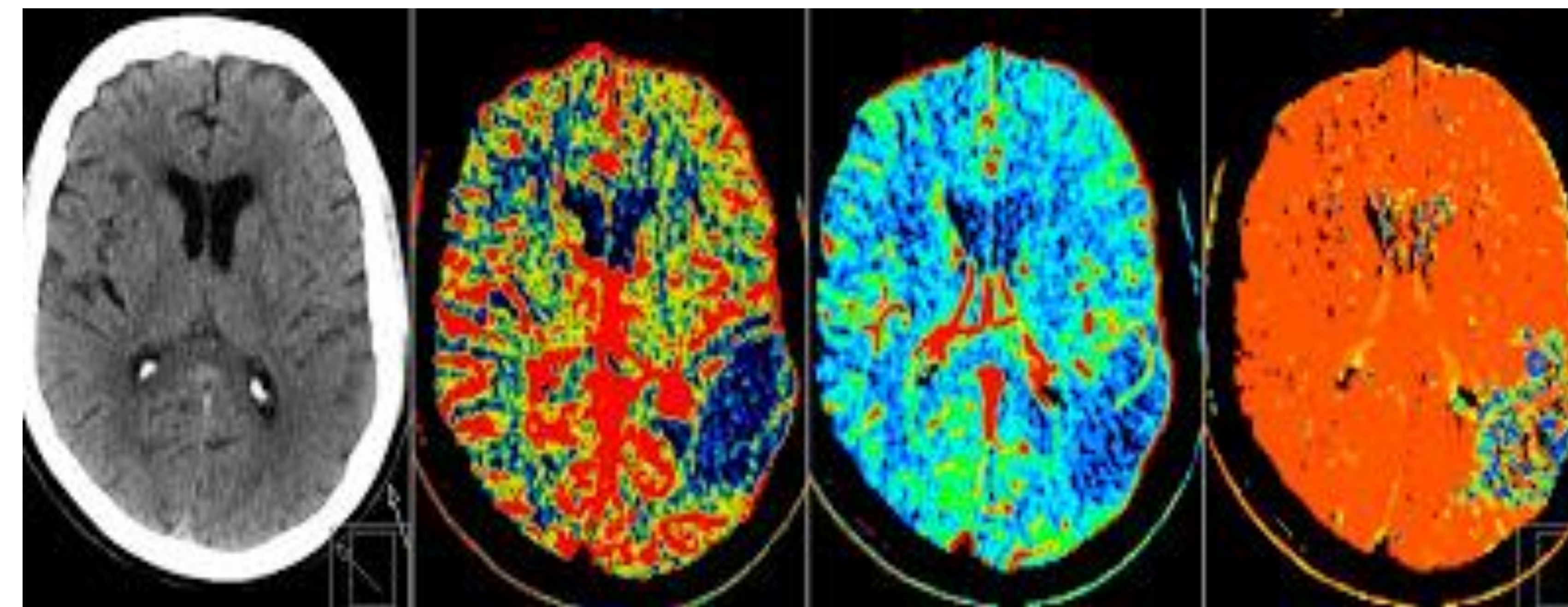
### Discharge functional status:

Patient progressed to walking 200 feet with rolling walker and contact guard but no verbal cues were need to increase knee flexion

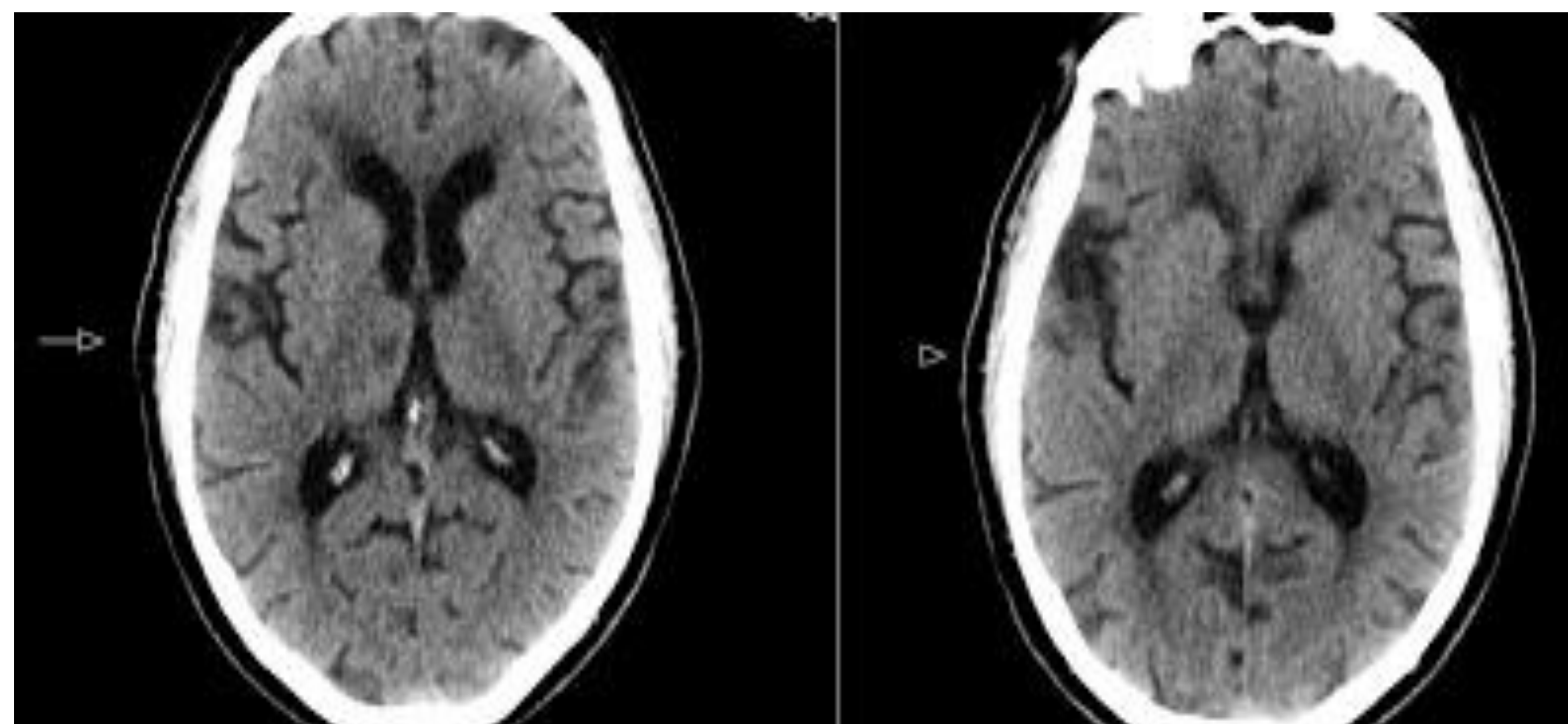
## Labs and imaging

**MRI head:** Right temporal, occipital, thalamic and midbrain ischemic stroke.

**Figure 1. CT perfusion demonstrating a left occipital infarct. (Source: radiologymri.blogspot.com)**



**Figure 2. CT head demonstrating Right thalamic infarct. (Source: radiologymri.blogspot.com)**



## Discussion

The question of motor learning in the absence or near absence of proprioception has been debated since the 19th century. Our case shows significant functional improvements in ambulation despite minimal sensory return thus illustrating that proprioception does not seem to be necessary for motor learning and despite severely diminished somato-sensation and taste, sensation in half of his tongue is enough to preserve appetite and therefore normal food consumption. This is to our knowledge the first description of comparison somato-sensation vs. taste sensation for a patient with a thalamic lesion.

## Conclusions

Patients with unilateral thalamic stroke and even profound sensory loss seem to have a very favorably acute inpatient rehabilitation prognosis. Further control studies of such patients are warranted as are neuroimaging studies to look for neuro-substrates for functional improvement.