

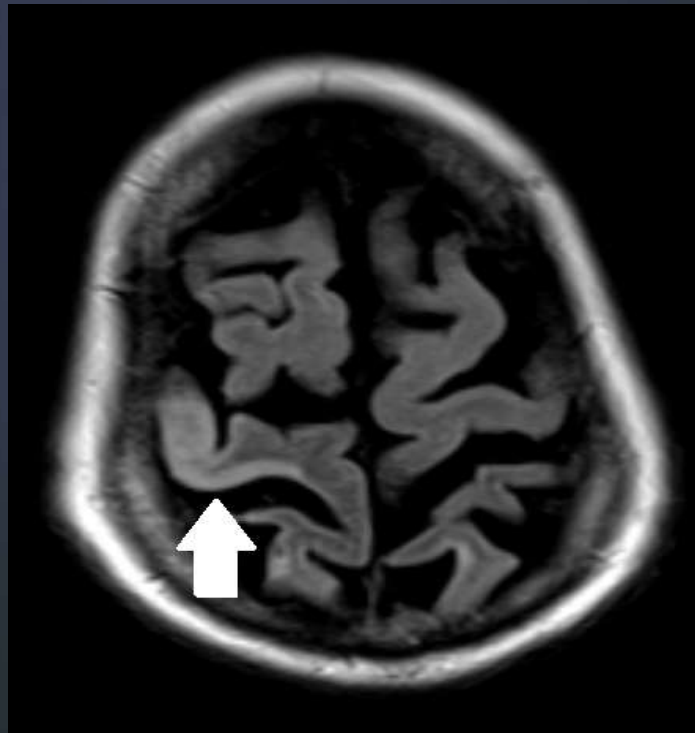
Limitation of CT to detect stroke – a missed case

Dr. Himanshu Gul Mirani, Specialty Doctor, A&E, QMC

CASE PRESENTATION: A 75 year old male presented with 2 day history of weakness of the left arm. There was new associated left leg weakness since he woke up on the day of ED attendance. On clinical exam there was 1/5 power for all muscles of left upper and lower limb; with intact sensations. In next 45 mins, leg weakness had completely resolved.

MANAGEMENT AND OUTCOME: CT head was requested on the lines of stroke protocol and was reported nil acute. Given the clinical suspicion of stroke, he was admitted to stroke unit. MRI later confirmed right internal carotid artery cortical and subcortical watershed territory infarct involving the frontal and parietal lobes with particular involvement of the hand motor cortex of the right precentral gyrus. Left internal carotid artery had 100% occlusion.

*Diffusion weighted imaging – MRI stroke protocol showing watershed territory infarct involving the frontal and parietal lobes with **particular involvement of the hand motor cortex** of the right precentral gyrus, which was missed on initial CT.*



KEY LEARNING POINTS: Although the initial modality of investigation in stroke is **CT head, it misses up to 70% of them, compared to MRI.** This underscores the importance of relying on clinical exam and knowing the limitations of CT scan.

Watershed cerebral infarctions occur at the border between cerebral vascular territories where the tissue is furthest from arterial supply and thus most vulnerable to reductions in perfusion.

Episodes of systemic hypotension, particularly with severe stenosis or occlusion of the feeding arteries, is the typical scenario in which a watershed infarction is encountered.