

MRI v/s Non contrast CT brain in evaluation of stroke

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Introduction:

Stroke is a common and leading cause of death and disability in the world. The guidelines for use of recombinant tissue plasminogen activator (rtPA) include stroke onset within 3 to 4.5 hours, preceded by a computed tomographic (CT) scan to exclude the presence of haemorrhage.

Aims/Objectives:

The importance of MRI/CT perfusion of brain in radiographic evaluation of stroke.

Materials / Methods:

A 27-year-old male patient was brought to the ED following an episode of new onset of seizure 20 minutes before coming to ED. History of headache, dizziness was there since last 3 hours. Patient was in post ictal phase. So, differentials at this point were metabolic causes of seizure /space occupying lesion/stroke with new onset of seizure. One episode of GTCS was witnessed in the ED. Urgent MRA brain and neck was suggestive of acute non haemorrhagic right MCA infarcts with thrombus in right carotid bulb and in the main stem division of right MCA. From the details of sequence of events, patient was considered in window period for thrombolysis. After ruling out contraindications, patient was thrombolysed.

Results:

Seizure at onset has been considered a relative contraindication for intravenous thrombolysis in patients with acute ischemic stroke. In our case, urgent MRA brain and neck was suggestive of acute non haemorrhagic right MCA infarcts with thrombus in right carotid bulb and in the main stem division of right MCA. From the details of sequence of events, patient was considered in window period for thrombolysis and was given TPA after ruling out contraindications.

Discussion:

Differentiation between stroke and stroke mimic can be a clinically arduous task. Post seizure palsy (Todd's Palsy) is one condition that can mimic stroke. CT Brain is currently recommended imaging as per current AHA guidelines for diagnosing stroke by excluding intracranial haemorrhage prior to administration of intravenous thrombolysis. However, it has a limited role in differentiating those patients of stroke from stroke mimic.

Conclusion:

As per current AHA guidelines seizure at onset of stroke is considered contraindication to IV thrombolysis. MRI/CT Perfusion can overcome this by accurately diagnosing stroke and ruling out Todd's palsy as stroke mimic.