

Need of Diffusion Imaging MRI in Stroke Patients

Sapna

UCMS

E-mail: sapnadh786@gmail.com

Introduction

Diffusion MRI is an essential and very useful tool for stroke patients. While it takes hours to reach a diagnosis of ischemic stroke with conventional MRI, CT. Diffusion weighted MRI allows detection of disease within minutes. But this technique is not available yet in many hospitals in India, so increasing the mortality rate. It is essential for accurate and early diagnosis of ischemic stroke in ensuring patients receive prompt treatment which improves their chance of survival and increase their likelihood of recovery.

Methods

A retrospective pilot study was performed on 98 patients of ischemic stroke who were admitted in emergency room of internal medicine department of GTB Hospital. Their clinical history, age sex and symptoms were studied. Out of 98 patients reported with the symptoms of stroke 16 patients died during the course of treatment. On these patients no diagnosis could

be made because of not being able to detect the lesion or hypoperfusion area at right time. In diffusion imaging MRI, there is initial reduction in apparent diffusion coefficient (ADC) with no change on T2 weightage but as necrosis begins to set there is gradual reversal of ADC change around 3-10 days post onset, ADC pseudo normalizes.

Discussion

In hospitals stroke patients are treated with aspirin and alteplase. This therapy needs to be started as soon as symptoms of stroke appear in which conventional MRI and CT fails to stand.

Conclusion

As we need to detect the hypoperfusion area within 3 hours of stroke to start the therapy because after that it is not that effective which has also been proved by various studies. So diffusion imaging MRI is the best method to detect lesion in stroke patients. Diffusion imaging MRI also detects lesion not usually identifiable with conventional MRI and can discriminate between acute and chronic strokes.