

**Serum insulin like growth factor 1 (IGF1) level in r-TPA treated
acute ischemic stroke patients**

Thesis

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Abstract

Background

Recombinant tissue plasminogen activator (r-TPA) is approved as a thrombolytic treatment in patients with acute ischemic stroke .

Many studies discuss the pivotal role of r-TPA in improving neuroplasticity.

Aim of the work

To detect the effect of acute ischemic stroke patients received r-TPA, on insulin like growth factor 1 (IGF-1) level as a biomarker of neuroplasticity.

Methods

A prospective case control study conducted on 60 patients presenting with acute ischemic stroke; 20 patients eligible for receiving rTPA (withen 4.5 hours) (group 1) and 40 patients had contraindications for treatment with r-TPA (group 2).

Clinical , radiological assessment and measurement of IGF-1 serum level at the onset of stroke (before receiving r-TPA) and at day 7 follow up was performed for both groups .

Results

There was a statistically significant increase in IGF-1 serum level from day 1 to day 7 in patients group (1) in comparison to control group (2) (P-value< 0.001). Serum level of IGF-1 is significantly higher in non-hypertensive patients and patients with mild stenosis in carotid duplex compared to hypertensive and patient with significant stenosis in carotid duplex

Conclusion :

r-TPA has a neuroprotective effect through increasing serum level of IGF-1 which is one of neuroplasticity biomarkers

Keywords: Stroke; rTPA; Neuroplasticity; NIHSS; IGF-1