Insulin-Like Growth Factor-1 in acute ischemic stroke:

Clinical and radiological study

Thesis

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By

Mohammed Gomaa Dief

Assistant lecturer of Neurology –Fayoum University hospital

Supervised by

Prof.Dr.Hala Abd EL –Mageed Shaheen

Professor of Neurology

Faculty of Medicine

Fayoum University

Dr . Sayed Sobhy sayed

Assistant Professor of Neurology

Faculty of Medicine

Fayoum University

Dr . Sherin Kamel El Mously.

Assistant Professor of Neurology

Faculty of Medicine

Fayoum University

Prof . Dr . Manal Niazi Mohammed

Professor of Clinical Pathology

Faculty of Medicine

Fayoum University

Faculty of Medicine

Fayoum university

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Abstract

Background: Cerebrovascular disease is highly prevalent in the general population, frequently leading to permanent disability and reduced quality of life. Insulin growth factor-1(IGF-I) is recognized as an important neuro-protective factor against cerebral ischemic insult. **Aim of the work:** to study the relationship between serum IGF-I levels and acute ischemic stroke(AIS) , carotid intima media thickness and stroke volume and the role of IGF-I as a prognostic marker in patients with AIS and post stroke cognitive impairment . **Patients and Methods:** two hundred patients with AIS(1st 24 hours) were subjected to neurological examination ,assessment of stroke severity using NIHSS, stroke disability using mRS scale , neuro-psychological assessment using Modified Mini-Mental State Examination (3MS), measurement of stroke volume using Diffusion weighted image(DWI) MRI , extra-cranial carotid duplex and measurement of (serum IGF-1, cholesterol level ,CRP level).One hundred ages, sex and conventional vascular risk factors matched controls were included for comparison. **Results:** Serum IGF-I levels were significantly reduced in cases of first AIS compared with control cases. There was statistically significant negative correlation between low serum IGF-1 level and unfavorable stroke outcome, there was statistically significant correlation between low IGF-1levels and increased CIMT , But there was no statistically significant correlation between low IGF 1 level and stroke volume or post stroke cognitive decline. A reduced IGF-I level was an independent risk factor for ischemic stroke with cut off value less than 148.3 ng/ml associated with increased AIS risk. **Conclusion:** Low IGF-I levels are significantly related to risk of ischemic stroke occurrence, independent from other risk factors, low IGF-1 levels was associated with increased CIMT and reduced serum IGF-1 levels could predict unfavorable post stroke functional outcome.

Key words: IGF-1, stroke outcome, intima media thickness .