Evaluation of prognostic factors in stroke patients treated with intravenous tissue plasminogen activator

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Background Ischemic stroke, among various types of stroke, constitutes a very common and potentially disabling and lethal condition all over the world. Since the advent of new medications, the traditional approaches in managing patients have been changed dramatically. Tissue plasminogen activator (tPA) therapy has been long approved as an efficacious treatment in patients with acute ischemic stroke; however, due to some serious complications, particularly intracranial hemorrhage, many physicians are still reluctant to use it liberally. This study sought to find potential prognostic factors in patients with acute ischemic stroke and under tPA therapy.

Methods & Materials A total of 132 patients with computed tomography-confirmed acute ischemic stroke, admitted and treated with intravenous tPA within 3 h after the onset of symptoms were enrolled in this study. Probable prognostic variables were examined separately in three distinct groups; the occurrence of intracerebral hemorrhage within 24 h after treatment, unfavorable 3-month outcome on the basis of MRS and NIHSS, and 3-month mortality.

Results Patients were 83 males (62.9%) and 49 females (37.1%) with a mean age of 63.33±11.42 years (range, 33-79). Hemorrhage within 24 h posttreatment, unfavorable 3-month outcome, and 3-month mortality were documented in 10.6%, 53.2%, and 23.6% of patients, respectively. Increase baseline blood glucose and MRS were significant but dependent predictors of hemorrhage with the first 24 h posttreatment. Dependent predictors of a 3-month unfavorable outcome were high age, NIHSS and MRS at baseline, decreased admitting GFR, and the presence of AF rhythm and intracerebral hemorrhage within 24 h posttreatment. Only age and

(OR=1.05) and initial NIHSS (OR=1.23), however, were recognized as the independent variables in this regard. In this work, the mean and median survival time were 74.4 and 90 days, respectively. Dependent predictors of 3-month mortality were high NIHSS and MRS values at baseline, and the presence of AF rhythm, intracerebral hemorrhage within 24 h posttreatment and an undifferentiated subgroup of TOAST. The only independent variable was the initial NIHSS (OR=1.18) in this regard.

Conclusion According to the findings of the present study, advanced age and high initial NIHSS are two independent prognostic factors in patients with acute ischemic stroke and under tPA treatment.

Keywords: *Acute Ischemic Stroke, Tissue Plasminogen Activator, Outcome, Risk Factor*