

Abstract:

Introduction: Stroke is the sudden onset of a neurologic deficit. It comes from a vascular mechanism. 85% are ischemic and 15% are hemorrhagic. Ischemic defects with less than 3 hours, without any bleeding based on CT scan criteria, may benefit from thrombolytic treatment with intravenous tissue plasminogen activator (tPA). tPA is currently the only approved medical treatment for acute ischemic stroke. The aim of this study was to evaluate the tPA for the treatment of ischemic stroke by Health Technology Assessment (HTA) approach.

Methods: To evaluate the safety and efficacy dimensions of the drug, systematic reviews and meta-analysis studies that were conducted to compare the clinical effects of this drug compared with the standard treatment for ischemic stroke were used. the results were evaluated using odds ratios. For the economic evaluation, the Markov model was used to simulate the costs and outcomes of using tPA in comparison with the standard treatment. Results were analyzed using ICER. For ethical and organizational evaluation, a questionnaire including various aspects of ethical and organizational issues was given to neurologists. Content analysis was used to examine the received responses.

Results: The mortality rate of patients in the short term was higher in the tPA group, but in the long term, there was no significant difference between the two groups. The rate of symptomatic intracerebral hemorrhage within the first 7 days after treatment was higher in the group tPA. The patients with modified Rankin Scale (0-2) were more in the tPA group. Economic evaluation was carried out from both the third party payer and the health system perspective. In both perspectives, ICER was identified as cost-effective with tPA treatment with values of 274521942 and 308601702 Rials per QALY and located in the southeastern and northeastern regions of acceptability plane respectively, below the Threshold. In the ethical evaluation, most of the elements were considered acceptable, but in the organizational evaluation deficiencies were identified in the some hospitals for using tPA.

Discussion: Considering the results of safety studies, efficacy and cost-effectiveness of tPA in the treatment of ischemic stroke in Iran, it seems reasonable to insure and apply it. Information from ethical and organizational assessments suggested that policy makers, given the high rates of the disease in the country, were planning and trying to identify the early symptoms of the disease in the community to prevent, loss of golden time. Also equipping the medical centers and neurology departments to be more serious in their agenda.

Key words: tissue type plasminogen activator- acute ischemic stroke-Health Technology Assessment-Safety-Effectiveness



Kerman University of Medical Sciences

**Faculty of Management and Information
In Partial Fullfilment of the Requirements for Degree MSc**

Title:

**Health Technology Assessment of tissue type plasminogen activator for
acute Ischemic Stroke**

By:

Asrin Amiri

Supervisor:

Dr. Mohammad Reza Amirsmaili

Advisor:

Dr. Reza Goudarzi

Dr. Aliramezani

Year:

2017