Introduction

Stroke has become one of the most severe causes of long-term neurological impairment and disability and is considered one of the leading causes of mortality in the world. There is a variety of signs and symptoms of stroke, abrupt onset of difficulty in speech and focal weakness are the most critical physical symptoms of a stroke. Acute onset of unilateral weakness is also a common finding. Imaging is essential for the diagnosis of stroke, magnetic resonance imaging (MRI) has higher sensitivity than CT; therefore, a better detector of strokes. Thrombolytic therapy has been approved for the treatment of acute stroke and it is dependent on the duration of the intervention. Thus, early recognition and hospitalization of patients with stroke are very crucial for the overall outcome and benefit of the treatment. This study aimed to determine time delays in stroke patients from symptoms onset to treatment with tPA initiation in King Abdullah Medical City Specialist Hospital, Makkah, Saudi Arabia.

Method

This retrospective cohort study was conducted using medical records from King Abdullah Medical City Specialist Hospital in Makkah, Saudi Arabia to measure the Time window for acute stroke treatment: current practice in King Abdullah Medical City Specialist Hospital in Makkah, Saudi Arabia. The sample includes all patients diagnosed with acute stroke and who received tPA last three years. The exclusion criteria for any patients with neurological deficits that are not caused by acute stroke are excluded from the study. Patients who died upon arrival or during transportation to the hospital, and those who presented late (>4.5 hrs of first symptoms onset) are to be excluded as well. Using administrative databases and medical records of acute stroke patients, we will document on a structured data collection form: demographic and social data, clinical presentation, time onset of the first symptom, time of seeking medical help, time of ED arrival, time of ED clinical examination, time of treatment initiation, and time of tPA treatment.

Results

Nearly two-thirds (64.2%) were males and more than half (50.6%) were in the older age group (>65 years). Patients who underwent thrombectomy were 7.4%. The mean value of the NIHSS score was 10.7 (SD 7.14). The mean time from symptoms onset to arrival at the hospital was 82.4 (SD 44.1) minutes while the total time from recognition of symptoms to tPA treatment was 154 (SD 50.8) minutes. The prevalence of patients with delayed treatment was 72.8% and the rest were assumed to have early treatment (27.2%). None of the socio-demographic variables were predicted to influence delayed treatment.

Discussion

Patients’ socio-demographic data along with NIHSS scores seem to have no significant effect on delayed treatment. Despite collective efforts to uphold timely stroke evaluation and treatment, the delays cannot be cured. This underlines the need for effective public health programs intended to minimize time consumption when evaluating and treating patients who suffered from a stroke. Further research is needed in order to establish the delay in time for pre-hospital and in-hospital treatment of stroke patients.

Conclusion

This retrospective cohort study was conducted using medical records from King Abdullah Medical City Specialist Hospital in Makkah, Saudi Arabia to measure the Time window for acute stroke treatment: current practice in King Abdullah Medical City Specialist Hospital in Makkah, Saudi Arabia. The sample includes all patients diagnosed with acute stroke and who received tPA last three years. The exclusion criteria for any patients with neurological deficits that are not caused by acute stroke are excluded from the study. Patients who died upon arrival or during transportation to the hospital, and those who presented late (>4.5 hrs of first symptoms onset) are to be excluded as well. Using administrative databases and medical records of acute stroke patients, we will document on a structured data collection form: demographic and social data, clinical presentation, time onset of the first symptom, time of seeking medical help, time of ED arrival, time of ED clinical examination, time of treatment initiation, and time of tPA treatment.

Patients’ socio-demographic data along with NIHSS scores seem to have no significant effect on delayed treatment. Despite collective efforts to uphold timely stroke evaluation and treatment, the delays cannot be cured. This underlines the need for effective public health programs intended to minimize time consumption when evaluating and treating patients who suffered from a stroke. Further research is needed in order to establish the delay in time for pre-hospital and in-hospital treatment of stroke patients.

Reference

1. Stroke in Saudi Arabia: a review of the recent literature [Internet]. [cited 2020 Feb 19]. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4036027/
2. Yew KS, Cheng E. Acute stroke diagnosis. Vol. 80. American Family Physician. American Academy of Family Physicians; 2009. p. 33–40.
3. Lacy CR, Bueno M, Kostis JB. Stroke time registry for outcomes knowledge and epidemiology S.T.R.O.K.E. J Stroke Cerebrovascular Dis. 1997 Oct 1;6(6):470.