Original Article

Assessment of Cases of Stroke in Emergency Department

[1]Antonio Arnaiz-Villena, [2]Javier Alonso-Rubio, [3]Valentín Ruiz-del-Valle

[1]Consultant of Medicine, Khartoume, Sudan, [2]Prof of Medicine, Al Neelaini University, Sudan, [3]Prof of Medicine, AOIU, Sudan.

Abstract

Background: One of the leading causes of death and adult disability among general population is stroke. The efficacy of acute stroke treatment is very time dependant. This includes both pharmacological and mechanical thrombolysis. Hence; we planned the present study to assess the cases of stroke which reported to the emergency department of the institution. **Subjects and Methods:** The present study included assessment of cases of stroke which reported to the emergency department of the medical institution. A total of 50 cases of stroke were included in the present study. Complete demographic details of all the patients were obtained. All the results were compiled in Microsoft excel sheet and were analysed by SPSS software. **Results:** Dyslipidaemia was found to be present in 80 percent of the patients. Disturbances in speck and visual disturbances were found to be present in 78 percent and 80 percent of the patients. Motor and sensory symptoms were found to be present in 72 percent and 64 percent of the patients. Headache and dizziness was present in 84 percent and 78 percent of the patients. **Conclusion:** Stoke represent a significant health problem with high mortality and morbidity. It is more common in elderly subjects with positive history of smoking and dyslipidaemia.

Keywords: Emergency department, Stroke.

Corresponding Author: Dr. Javier Alonso-Rubio, Prof of Medicine, Al Neelaini University, Sudan.

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Introduction

One of the leading causes of death and adult disability among general population is stroke. Increasing public awareness of stroke has led to a rise in the number of patients presenting to emergency departments (EDs) who qualify for emergent and time-sensitive treatments such as t-PA, clot extraction, and surgery.[1-3] The quality of the acute care of stroke victims largely relies on the rapid identification, clinical and radiological assessment, coordination of emergency physicians, neurologists, and radiologists, and management of the patient.[4]

The efficacy of acute stroke treatment is very time dependant. This includes both pharmacological and mechanical thrombolysis. Hence, the proportion of stroke patients eligible to this effective therapy will be significantly enhanced if more patients arrive earlier to the ED. This in turn will be reflected by reduced disability and improved functional outcome after a stroke.[5-7] Hence; we planned the present study to assess the cases of stroke which reported to the emergency department of the institution.

Subjects and Methods

The present study was conducted in the department of general medicine of the medical institute and it included assessment of cases of stroke which reported to the emergency department of the medical institution. A total of 50 cases of stroke were included in the present study.

Exclusion criteria for the present study included:

- Patients with history of any form of malignancy,
- Patients with known drug allergy,
- Patients less than 20 years of age and more than 80 years of age

After meeting the inclusion and exclusion criteria for the present study, data of a total of 50 patients was analysed. Complete demographic details of all the patients were obtained. All the results were compiled in Microsoft excel sheet and were analysed by SPSS software.

Results

A total of 50 patients were analysed in the present study. Mean age of the patients of the present study was 58.5 years. 22 patients in the present study were males while the remaining 28 patients were females. Mean BMI of the patients of the present study was 29.5 Kg/m^2. 86 percent of the stroke patients in the present study were married. Alcohol consumption history from a minimum of past 10 years was present in 58 percent of the patients, while cigarette smoking history was present in 76 percent of the patients.

74 percent of the patients were obese, while 36 percent of the patients were diabetic. Dyslipidaemia was found to be present in 80 percent of the patients. Disturbances in speck and visual disturbances were found to be present in 78 percent and 80 percent of the patients. Motor and sensory symptoms were found to be present in 72 percent and 64 percent of the patients. Headache and dizziness was present in 84 percent and 78 percent of the patients.

Table 1: Demographic data

Parameter		Number
Mean age (years)		58.5
Gender	Males	22
	Females	28
Mean BMI (Kg/m2)		29.5
Married		43

Table 2: Habit History

Habit	Number of patients	Percentage of patients
Alcohol consumption (minimum of past 10 years)	29	58
Smoking habit (minimum of past 10 years)	38	76

Table 3: Past medical history

Past medical history	Number of patients	Percentage of patients
Obesity	37	74
Diabetic	18	36
Dyslipidaemia	40	80

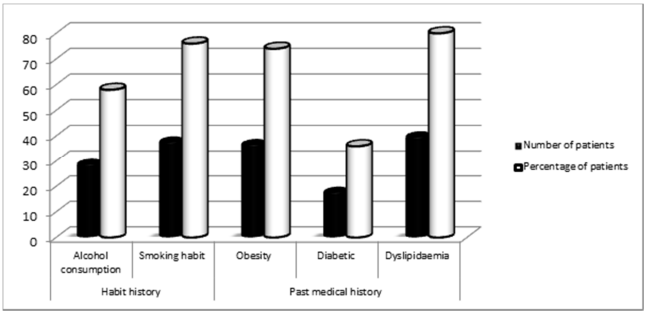

Figure 1: Past medical history

Table 4: Stroke symptoms

Symptoms	Number of patients	Percentage of patients
Disturbances in speech	39	78
Motor symptoms	36	72
Sensory symptoms	32	64
Headache	42	84
Dizziness	39	78
Visual disturbances	40	80

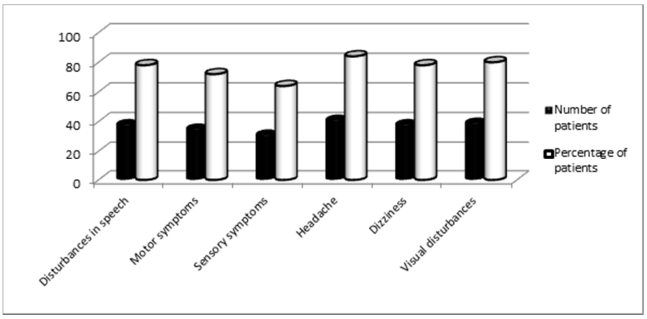

Figure 2: Stroke symptoms

Discussion

The emergency department (ED) is the entry point into the health care system for many stroke victims. Rapid evaluation, diagnosis and treatment of stroke in the prehospital setting as well as the ED are integral to preventing morbidity and mortality. In some centers, emergency medicine physicians are the health care professionals most often able to provide thrombolytic therapy to stroke patients during the brief three-hour window for this therapy. An organized ED approach including implementing stroke care pathways and collaborating with specialized stroke teams in the ED enhance the ability to identify and manage stroke patients effectively.[8,9] Pharmacy presence in the ED has also increased in recent years. Given the frequency of patients presenting to the ED with stroke symptoms, pharmacists require a strong working knowledge of stroke in order to effectively manage these patients in the ED.[10]

A total of 50 patients were analysed in the present study. Mean age of the patients of the present study was 58.5 years. 22 patients in the present study were males while the remaining 28 patients were females. Mean BMI of the patients of the present study was 29.5 Kg/m2. 86 percent of the stroke patients in the present study were married. Alcohol consumption history from a minimum of past 10 years was present in 58 percent of the patients, while cigarette smoking history was present in 76 percent of the patients. Acute ischemic stroke (AIS) is a clinical term used to describe a sudden unilateral focal neurological deficit that lasts for more than 24 hours. An AIS is distinguished from a transient ischemic attack (TIA) by symptom duration. According to the current definition, a TIA lasts less than 24 hours. However, permanent neurologic damage can be viewed on computed tomography (CT) even with the improvement of symptoms.[11,12]

In the present study, 74 percent of the patients were obese, while 36 percent of the patients were diabetic. Dyslipidaemia was found to be present in 80 percent of the patients. Disturbances in speck and visual disturbances were found to be present in 78 percent and 80 percent of the patients. Motor and sensory symptoms were found to be present in 72 percent and 64 percent of the patients. Headache and dizziness was present in 84 percent and 78 percent of the patients. The well-known presentation of an AIS is typically thought of as one-sided weakness with difficulty speaking. Symptoms and localization of neurologic findings, however, depend on the area of the brain which is affected. Symptoms may include: cognitive impairment, weakness or numbness on one side of the face or body (hemiplegia), aphasia, loss of vision/visual changes, vertigo, ataxia, altered taste, droopy eyelids, aphagia, weakness or altered movement of the tongue, decreased reflexes, tachycardia, loss of consciousness, and headache.[13]

Ashkenazi L et al evaluated the effect of the number of patient companions on the efficiency of the diagnostic process in the emergency department (ED). Consecutive stroke patients admitted to the ED between August 2011 and October 2012 were evaluated. Out of a total of 724 stroke patients admitted, data regarding number of ED companions were available for 610 (84.3%) patients. Number of companions was associated with higher National Institute of Health Stroke Scale and speech disturbances. It was found to be independently associated with shorter time to CT scanning adjusted for the stroke severity, sex, and speech disturbances. Similarly, number of companions was

associated with higher rates of stroke recognition by the triage nurse adjusted for covariates. Their findings suggested that the family members and other companions could serve as facilitators of faster and more effective ED management of stroke patients, possibly improving their outcome.[14]

Madsen TE et al determined whether gender disparities exist in the triage of acute stroke patients as defined by Emergency Severity Index (ESI) levels and use of ED critical care beds. This was a retrospective, observational study of both ischemic and hemorrhagic stroke patients age ≥18 years presenting to a large, urban, academic ED within six hours of symptom onset between January 2010, and December 2012. Primary outcomes were triage to a non-critical ED bed and Emergency Severity Index (ESI) level. Primary outcome data were extracted from electronic medical records by a blinded data manager; secondary outcome data and covariates were abstracted by trained research assistants. We performed bivariate and multivariate analyses. Logistic regression was performed using age, race, insurance status, mode of and time to arrival, National Institutes of Health Stroke Scale, and presence of atypical symptoms as covariates. There were 537 patients included in this study. Women were older (75.6 vs. 69.5, p<0.001), and more women had a history of atrial fibrillation (39.8% vs. 25.3%, p<0.001). Compared to 9.5% of men, 10.3% of women were triaged to a non-critical care ED bed (p=0.77); 92.1% of women were triaged as ESI 1 or 2 vs. 93.6% of men (p=0.53). After adjustment, gender was not associated with triage location or ESI level, though atypical symptoms were associated with higher odds of being triaged to a non-critical care bed and 3.04 times higher odds of being triaged as ESI 3 vs. ESI 1 or 2 In a large, urban, academic ED at a primary stroke center, there were no gender differences in triage to critical care beds or ESI levels among acute stroke patients arriving within six hours of symptom onset. These findings suggested that ED triage protocols for stroke patients may be effective in minimizing gender disparities in care.[15]

Conclusion

Under the light of above obtained results, the authors concluded that stoke represent a significant health problem with high mortality and morbidity. It is more common in elderly subjects with positive history of smoking and dyslipidaemia. However; further studies are recommended.

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