



A STUDY OF CLINICAL PROFILE AND RISK FACTORS IN ACUTE ISCHEMIC STROKE

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ABSTRACT

Background: World Health Organisation defines the clinical syndrome of "stroke" as 'rapidly developing clinical signs of focal (or global) disturbance of cerebral function with symptoms lasting 24 hours or longer or leading to death, with no apparent cause other than vascular origin'. After coronary heart disease (CHD) and cancer of all types, stroke is the third commonest cause of death worldwide. **Aim:** To study the clinical profile and risk factors of stroke in the study population. **Objectives:** To study the clinical profile & frequency of various risk factors in Ischemic stroke patients at Kamineni Institute of Medical Sciences Narketpally, Nalgonda.

Study Design: Cross sectional, observational study.

Place Of Study: Department of General Medicine, Kamineni institute of medical sciences, Narketpally.

Duration Of Study : November 2020 to December 2022

KEYWORDS : Acute ischemic stroke, Hemorrhagic stroke, Cerebrovascular accidents, Hemiplegia, paralysis.

INTRODUCTION

World Health Organisation defines the clinical syndrome of "stroke" as 'rapidly developing clinical signs of focal (or global) disturbance of cerebral function with symptoms lasting 24 hours or longer or leading to death, with no apparent cause other than vascular origin'. After coronary heart disease (CHD) and cancer of all types, stroke is the third commonest cause of death worldwide. According to Stephen Macmahon et al, Worldwide, about 20 million people suffer from stroke each year; 5 million will die as a consequence and 15 million will survive; of those who survive, 5 million will be disabled by their stroke. A disease of such impact on human mortality and morbidity, stroke continues to take a heavy toll on the productivity of the population and the health care systems. Time and again it has been proved that stroke is the eventual result of a series of insults on the cerebral and cardiovascular systems. These risk factors not only determine when a stroke will occur, but also the type and severity of the cerebrovascular accident. The risk factors which lead on to stroke differs among different communities, changes with age, sex and many number of reasons. It implies that proper elucidation of the risk factors of stroke and the knowledge of the contribution each risk factor provides to the ultimate culmination in stroke can help us devise preventive strategies. Since most of the studies are done in populations from developed nations, it is imperative that we need more studies from developing nations like India to find out corresponding statistics. Even among Indians there are considerable life style differences among populations from various communities and regions. So to be more specific we need studies from south India itself if we have to affirmatively assess the stroke indices in our population.

The clinical features that are common to stroke also varies with type of stroke. For example a history of loss of consciousness and seizures is more in favor of a hemorrhagic lesion. In addition lesions in various sites give rise to different clinical pictures. An attempt is made to find out the clinical profile of stroke in this study population. The ultimate prognosis of the study population also will be seen. These data will help us to see how they differ from the western data.

Thus they will let us set up our own guidelines for stroke management.

AIM

To study the clinical profile and risk factors of stroke in the study population.

OBJECTIVES

To study the clinical profile & frequency of various risk factors in Ischemic stroke patients at Kamineni Institute of Medical Sciences Narketpally, Nalgonda.

Inclusion Criteria

- Consecutive 34 cases which presented to Kamineni Institute of Medical Sciences Narketpally with H/o and examination findings consistent with stroke.
- Age more than 18yrs and patients of both Genders.

Exclusion Criteria

- * Neurological deficits secondary to epilepsy
- * Head injury & Infective etiology
- * Metastatic etiology
- * Pre-existing severe physical or cognitive disability.

METHODOLOGY

It is a Hospital based cross sectional observational study conducted over a period of one year among 34 ischemic stroke patients who were admitted in medical ward at Kamineni Institute of medical sciences Narketpally, Nalgonda.

After taking approval from the institutional ethics committee and prior informed consent from the patients the study was conducted. A detailed history was elicited. Emphasis regarding history of onset, duration, progression of chief complaints, clinical Examination and necessary Laboratory & Radiological imaging was done.

RESULTS

The Ischemic stroke incidence is high in the age group of 50-70 years. It is seen that 64.5% of the sufferers were in the age group ≥ 50 years. Stroke is more common in males than females (ratio 1.4:1).

Table 1 – Age Wise Distribution Of Patients With Stroke (n=34)

Age	Male	Female	Total (n=34)	Percentage
18-29	2	1	3	9%
30-39	2	1	3	9%
40-49	0	1	1	3%
50-59	3	5	8	23.5%
60-69	12	2	14	41%
70 & Above	1	5	5	14.5
Total	20	14	34	100%

Table No.2: Analysis Of Cases Based Clinical Profile (n=34)

CLINICAL PROFILE	Frequency	Percentage
RIGHT HEMIPARESIS	16	47%
LEFT HEMIPARESIS	11	32%
QUADREPARESIS	02	06%
MONOPARESIS	05	15%
TOTAL	34	100%

Most common clinical presentation was hemiplegia/hemiparesis (79%). Cranial nerve involvement and Speech disturbances were found in few patients.

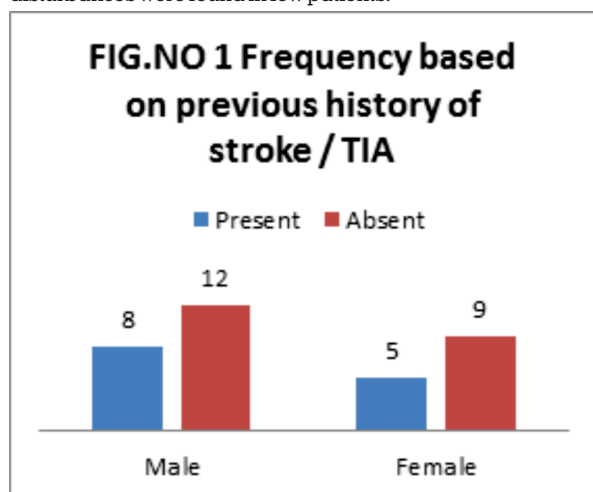


Table - 3: Distribution Of Patients Based On Previous History Of Stroke

H/O stroke	Male	Female	Frequency
Present	8	5	13 (38%)
Absent	12	9	21 (62%)
Total	20	14	34 (100%)

38% of patients had past episode of transient ischemic attack or stroke. majority of them 63.33%

Among 33 ischemic stroke patients 32% of patients had Diabetes. Smoking and alcoholism were identified only in male population. In total stroke patients, 47% of patients were smokers & 53% were found to be alcoholic,

Fig.no 2 Distribution based on Risk factors

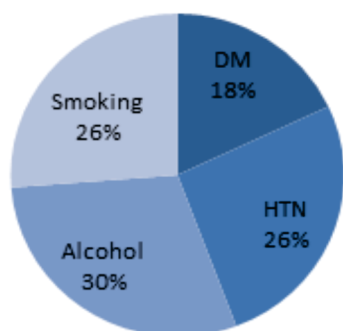


Table No. 4 Based On Arterial Territory Involved (n=34)

Arterial territory involved	Ischemic stroke	Hemorrhagic stroke	Total (34)
ACA Territory	01	0	01
MCA Territory	25	01	26
PCA Territory	04	0	04
Cardioembolic / multiple territories	03	0	03
Total	33	01	34

Most common vascular territory involved is middle cerebral artery. Around 76.5% of patients had middle cerebral artery infarction. In our study hypertension, smoking, alcoholism, were significantly associated with stroke in patients with age group more than or equal to 50 years.

DISCUSSION

From June 2021 to June 2022, a total of 34 patients met all inclusion criteria and were included in the final study. Full, voluntary, and written informed consent was taken from all patients and all patients agreed for the preliminary work up required for their inclusion in the final study. Of the 34 patients, 20 were males and 14 were females. Unlike other similar studies conducted in other countries, this study was a cross sectional observational study only and did not include age and sex matched healthy controls for comparison. Hence comparisons will be drawn from these similar studies conducted elsewhere. Stroke is a major public health problem causing significant mortality and morbidity. Several studies prove that hypertension, diabetes, hyperlipidemia, ischemic heart disease, atrial fibrillation, smoking and long standing alcohol intake are risk factors contributing for stroke. The minor differences in the prevalence risk factors of stroke in different communities are probably due to differences in socio-economic, culture, disease patterns, living habits and distribution of various ethnic groups. Every year about 795 000 people experience a new or recurrent stroke worldwide. About 610 000 of these are first attacks, and 185 000 are recurrent attacks (1). In 2019, the estimated number of incident cases of stroke in India was 1.29 million (95% UI 1.15–1.45), and number of deaths due to stroke was 699 000 (95% UI 594 000–807 000).The crude DALY rate of stroke had a 5.5 times variation between the states in 2019, with the highest rate in West Bengal, followed by Chhattisgarh and Tripura (2).

Age And Ischemic Stroke Incidence

In this study youngest patient was 18 years and oldest was 75 years old. Elderly people are the most vulnerable group for developing stroke. The stroke incidence is high in the age group of 50-70 years and above age. It is seen that 64.5% of the sufferers were in the age group ≥50 years and incidence increased with increasing age as depicted in the Bar graph. The mean in our study is 55.8years. It closely resembled Aiyar et al (3) study which showed mean age of affected person was 55.39 years.

Risk Factors

Smoking

Smoking and alcoholism in male population is high, which is not so common among female population. The influence of smoking and alcoholism on stroke incidence has to be studied in detail. Smoking appears as an important risk factor for ischemic stroke in this study. Thirty six patients (47%) were smoker among 34 stroke patients studied. The above study is correlating with Donnan et al, (10) where smoking was strongest risk factor causing ischemic stroke. In another study Kaul et al (11) observed 28% of stroke patients were smokers.

Alcohol

Near about 53% of the study subjects has history of alcohol intake, which was more in present study compared to other studies. In other studies 19% of the study participants were alcoholics (12). In another study it was found to be 6.5% (13).

Our study correlates with study by Naik M, Rauniyar R.K., Sharma U.K. et al (4) who found H/O alcohol intake in 30.5% of stroke patients. For cerebral infarction chronic heavy drinking and acute intoxication have been associated with an increased risk among young adults (14). In older adults risk is increased among heavy-drinking men. The deleterious effects of alcohol for stroke may occur through various mechanisms like hypertension, hypercoagulable states, and cardiac arrhythmias and reduces cerebral blood flow. The limitation of the study was that the daily quantity and the type of alcohol could not be specified. When the age advances, there is a significant association between the stroke incidence and risk factors like hypertension, smoking, alcoholism and dyslipidemia.

Hypertension

Hypertension was one of the major risk factor in the present study. In our study 47% of patients had hypertension which is higher to a study in which 30%(13).

Diabetes Mellitus

The present study findings showed that 32% of the study participants were diabetics. The present study findings were high compared with other study in which 17.3% were diabetic (18). When compared with non-diabetic patients stroke risk doubles in diabetes (19). In Framingham study 10 to 14% patients with stroke had diabetes. The higher prevalence seen in our study may be due to higher prevalence of diabetes in southern India from where most of the population under study hails. The data is in agreement with several other Indian studies. (20) From various studies it was concluded that strict control of blood pressure in diabetic patients will definitely reduce the incidence of stroke. (21)

CONCLUSION

Stroke is major public health problem which has a significant morbidities and mortalities. It is the third most common cause of death in adults Worldwide. Stroke occurs predominantly in males at late years of life. Several studies documented that systemic hypertension, diabetes mellitus, hyperlipidemia, ischemic heart disease, atrial fibrillation, smoking and long standing alcohol intake are contributing factors for stroke. The prevalence of risk factors varies in different population. However the minor differences in the prevalence of stroke risk factors in different communities are probably due to differences in culture, disease patterns, living habits and distribution of various ethnic groups. Various modifiable and non modifiable risk factors were studied and analysed in this study in this study.

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