

Original Article

Prevalence and Risk factors among Ischemic Stroke patients admitted in CAIMS Hospital, Karimnagar

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ABSTRACT

Background: Stroke is the second major cause of death worldwide.

Objective: The aim of the study was to analysis the prevalence and risk factors among ischemic stroke (IS) patients.

Methods: The study was a retrospective, record based study conducted at CAIMS Hospital, Karimnagar. A total of 70 ischemic patients were included in this study. The data were collected from entire medical records from January 2015 to December 2015.

Results: A total 70 subjects males 37(52.86%), and 33 (47.86%) females with ages ranged from (Mean \pm SE 60.28 \pm 1.64 years). In this study, Hypertension, Diabetes Mellitus, Smoking, Alcohol, Obesity, Cholesterol and CHD were considered as risk factor and were analyzed according to Age (50< years and 50 \geq Years and by Gender.

Conclusion: We concluded that hypertension was identified as an independent risk factor of stroke in 50< years. Compared to ischemic stroke in elderly alcohol use, smoking which are known risk factors were higher in elderly patients.

Keywords: Ischemic Stroke, Prevalence, risk factors, Hypertension

INTRODUCTION:

Stroke, is the first leading cause of death in India and worldwide, according to the recent report of the global relative burden of stroke. [1] Stroke burden has rising in India as compared to the developed countries where it has reached plateau or decreased. [2] Global burden of Disease study shows that of the 9.4 million deaths in India, 619,000 were due to stroke and disability adjusted life years (DALYs) lost were 28.5 million highlighting the fact that stroke leads to considerable mortality. [3] Another issue of concern that 20-30% of strokes occurs in people younger than 45 years and is more frequently seen in India compared to the west. [4]

Approximately, 12% of all strokes occur in the population <40 years of age. [5] From the current Indian population of about 1.2 billion, approximately 1.8 million people may suffer from stroke annually and about one third of them may die. [6]

The risk factors for stroke patients include ageing, hypertension, and diabetes, and smoking, history of cardiovascular disease, atrial fibrillation, and left ventricular hypertrophy. [7] This entails the issue of prevention and treatment of stroke serious attention for developing countries. The purpose of this study was to analysis of prevalence and risk factors among ischemic stroke patients in CAIMS Hospital, Karimnagar.

MATERIALS AND METHODS:

Study Design: The study design was a retrospective, record based study conducted at medical ward, Chalmeda Anand

Rao Institute of Medical Sciences, Karimnagar during form January 2015 to December 2015.

Sampling Size: A total 70 ischemic stroke patients included in this study.

Study Variables:

Hypertension: Blood pressure is 140 and 90 mm Hg or higher.

Diabetes Mellitus: Fasting plasma glucose is 126 mg/dl or higher, and or plasma glucose 2 h after 75 g glucose load is 200 mg/dl or higher. [8,9]

Hyperlipidemia: Serum cholesterol level is 220 mg/dl or higher and or triglyceride is 150 m/dl or higher.

Smoking: Heavy smokers with more than 20 cigarettes a day and light smokers with 20 or less cigarettes a day.

Alcohol use: Daily drinkers (more than four times a week) and occasional drinkers (less than three times a week).

Paresis: any distribution, including unilateral or bilateral effects on the limb or face. The diagnosis of stroke was confirmed by local neurologists and / or neurosurgeons based on the WHO definitions. Demographic data, a detailed history of pre-morbid risk factors were collected from medical records. The risk factors for stroke include hypertension, diabetes mellitus, cardiac problems, hyperlipidemia, smoking, alcohol use, these factors were noted. Conditions such as shock, hypertensive encephalopathy, chronic liver disease, and malignancy were excluded.

ETHICS APPROVAL: The study protocol was reviewed and approved by the Institute Ethics Committee, Chalmeda

Anand Rao Institute of Medical Sciences, Karimnagar. The informed consent was obtained from all participants.

STATISTICAL ANALYSIS: In this study, Hypertension, Diabetes Mellitus, Smoking, Alcohol, Obesity, Cholesterol and CHD were considered as risk factor and were analyzed according to Age (50 < years and 50 ≥ Years and by Gender. The recorded data were statistically analyzed for the percentage, Mean and Standard Error of all Variables. SPSS version 21.00 for windows, Graph Pad and Microsoft Excel was used for all statistical Analysis, the chi-square (with Yates corrections) were used as appropriate P<0.05 was considered as statistically significant.

RESULTS:

During the study, 70 Patients were identified. The age of incidence ranged from 25-85 years having Mean age was 60.28 ± 1.64 years. The Median age of stroke patients was 60 years. 74.29 % of patients were age 50 < Years and 25.71 % of patients were aged 50 ≥ Years (table 1). Hypertension was the most common risk factor in ischemic stroke (64.29%). Identified risk factors were hypertension (85.71%), diabetes mellitus (14.28%), smoking (49.71%), Alcohol (45.71%), obesity (17.14%), cholesterol (4.28%), and CHD (4.28%) shown table-2. It is shown that in Karimnagar, Alcohol consumption and smoking is maximum in Male (42.86%) than Female (2.86%), and it is also found that in adults Alcohol Consumption, and smoking (32.86%) is maximum than young generation (12.86%). On comparing the clinical features of presentation of young adults with that of elderly, it was found that dysphasia (47.14%) and aphasia (45.71%) is maximum in elderly person than young patients, while dysphasia (40%) and aphasia (37.14%) in male was maximum than Female. It also shown that out of 70 patients left side affected patients (57.14%) was maximum than right side affected Patients (41.43%), and only one patients (1.43%) affected on both the side who was male. 70 patients were admitted for mean 12.5±0.52 (mean±SD) days having median 12 days

Table 1: Baseline Characters of Study population

Variable	Character	Values
Age	Mean ± SE	60.28 ± 1.64
	Median	60
	Mode	70
	Range	60
Sex	Male	37(52.86%)
	Female	33(47.14%)

Table 2: Risk Factors of Ischemic stroke

Risk Factors	n = 70
Hypertension	60(85.71%)
Diabetes Mellitus	10(14.28%)
Smoking	32(45.71%)
Alcohol	32(45.71%)
Obesity	12(17.14%)
Cholesterol	3(4.28%)
CHD	3(4.28%)

Table 3: Risk Factors according to Age

Risk factors	Age < 50 years	Age ≥ 50 years	P value
Hypertension	45 (64.29%)	15 (21.43%)	0.737
Diabetes mellitus	6 (8.57%)	4 (5.71%)	0.264
Smoking	23 (32.86%)	9 (12.86%)	0.67
Alcohol	23 (32.86%)	9 (12.86%)	0.67
Obesity	11 (15.71%)	1 (1.43%)	0.249
Cholesterol	3 (4.29%)	0	0.714
CHD	3 (4.29%)	0	0.714

Table 4: Risk Factors according to Gender

Risk factors	Male	Female	P value
Hypertension	36(51.43)	24(34.29)	0.0033
Diabetes mellitus	6(8.57)	4(5.71)	0.883
Smoking	30(42.86)	2(2.86)	0.0001
Alcohol	30(42.86)	2(2.86)	0.0001
Obesity	4(5.71)	8(11.43)	0.13
Cholesterol	1(1.43)	2(2.86)	0.91
CHD	2(2.86)	1(1.43)	0.91

DISCUSSION:

The present study was a retrospective record based study to analyze for the prevalence, different risk factors in ischemic stroke patients. Among the non-modifiable risk factors age and gender were studied. The overall prevalence of stroke is higher in men than in women and increases with age in both sexes. [10] The majority of cases were elderly than young stroke patients admitted to the inpatients ward. However, the findings from this study were as males had a high blood pressure with advancing age, there was not statistically significant. In our study population, majority of patients were males (52.86%). In previous studies showed a sex ratio with female predominance in young stroke patients. Over the past few decades, the stroke prevalence rate has shown increasing trend in India 13 in 1970-350/100,000 in 2004. [11,12] It may be attributed to the increasing incidence of hypertension, DM, dyslipidemia, sedentary life style, change in dietary habits and lack of awareness regarding stroke risk factors.

In the present study showed, we found hypertension to be the major risk factor for this study 37(85.71%) (Table 2 & Graph 1). Hypertension affects millions of people worldwide and major risk factor in ischemic and intra-cerebral hemorrhage, Wolf 1999. [13] The higher the blood pressure, greater will be a stroke risk, Lewington et.al 2002. [14] Diabetes mellitus was recognized as the second most common risk factor for stroke, found in 10 patients (14.28%) but in this study they were not statistically significant. Cigarette smoking is a potential risk factor for ischemic stroke. Recent studies have identified smoking as risk factor for atherosclerosis of intracranial vessels, which if frequent cause of strokes. [15] In the present study showed that out of 37 males cases (47.71%) smoking and alcohol consumption were equal (47.71%) among patients with ischemic stroke. Lipska et al [16] study showed that key components of metabolic syndrome and smoking are

associated with ischemic stroke in south Indians. Many previous studies showed that the risk factors doubles for each successive decade after 55 years.^[17]

Alcohol consumption as a risk factor for stroke has also been reported by Manforte R et al.^[18] Rantkomi SH^[19] their study among eastern finish men also reported strong association between the frequency of alcohol consumption and stroke mortality. Some studies also showed that obesity and abdominal body fat distribution can be a strong predictor of stroke risk. In current study 12(17.4%) cases were categorized as obesity compared to male patients (5.71%) and 11.43% were female. In present study, 3(4.28%) subjects had lower level of cholesterol in their lipid profile. However in some studies like Carlo La et al^[20] blood cholesterol level did not show any relationship with stroke.

CONCLUSION:

In our study findings showed that hypertension was identified as an independent risk factor of stroke in 50< years. Compared to ischemic stroke, alcohol use, and smoking which are known risk factors were higher in elderly patients

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