Harsukh Educational Charitable Society
International Journal of Community Health and Medical Research
Journal home page:www.ijchmr.com doi: 10.21276/ijchmr

ISSN E: 2457-0117 **ISSN P:**2581-5040 **Index Copernicus** ICV 2017=57.10

Original Research

Evaluation of risk factors of stroke- A clinical study

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ABSTRACT
Background: Ischemic stroke is the most common type of stroke, accounting for more than three-fourth of all cases. The present study was conducted to assess the cases of stroke. **Materials & Methods:** The present study was conducted on 122 cases of strokes of both genders. Sociodemographic profile, individual vascular risk factors, medical history and clinical assessments were studied.
Results: Out of 122 patients, males were 82 and females were 40. TIA was seen in 28 males and 12 females, ischemia in 40 males and 8 females and hemorrhage in 14 males and 10 females. The difference was significant (P< 0.05). Common risk factors were previous stroke seen in 24, previous TIA in 12, IHD in 5, atrial fibrillation in 8, peripheral artery disease in 7, migraine in 4, diabetes mellitus in 6, hypertension in 36 and smoking in 20. **Conclusion:** Stroke is a leading cause of morbidity and mortality. Common types are TIA, ischemic and hemorrhagic.

Key words: hemorrhagic, ischemic, stroke

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This article may be cited as: Gautam DK, Sharma P, Mishra PK.Evaluation of risk factors of stroke- A clinical study.HECS Int J Comm Health Med Res 2019; 5(1):18-20.

INTRODUCTION

Stroke is a heterogeneous group of cerebrovascular diseases with a wide variety of phenotypes and underlying etiologies. Ischemic stroke is the most common type, representing more than 80% of all stroke cases. It has been defined as rapidly developing signs of focal or global disturbance of cerebral function with symptoms lasting for ≥24 hours, or leading to death with no apparent cause other than vascular origin.[1]

Factors such as lifestyles, associated risk factors, differences in study designs and stroke classification tools have shown different associations between ischemic subtypes and stroke risk factors. However, hypertension and diabetes mellitus were linked more to small vessel disease, whereas large artery atherosclerosis had a predilection for being associated with hyperlipidemia and smoking.[2]

It is a collection of clinical syndromes resulting from cerebral ischemia to intracranial hemorrhage. It is the 3rd most common cause of morbidity and mortality in the west. Some of the recent studies have elucidated the stroke pattern to considerable extent in our country with a prevalence rate of 471.58 per lakh population.[3]

Common symptoms of Acute Ischemic Strokeinclude hemiparesis, monoparesis or quadriparesis, hemisensory deficits, monocular or binocular visual loss, visual field defects, diplopia, dysarthria, facial droop, ataxia, vertigo, aphasia and sudden decrease in the level of consciousness. Conditions that may mimic stroke are bell's palsy, complicated migraine, conversion disorder/ psychogenic conditions, hypertensive encephalopathy, hypoglycemia, infection/abscess, seizures or tumor.[4] The present study was undertaken to assess the strokecases admitted to the General Medicine department of a tertiary care setup.

MATERIALS & METHODS

The present study was conducted in the department of General Medicine, Mayo Institute of Medical Sciences, Lucknow. It comprised of 122 cases of stroke of both genders. Ethical clearance of the Institutional Ethical Committee was taken prior to starting the study. Information pertaining to particulars of the subjects such as name, age, gender etc. were recorded. Sociodemographic characteristics, individual vascular risk factors, medical history and

clinical assessments were done. Patients of ischemic stroke were divided into subgroups. A stroke was considered ischemic if brain imaging revealed acute infarction or did not revealany evidence of hemorrhage. Results obtained were subjected further to statistical analysis. P value of <0.05 was considered to be significant.

RESULTS

Table I: Distribution of patients

Total- 122		
Gender	**Males**	**Females**
Number	82	40

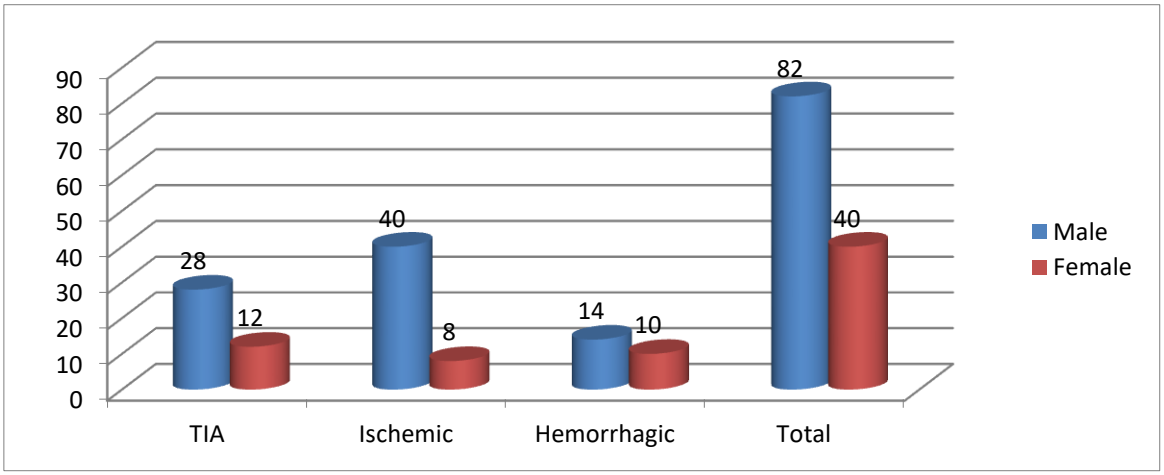
Table I shows that out of 122 patients, males were 82 and females were 40.

Table II: Type of stroke

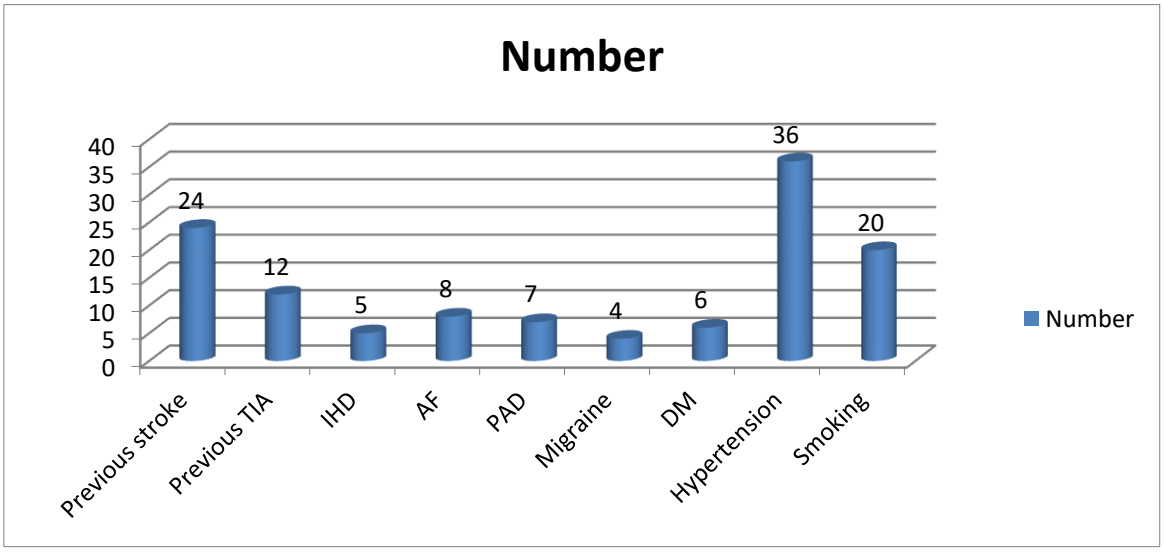
Type	Male	Female	P value
TIA	28	12	0.01
Ischemic	40	8	
Hemorrhagic	14	10	
Total	82	40	

Table II, graph I shows that TIA was seen in 28 males and 12 females, ischemic in 40 males and 8 females and hemorrhagic in 14 males and 10 females. The difference was significant (P< 0.05).

Graph I: Type of stroke



Graph II: Risk factors in patients



Graph II shows that common risk factors were previous stroke seen in 24, previous TIA in 12, IHD in 5, atrial fibrillation in 8, peripheral artery disease in 7, migraine in 4, diabetes mellitus in 6, hypertension in 36 and smoking in 20.

DISCUSSION

According to the definition proposed by the World Health Organization in 1970, "stroke is rapidly developing clinical signs of focal (or global) disturbance of cerebral function, with symptoms lasting 24 hour or longer, or leading to death, with no apparent cause other than of vascular origin." Recently, a new definition of stroke has been proposed by the American Stroke Association which is tissue based and states that "stroke is an episode of acute neurological dysfunction presumed to be caused by ischemia or hemorrhage, persisting ≥24 hours or until death." The clinical manifestations of stroke include a wide range of signs and symptoms such as paralysis, weakness, numbness, severe headache, slurred speech, mental status change, vision problems, falling and dizziness[5]. A stroke may be described as silent if it occurs without clinical features. In silent strokes, either a silent area of the brain is involved or symptoms remain inconspicuous. The present study was undertaken to assess the stroke cases admitted to the General Medicine department of a tertiary care center.We found that out of 122 patients, males were 82 and females were 40. In a recent study conducted in India, China and Latin-America, chronic diseases (stroke, heart disease, diabetes mellitus, chronic respiratory disease and malignancy) as a whole accounted for the majority of death among the elderly[5]. Individual Indian studies have estimated that the prevalence rates increase from 0.1-0.3/1000 in the <45-year age group to 12-20/1000 in the 75-84-year age group. In India stroke in younger people is high (18-32%) of all stroke cases, compared to high income countries. Indian men are more likely to have a stroke than their women counterpart: the male/female sex ratio for India is 7:1.8. It can be explained to be due to the differences in risk factors such as drinking and smoking which are more prevalent among men than women in our country[6].Chitrambalam et al[7] found that TIA was seen in 28 males and 12 females, ischemic in 40 males and 8 females and hemorrhagic in 14 males and 10 females. Common risk factors were previous stroke seen in 24, previous TIA in 12, IHD in 5, atrial fibrillation in 8, peripheral artery disease in 7, migraine in 4, diabetes mellitus in 6, hypertension in 36 and smoking in 20. Baijuet al[8] found that incidence of stroke in elderly (≥45 years) was than young (<45 years) patients with male predominance in both the groups. The most common presentation from both age groups was hemiplegia (75% in young vs. 72.1% in elderly). Common risk factors were hypertension and past history of CVD (25%) and smoking (16.6%) in young and hypertension (37.1%), dyslipidemia and smoking (14.3%) in elderly. The most common type of stroke in both age groups was ischemic (83.3% in young vs. 73.2% in elderly), followed by hemorrhagic. Common types of hemorrhage in both the young as well asthe elderly on the basis of site of bleed were lobar and thalamoganglionic. The most common site of infarction in both age group is MCA territory.Intracerebralhemorrhage is mostly caused by uncontrolled hypertension leading to rupture of small vessels. An 'avalanche type effect' results due to this rupture with breakage of nearby vessels resulting in expansion of hematoma in up to 40% of cases. Subarachnoid hemorrhage is mainly due to saccular aneurysms though it is also associated with arteriovenous malformation, intracranial neoplasm and some medications such as anticoagulants. About 65% of subarachnoid hemorrhage patients survive, but half remain disabled primarily due to severe cognitive deficit.[9]

CONCLUSION

Stroke is one of the leading causes of morbidity and mortality. Common types are TIA, ischemic and hemorrhagic.

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