



“CARDIOVASCULAR RISK FACTORS FOR ACUTE CEREBROVASCULAR STROKE”

Medicine

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ABSTRACT

Timely diagnosis and control of cardiovascular risk factors is a priority objective for adequate primary and secondary prevention of acute stroke. Hypertension, Smoking, dyslipidemia and diabetes mellitus are the most common modifiable risk factors for acute cerebrovascular events. This publication aims to present updated data on retrospective evaluation of cardiovascular risk factors in 100 patients of acute cerebrovascular stroke who were admitted in Smt. SCL municipal hospital from January 2020 to October 2020 with a primary diagnosis of stroke.

KEYWORDS

Cardiovascular risk factors, acute cerebrovascular stroke, Hypertension, Diabetes mellitus, Ischemic stroke.

INTRODUCTION:

A stroke is a sudden interruption in the blood supply of the brain. Most strokes are caused by an abrupt blockage of arteries leading to the brain (ischemic stroke). Other strokes are caused by bleeding into brain tissue when a blood vessel bursts (hemorrhagic stroke). Several very prevalent conditions potentiate the development of atherosclerosis. These conditions can affect almost all persons. The risk of stroke can be reduced if these factors are identified and controlled. Because these conditions are found in all segments of society, their treatment is crucial for an overall reduction in the incidence in stroke. Public health measures to screen and treat these risk factors can be applied to large segments of the general population. Because it is possible to detect some risk factors years before the development of symptomatic atherosclerosis, the effects of education to control risk factors will be greatest when applied to younger asymptomatic persons. The presence of multiple risk factors greatly increases the likelihood of stroke or generalized atherosclerosis. Thus, all common risk factors should be sought and addressed. Control of risk factors is as important for asymptomatic patients in the general population as it is for persons with overt vascular disease.

AIM:

- To evaluate the Cardiovascular risk factors in patients with Acute Cerebrovascular Stroke.
- To find out the prognosis of stroke with reference to risk factors.
- To identify the patients having modifiable risk factors so that preventive care can be taken to improve the prognosis and prevent recurrences.

MATERIALS AND METHODS:

Retrospective evaluation of data for 100 patients of acute cerebrovascular stroke who were admitted in Smt. SCL hospital, from January 2020 to October 2020 with a primary diagnosis of stroke.

1. INCLUSION CRITERIA:

- Patients with the all age group who are diagnosed
- Patients admitted in Smt. Shardaaben General Municipal Hospital, Ahmedabad.
- Both male and female patients.
- Symptoms and signs suggestive of acute loss of focal or global cerebral function.
- Evidence of ischemia or hemorrhage on CT scan of head.

2. EXCLUSION CRITERIA:

- Patients with any psychological disorders.
- Critically ill patients.
- Patients with focal epilepsy, migraine, and structural brain lesions.

RESULTS:

In the present study 100 cases of acute cerebrovascular stroke who met inclusion and exclusion criteria were analyzed.

Table 1: Sex Distribution:

	Total
Male	59
Female	41

In our study, results shows male patients are more affected than females.

Table 2: Age distribution

Age in years	Total	Male	Female
≤54	14	10	4
55-64	25	17	8
65-74	40	24	16
≥75	21	8	13

In our study, results shows that majority of patients with stroke are above 54 years of age.

Table – 3 : Risk factors observed in stroke patients

Risk factors	No. of patients
Hypertension	56
Dyslipidemia	32
Diabetes mellitus	31
Smoking	25
Atrial Fibrillation	22
Obesity (BMI≥30)	21
Alcohol	19
Ischaemic Heart Disease	19
Previous Cerebral Infraction	18
COPD	17
Hyperhomocystinemia	12
Left Ventricular dysfunction (LVEF ≤ 30)	9
Valvular Heart Diseases	9
Peipheral Vascular Diseases	5

Table-04 : Multiple risk factors and its outcome

	Total	≤54		55-64		65-74		≥75	
		No.	%	No.	%	No.	%	No.	%
No. of cases with risk factors >1	83	13	92.86	20	80	33	82.50	17	80.95
No. of cases with risk factors ≤ 1	17	01	07.14	05	20	07	17.50	04	19.05

Among 100 stroke patients, 83% patients are having more than one risk factors. Thus the presence of multiple risk factors greatly increases the likelihood of stroke or generalized atherosclerosis.

Table-05 : Cardiovascular risk Factors:

No. of Cardiovascular risk factors	Total number of cases
Zero	07

One	43
Two	28
More than two	22

Among above risk factors, Hypertension, Dyslipidemia, Hyperhomocysteinemia, Ischaemic Heart Disease, Atrial Fibrillation, Valvular Heart diseases, Left Ventricular Dysfunction and Peripheral Vascular Disease are considered to be cardiovascular risk factors. Those are discussed below according to age group.

43% patients are having one cardiovascular risk factor, 28% patients are having two cardiovascular risk factors and 22% patients are having more than two cardiovascular risk factors.

Table – 06 : Type of Stroke

Type of Stroke	Total no. of cases	≤54	55-64	65-74	≥75
		No.	No.	No.	No.
Cerebral Infraction	73	7	17	34	15
Cerebral hemorrhage	19	7	6	4	2
Cerebral infraction and hemorrhage	8	0	2	2	4

Table – 07 : Prognosis

	Total	≤54	55-64	65-74	≥75
		No.(%)	No.(%)	No.(%)	No.(%)
Death	14	0	3(12)	06(15)	05(23.8)
No recovery	20	2(14.3)	5(20)	06(15)	07(33.3)
Partial recovery	34	4(28.6)	9(36)	15(37.5)	06(28.6)
Complete Recovery	32	8(57.1)	8(32)	13(32.5)	03(14.3)
Total	100	14	25	40	21

Our results shows that mortality(14%) and morbidity increases with increased age. In 14 patients with age ≤54, 57% patients has complete recovery and there were no deaths. While in age ≥75, 23.8% patients died and only 14.3% has complete recovery.

Table – 08: Prognosis compared to Cardiovascular risk factors

	Total	No. of cases with no Cardiovascular risk factors (%)	No. of cases with one Cardiovascular risk factors(%)	No. of cases with two Cardiovascular risk factors(%)	No. of cases with more than two Cardiovascular risk factors(%)
Complete Recovery	32	5(71.4)	20(46.5)	07(25)	0
Partial recovery	34	2(28.6)	15(34.9)	09(32.1)	08(36.4)
No Recovery	20	0	07(16.3)	08(28.6)	05(22.7)
Death	14	0	01(2.3)	04(14.6)	09(40.9)
Total	100	07	43	28	22

Results shows that among 7 patients with no cardiovascular risk factors, 71.4% patients has complete recovery and no mortality occurs. While among 22 patients with more than two cardiovascular risk factors, 40.9% patients died and complete recovery is not seen in this patients.

SUMMARY

- In the present study males have a higher incidence of stroke when compared to females (Male : Female = 1.44:1).
- Majority of patients with stroke are above 54 years of age.
- Hypertension, dyslipidemia, diabetes mellitus, alcohol, smoking were the most commonly present risk factors in patients of stroke.
- Increasing age (>65 years) is associated with increased risk of stroke and also poorer prognosis.
- Majority of patients are having more than one risk factors. Thus the presence of multiple risk factors greatly increases the likelihood of stroke or generalized atherosclerosis.
- Multiple risk factors were associated with poorer prognosis.
- Patients with age ≤54 has either complete or partial recovery with no mortality while mortality and morbidity increases with increased age.
- 93% patient had one or more than one Cardiovascular risk Factors which are modifiable.

CONCLUSION

- Commonest modifiable risk factors for stroke are hypertension,

smoking, dyslipidemia, alcohol consumption, and diabetes mellitus.

- Commonest non-modifiable risk factors are increasing age and male sex.
- Prognosis depends on the number of risk factors present. Multiple risk factors are associated with poorer prognosis.
- Treatment or prevention of modifiable risk factors can reduce the mortality and morbidity of stroke.
- As the number of Cardiovascular risk factors increases mortality and morbidity increases.

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