Original Research Article

STUDY OF CLINICORADIOLOGICAL PROFILE OF CEREBROVASCULAR STROKE AND ITS OUTCOME AT TERTIARY CARE CENTRE

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A B S T R A C T

Background: The aim is to study the various clinico-radiological profile of cerebro-vascular stroke and various risk factors of cerebrovascular accident in a tertiary care center.

Materials and Methods: 100 patients enrolled in the study were subjected to a detailed clinical history and physical examination. Clinical history was obtained from the relatives when the patient is having speech disturbances, altered sensorium and loss of consciousness. An analytical approach was adopted to assess the risk factors, clinico-radiological profile and the outcome in patients with acute cerebrovascular disease.

Results: It is evident from the results that majority of patients do not having any symptoms and those were recovered also. The data subjected to statistical chi squared test reveals the highly existence of statistically significant association between physical conditions and outcome in patients with acute cerebrovascular disease (p value: 0.002). Almost a higher percentage of patients were having left MCA and right MCA and thosw recovered partially. The data subjected to statistical chi squared test reveals the existence of statistically significant association between lesion in CT Vessel and outcome in patients with acute cerebrovascular disease (p value: 0.022).

Conclusion: On the basis of our present study we can concluded that the elderly population is more commonly associated with stroke, with most common clinical features were hemiparesis, hemiplegia, vomiting, dizziness. CT being the most common radiological tool used for assessing the stroke patients. Almost a higher percentage of patients were having left MCA and right MCA and thosw recovered partially.

Keywords: Computed Tomography, Disability Adjusted Life Years, Recombinant Tissue Plasminogen Activator, Transient Ischemic Attack.

INTRODUCTION

Cerebrovascular diseases include some of the most common and devastating disorders: ischemic strokes, hemorrhagic stroke, and cerebrovascular anomalies such as intracranial aneurysm and cerebrovascular malformations. The incidence of cerebrovascular disease increases with age and the number of projected scores also increases with increasing age. Major risk factors associated are hypertension, hyperglycemia, tobacco use, and low hemoglobin levels. Association with newer risk factors like homocysteine, high-sensitivity C-reactive protein (hs-CRP), uric acid, and others is also known.[1]

Cerebral ischemia is caused by reduction in blood flow lasting for more than several seconds. If cessation of flow lasts for more than few minutes, infarction or death of brain tissue results. In India, community survey has shown a crude prevalence rate of hemiplegia 200 per 1 lac persons, nearly 1.5% of all urban hospital admissions, 4.5 % of all medical and 20% of neurological cases. Stroke incidence rises steeply with age; stroke in young is less common as compared to older but is of great concern due

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associated mortality and morbidity. Stroke is second most common cause of disability and dementia in adults > 65 years worldwide; close to 25% stroke survivors develop dementia. Thus stroke is an important cause of morbidity and long term disability.[2]

Recent study identified that 7% of medical and 45% of neurological admissions are due to stroke with a fatality rate of 9% at hospital discharge and 20% by 28 days. Diabetes mellitus, Hypertension, smoking, dyslipidemia and alcoholism, are the commonest cause of stroke. Ischemic strokes are contributing 50%-85% of all strokes worldwide and hemorrhagic strokes may be due to subarachnoid hemorrhage or intra-cerebral hemorrhage accounting for 1%-7% and 7%-27% respectively of all strokes worldwide.[3]

However, it is believed that the average age of patients with stroke in developing countries is 15 years younger than that in developed countries. Indian studies have shown that about 10–15% of strokes occur in people below the age of 40 years. In India, nearly one fifth of patients with first ever strokes admitted to hospitals are aged <40 years. Higher proportions of younger individuals are affected in India compared to developed countries. Ischemic stroke is the most common subtype followed by embolic stroke and 21–48% of stroke.[4]

CT scan is a widely available non-invasive radiological investigation in patients with stroke. It is the modality of choice as an initial investigation in patients with stroke. The purpose of CT is to differentiate ischaemic stroke from haemorrhagic and to rule out other pathological conditions like tumour, which may present as stroke.[5]

The purpose of CT is to differentiate ischaemic stroke from ICH and to rule out other pathological processes such as tumour, which may present as stroke. The reasons for the greater burden of stroke in Eastern Asian population remain unclear and direct reliable evidence about the determinants of stroke in this region is therefore needed. For further management and initiation of appropriate treatment, it is essential to differentiate strokes from non-ischemic strokes i.e., intracerebral haemorrhage, subarachnoid haemorrhage and venous thrombosis. In addition, radiographic imaging techniques are helpful in classifying subtypes of ischemic strokes due to emboli, stenosis or thrombosis of large vessels, small vessel disease, or other pathological conditions.[6]

With the above background present study was conducted to study the clinic radiological profile of stroke in the study subjects. Presently, prevention of stroke is the best option considering the Indian scenario through control and/or avoiding risk factors of stroke. Clinical and radiological profile of the study subjects of stroke is important to study. There is paucity of information on stroke especially in this part of India. Therefore this study was undertaken to find out the clinic-radiological profile of different types of strokes and the associated risk factors, outcome and to establish the role of different investigations in patients of stroke.

MATERIALS AND METHODS

A Prospective Observational Study in Department Of General Medicine, South central railway hospital, Lalguda, secundrabad. All the patients presenting with acute stroke during the study period, who met the inclusion criteria and also who were willing to participated from January 2021 to March 2022

Inclusion Criteria

All patients presenting with signs and symptoms suggestive of new onset stroke above the age of 20 years, which was also confirmed by radiological studies.

Exclusion Criteria

Todd's palsy, Head injury, Infective etiology, Metastatic etiology, Recurrent stroke and Pre-existing severe physical or cognitive disability

Sample size: We calculate the sample size as per the prevalence of cerebrovascular stroke in india . As per the previous studies the prevalence of cerebrovascular stroke was 31-424 per lakh (as per the study by khurana S et al),[7] considering it as 1%, the maximum error in the estimate we are willing to tolerate, say ± 5 %, at 2-sided test with 95% confidence level (α=5%) and design effect =1, expected sample size is 16 patients. Considering loss to follow-up and to increase the power of study we increase it to 100, so total sample size taken were 100.

Formulas: Following formulas are used to compute sample size n = deff* Npq /(d2 /z2 *(N-1)+pq) n is sample size deff is design effect N is population size P is estimated prevalence q= 1-p d = absolute level of precision ere

Methodology: The patients enrolled in the study were subjected to a detailed clinical history and physical examination. Clinical history was obtained from the relatives when the patient is having speech disturbances, altered sensorium and loss of consciousness. An analytical approach was adopted to assess the risk factors, clinico-radiological profile and the outcome in patients with acute cerebrovascular disease.

Data collected from 100 selected subjects was internally compared and statistically analysed by using descriptive and inferential statistics based on the formulated objectives of the study. The following investigations were carried out as routine as Complete blood count, Renal function test, Fasting and postprandial sugars, Fasting lipid profile, Urine examination, Electrocardiogram, 2D ECHO, Computed tomography (CT brain) and MRI brain (if required).

Besides detailed medical history and clinical examination, Cranial CT Scan (plain) was done in all the cases in emergency hours immediately. Adults of more than 18 years' age with hemispheric symptoms such as, hemiplegia, aphasia, hemianopia and with acute stroke of less than 12 hours' duration for CTP and more than 12 hours' duration for CT angiography were included in the study.

The outcome will be studied during the hospital stay or at the time of discharge. Outcome assessed by patient general condition and CNS examination as Complete recovery (with no sequelae), Partial recovery (moderate sequelae) and Death.
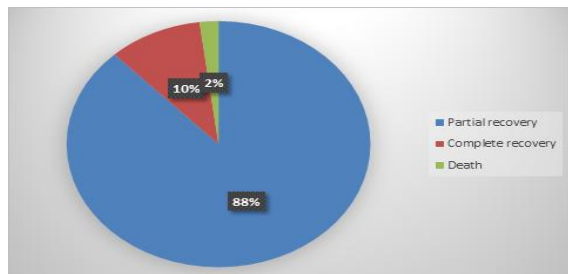
88 percent recovered partially, 10 percent recovered completely during the hospital stay and 2 percent patients died in the hospital.

RESULTS

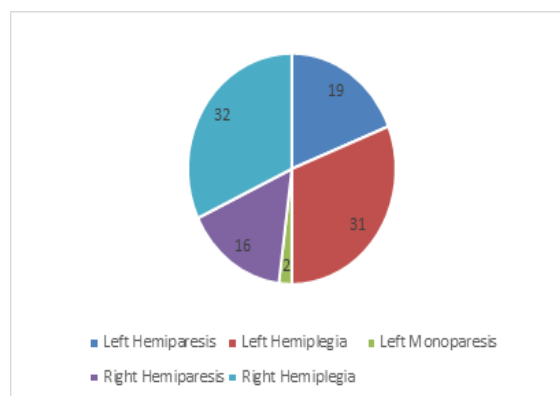**Figure 1: Table represent the final outcome of the study subjects**

Figure 2: Percentage of clinical history of the patients

Table 1: Association of age group of the patients with prognosis history of the study subjects after stroke

Prognosis history		Prognosis history			Total
		Partial recovery	Complete recovery	Death	
<=40	N	5	0	0	5
	%	5.7%	0.0%	0.0%	5.0%
41-50	N	4	1	0	5
	%	4.5%	10.0%	0.0%	5.0%
51-60	N	27	6	1	34
	%	30.7%	60.0%	50.0%	34.0%
61-70	N	39	2	0	41
	%	44.3%	20.0%	0.0%	41.0%
>70	N	13	1	1	15
	%	14.8%	10.0%	50.0%	15.0%
Total	N	88	10	2	100
	%	100.0%	100.0%	100.0%	100.0%
Chi square (P value)	7.677 (0.466)				

Majority of the patients suffering from stroke belongs to elderly age group (41 percent from 61 to 70 years and 15 percent from more than 70 years age). The chi square test is done to find out the association between these two which shows that the result is not significant (p value: 0.411).

Table 2: Association of sex of the patients with prognosis history of the study subjects after stroke

Sex		Prognosis history			Total
		Partial recovery	Complete recovery	Death	
Female	N	41	5	0	46
	%	46.6%	50.0%	0.0%	46.0%
Male	N	47	5	2	54
	%	53.4%	50.0%	100.0%	54.0%
Total	N	88	10	2	100
	%	100.0%	100.0%	100.0%	100.0%
Chi square (P value)	1.780 (0.411)				

History of the patients after stroke which shows that equal percentage of male and female has recovered completely. More male patients have recovered partially than female and both deaths are male patients. The chi square test is done to find out the association between these two which shows that the result is not significant (p value: 0.411).

Table 3: Association of clinical history of the patients with prognosis history of the study subjects after stroke

Clinical history		Prognosis history			Total
		Partial recovery	Complete recovery	Death	
Left Hemiparesis	N	14	4	1	19
	%	15.9%	40.0%	50.0%	19.0%
Left Hemiplegia	N	29	2	0	31
	%	33.0%	20.0%	0.0%	31.0%
LEFT MONOPARESIS	N	2	0	0	2
	%	2.3%	0.0%	0.0%	2.0%

		Partial recovery	Complete recovery	Death	Total
Right Hemiparesis	N	14	2	0	16
	%	15.9%	20.0%	0.0%	16.0%
Right Hemiplegia	N	29	2	1	32
	%	33.0%	20.0%	50.0%	32.0%
Total	N	88	10	2	100
	%	100.0%	100.0%	100.0%	100.0%
Chi square (p value)		6.265 (0.618)			

It is evident from the results that majority of the subjects were diagnosed hemiparesis (both right and left side) in complete recovery group (40 percent and 20 percent). The data subjected to statistical chi squared test reveals the non-existence of statistically significant association between diagnosis made and outcome in patients with acute cerebrovascular disease (p value: 0.618).

Table 4: Association of numbness of the patients with prognosis history of the study subjects after stroke

Numbness		Prognosis history			Total
		Partial recovery	Complete recovery	Death	
No	N	86	7	2	95
	%	97.7%	70.0%	100.0%	95.0%
Yes	N	2	3	0	5
	%	2.3%	30.0%	0.0%	5.0%
Total	N	88	10	2	100
	%	100.0%	100.0%	100.0%	100.0%
Chi square (p value)		14.641 (0.001)			

It is evident from the results that majority of patients who have either partial or complete recovery did not have numbness but the two deaths among patients were having numbness. The data subjected to statistical chi squared test reveals the highly existence of statistically significant association between numbness and outcome in patients with acute cerebrovascular disease (p value: 0.001).

Table 5: Association of conditions of the patients with prognosis history of the study subjects after stroke

| Conditions		Prognosis history			Total
		Partial recovery	Complete recovery	Death	
Diziness	N	10	0	0	10
	%	11.4%	0.0%	0.0%	10.0%
Headache	N	2	1	0	3
	%	2.3%	10.0%	0.0%	3.0%
Hedache and vomiting	N	0	1	0	1
	%	0.0%	10.0%	0.0%	1.0%
Headache, vomiting and diziness	N	1	1	1	3
	%	1.1%	10.0%	50.0%	3.0%
None	N	62	7	1	70
	%	70.5%	70.0%	50.0%	70.0%
Vomiting	N	4	0	0	4
	%	4.5%	0.0%	0.0%	4.0%
Vomiting and diziness	N	9	0	0	9
	%	10.2%	0.0%	0.0%	9.0%
Total	N	88	10	2	100
	%	100.0%	100.0%	100.0%	100.0%
Chi square (p value)		31.481 (0.002)			

The data subjected to statistical chi squared test reveals the highly existence of statistically significant association between physical conditions and outcome in patients with acute cerebrovascular disease (p value: 0.002).

Table 6: Association of deviation of angles of the patients with prognosis history of the study subjects after stroke

Deviation of angles		Prognosis history			Total
		Partial recovery	Complete recovery	Death	
Left	N	19	1	0	20
	%	21.6%	10.0%	0.0%	20.0%
None	N	51	6	1	58
	%	58.0%	60.0%	50.0%	58.0%
Right	N	18	3	1	22
	%	20.5%	30.0%	50.0%	22.0%
Total	N	88	10	2	100
	%	100.0%	100.0%	100.0%	100.0%
Chi square (P value)		2.140 (0.710)			

Table 10 shows the association of deviation of angles within the patients with prognosis history of the study subjects after stroke. The data subjected to statistical chi squared test reveals the highly non -existence of statistically significant association between deviation of angles and outcome in patients with acute cerebrovascular disease (p value: 0.710).
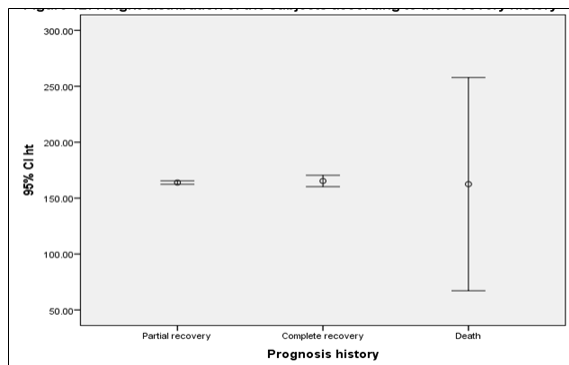
Figure 3: Height distribution of the subjects according to prognosis history

The ANOVA test was done to compare the mean square value among these three groups with p value 0.181 which shows no significant difference between the groups under mean value of height.
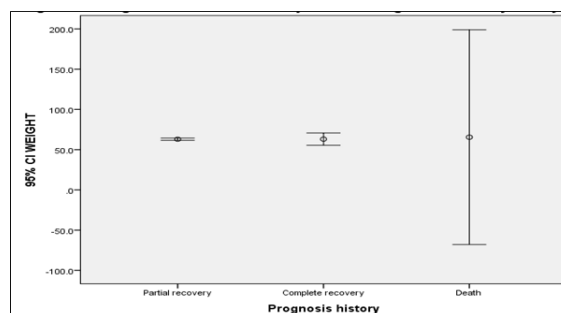
Figure 4: Weight distribution of the subjects according to prognosis history

The ANOVA test was done to compare the mean square value among these three groups with p value 0.181 which shows no significant difference between the groups under mean value of weight.

Table 7: BMI categories of the subjects by their prognosis history

BMI		Prognosis history			Total
		Partial recovery	Complete recovery	Death	
Underweight	N	2	1	0	3
	%	2.3%	10.0%	0.0%	3.0%
Normal	N	67	6	1	74
	%	76.1%	60.0%	50.0%	74.0%
Overweight	N	17	1	1	19
	%	19.3%	10.0%	50.0%	19.0%
Obese	N	2	2	0	4
	%	2.3%	20.0%	0.0%	4.0%
Total	N	88	10	2	100
	%	100.0%	100.0%	100.0%	100.0%
Chi square (p value)	10.90 (0.091)				

[Table 7] shows the association of BMI within the patients with prognosis history of the study subjects after stroke. Those who recovered either completely or partially are from normal BMI groups. The data subjected to statistical chi squared test reveals the highly non -existence of statistically significant association between BMI and outcome in patients with acute cerebrovascular disease (p value: 0.091).

Table 8: Location of lesion in CT Vessel Territory by prognosis history

Location of lesion in CT vessel territory					
		Prognosis history			Total
		Partial recovery	Complete recovery	Death	
Lacunar in right frontal lobe/aca infarct	N	0	1	0	1
	%	0.0%	10.0%	0.0%	1.0%
Lacunar infarct right thalamus/parieto occipital/pca infarct	N	0	1	0	1
	%	0.0%	10.0%	0.0%	1.0%
LEFT ACA	N	2	1	0	3
	%	2.3%	10.0%	0.0%	3.0%
LEFT MCA	N	35	1	0	36
	%	39.8%	10.0%	0.0%	36.0%
LEFT PCA	N	2	0	0	2
	%	2.3%	0.0%	0.0%	2.0%
MULTI LACUNAR	N	1	0	0	1
	%	1.1%	0.0%	0.0%	1.0%
MULTI LUCUNAR	N	1	0	0	1
	%	1.1%	0.0%	0.0%	1.0%
RIGHT ACA	N	2	0	0	2
	%	2.3%	0.0%	0.0%	2.0%
RIGHT ACA+MCA	N	2	0	0	2
	%	2.3%	0.0%	0.0%	2.0%
RIGHT MCA	N	29	1	1	31
	%	33.0%	10.0%	50.0%	31.0%
RIGHT MCA+PCA	N	2	0	0	2

		2.3%	0.0%	0.0%	2.0%
RIGHT PCA	N	0	1	0	1
	%	0.0%	10.0%	0.0%	1.0%
OTHERS	N	12	4	1	17
	%	13.6%	40.0%	50.0%	17.0%
TOTAL	N	88	10	2	100
	%	100.0%	100.0%	100.0%	100.0%
Chi square (p value)	39.90 (0.022)				

Almost a higher percentage of patients were having left MCA and right MCA and thosw recovered partially. The data subjected to statistical chi squared test reveals the existence of statistically significant association between lesion in CT Vessel and outcome in patients with acute cerebrovascular disease (p value: 0.022).
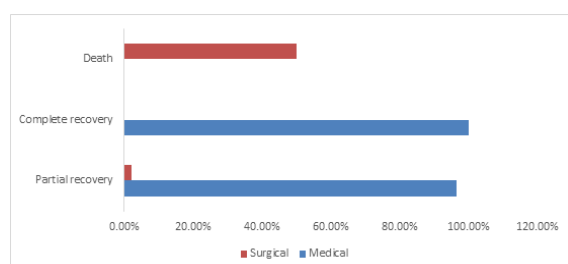
Figure 5: Type of treatment by prognosis history

Out of those who recovered partially, 85 were having medical treatment and 3 patients were undergone surgery. 2 patients underwent surgical procedure were both dead. The data subjected to statistical chi squared test reveals the existence of statistically significant association between type of treatment and outcome in patients with acute cerebrovascular disease (p value: 0.000).

DISCUSSION

The final outcome of the study subjects going through cerebrovascular stroke in the present study found that 88 percent recovered partially, 10 percent recovered completely during the hospital stay and 2 percent patients died in the hospital. Narayan D et al,[8] the mean hospital stay was 16.1 days. In-hospital mortality was noted in 33 (7.7%) patients. Death in all cases was caused by raised intracranial pressure leading to cerebral herniation in the acute phase and also due to underlying complications like septicemia. At 90 days information on 416/428 patients (97%) was available. Two hundred and twenty-six (52.8%) patients became normal, 47 (10.9%) patients became functionally independent, and 110 (25.7%) remained dependent at the end of 3 months.

The age distribution of the study subjects among which about 5 percent patients belong to less than 40 years of age group and majority were from the 51 to 60 years of age groups. Majority of the patients suffering from stroke belongs to elderly age group (41 percent from 61 to 70 years and 15 percent from more than 70 years age) in the present study. Age is the most common non modifiable risk factor for the development of stroke. In the study done by Patel V

et al,[2] most of the patients 30.4% were belonging to 55-64 years followed by 23.9%in 65-74 and 45-54 years age group equally. Among the patients, youngest patient was 27 years old and oldest patient was 85 years old. The mean age was 55.52+12.61 years. Our study correlates well with vivek jain et al,[9] study. Haemorrhagic stroke is the commonest occurrence in the study done by Narayan Mahanta B et al,[10] the incidence of ICH was highest in the age group 51–60 years (49% of the patients) in the present study there was no significant gender difference observed. In Strorhaug et al,[11] study, a large study has demonstrated an independent association of serum uric acid with cerebrovascular storke in patients age> 45 years regardless of sex, presence of CV Disease or race. The association of age group with the history of the patients after stroke which shows that young patients were mostly recovered partially whereas the death occurred in the elderly age group (more than 60 years) and the association between these two which shows that the result is not significant in the present study.

The association of sex with the history of the patients after stroke which shows that equal percentage of male and female has recovered completely. More male patients have recovered partially than female and both deaths are male patients and the association between these two which shows that the result is not significant in the present study. Patel V et al,[2] study out of 46 patient, maximum numbers of patients were in 55-64 years (30.4%) of age with male predominance (52%) was observed. Jain D et al,[9] the incidence of stroke was higher in males as compared to females in the study. The decreased frequency of stroke in females may be due to fewer incidences of other risk factors in females such as hypertension, smoking and alcohol intake. Shah et al. also found stroke in 64.7% cases with male preponderance; however they found first attack of stroke cases more in sixth and seventh decade of life.

The clinical history of the study subjects in the present study out of total subjects, 19 percent having Left Hemiparesis, 31 percent having Left Hemiplegia, 16 percent having right Hemiparesis and 32 percent having right hemiplegia and 2 percent having left monoparesis. In study by Patel V et al,[2] motor weakness in the form of hemiplegia with upper motor neuron facial paresis was the most common symptom. Right hemiplegia was the commoner one, seen in 56.5% followed by left hemiplegia. Putaala et al,[12] studied 1008 ischemic stroke patients reported that incidence of right hemiplegia was 60%. Punna S et al,[13] majority of the patients presented with hemiparesis (75.48%), whereas 5.8% with

hemiplegia. Various other presentations observed were upper motor neuron (UMN) type of facial palsy (19.35%), followed by aphasia (5.8%), seizures (3.87%), and blurring vision (1.93%). In studies by Kaur S et al,[14] the commonest presenting symptom was hemiparesis in 70.4%, 49.3% and 45% respectively. Clinical history of the patients with prognosis history of the study subjects after stroke. It is evident from the results that majority of the subjects were diagnosed hemiparesis (both right and left side) in complete recovery group (40 percent and 20 percent) and statistically significant association between diagnosis made and outcome in patients with acute cerebrovascular disease was seen in the present study.

The physical condition of patients which they are suffering the result shows that 70 percent do not having any condition but 10 percent are suffering from dizziness followed by vomiting. Suthar N N et al,[15] study occurrence of a headache (41%), vomiting (39%), and seizures (17%) were comparable with other similar studies. Narayan D. et al,[8] headache, vomiting, and seizures were the most common clinical features found in 378 (88.3%), 298 (69.6%), and 171 (39.9%) patients, respectively.

The association of physical conditions within the patients with prognosis history of the study subjects after stroke. It is evident from the results that majority of patients do not having any symptoms and those were recovered also and the highly existence of statistically significant association between physical conditions and outcome in patients with acute cerebrovascular disease. Awati M A et al,[16] clinical findings like fever, headache, vomiting, hemiparesis, hemiplegia, cranial nerve weakness, papilledema, blurring of vision, high blood pressure, high blood sugars, seizures or any focal deficits where noted and analyzed in their study. Mahanta N B et al,[10] Change in consciousness was presenting 257 (77.1%) cases, while 193 (42.9%) had no change of consciousness. Altered speech was present in 138 (30.7%) cases, weakness of face/limb in 294 (65.3%) cases, while dysphagia was present in 5(1.1%). Ocular/visual symptoms were found in 33(7.3%) cases, vertigo/ataxia was evident in 16(3.6%) and sensory symptoms were present in 69 (15.3%) cases. Headache was complained by 149 (33.1%) cases. Suthar et al,[15] the occurrence of a headache (41%), vomiting (39%), and seizures (17%) were comparable with other similar studies. The association of deviation of angles within the patients with prognosis history of the study subjects after stroke and the highly non -existence of statistically significant association between deviation of angles and outcome in patients with acute cerebrovascular disease.

In the present study majority (75 percent) does not have any habits taken within them but 14 percent co smoking and alcohol, 6 percent only takes alcohol followed by smoking (4 percent). Although the habit of smoking was low among the cases in the study done by Punna S et al., almost half of them were alcoholics. However, most of the studies like Jebasingh Y K et al,[17] had a lower history of alcoholism in their cases. The study done by Abbasi and Ali et al,[18] a slightly lower number of smokers were reported in some other studies. Jebasingh and Sivanesan et al,[17] reported a higher percentage of smokers. the study done by Renjen et al,[20] in which 38.9% had tobacco use, but it was more in the studies done by Nagaraja et al Alcohol use was observed in 27.5% of males and analysis revealed statistically significant association between additive effect of smoking + consuming alcohol and outcome in patients with acute cerebrovascular disease.

The minimum height of the patient was 142 years and the maximum age was 176 years. The mean height of subjects was 163.92 in partial recovery group, 165.30 in complete recovery group respectively and 162.50 among those who were dead and shows no significant difference between the groups under mean value of height. The minimum weight of the patient was 49 kgs and the maximum age was 79 kgs. The mean weight of subjects was 62.98 in partial recovery group, 63.10 in complete recovery group respectively and 65.50 among those who were dead and shows no significant difference between the groups under mean value of weight.

Tholen ATR et al,[21] studies also shows the non-significant difference between the groups under mean value of height and weight in their study.

The association of BMI within the patients with prognosis history of the study subjects after stroke. Those who recovered either completely or partially are from normal BMI groups and statistically significant association between BMI and outcome in patients with acute cerebrovascular disease. Kuriakose et al,[22] revealed 20.3% had normal BMI. Obesity was observed in 4.0% of patients in the present study while it was higher in the study done by Kuriakose et al,[22] (41.5%). But the results revealed insignificant association between BMI distribution and outcome in patients.

The location of lesion in CT Vessel Territory by prognosis history of the study subjects. Almost a higher percentage of patients were having left MCA and right MCA and thosw recovered partially and the existence of statistically significant association between lesion in CT Vessel and outcome in patients with acute cerebrovascular disease. Patel V et al,[2] majority 32.6 % patients were affected in MCA territory, followed by 23.9 % PCA territory followed by 19.5 % infarct in thalamus followed by 13% in internal capsule while 8.6 % and 2.2 % seen in both caudate nucleus and cerebellum. Kumar G et al,[23] study shows statistically significant association between lesion in CT Vessel and outcome in patients with acute cerebrovascular disease. The study done by Nag et al,[24] in which majority had MCA territory involvement (50.8%). Data analysis revealed increased incidence of MCA involvement in recovery groups (complete and partial) compared to death group and increased incidence of PICA/PCA involvement in death group compared to recovery

groups. The studies like Nag et al,[24] the ventricular extension depends on the location of the hematoma and the size and per se does not carry a poor prognosis.

The type of treatment by prognosis history of the study subjects. Out of those who recovered partially, 85 were having medical treatment and 3 patients were undergone surgery. 2 patients underwent surgical procedure were both dead and the existence of statistically significant association between type of treatment and outcome in patients with acute cerebrovascular disease. Mendelow A D et al,[25] surgical interventions early in the course of illness may change the course of illness. A small clinically relevant advantage has been noted by surgical trial in the intracerebral hemorrhage-II study when the early surgical intervention has been done in these cases of ICH.

CONCLUSION

On the basis of our present study we can concluded that the elderly population is more commonly associated with stroke, with most common clinical features were hemiparesis, hemiplegia, vomiting, dizziness. CT being the most common radiological tool used for assessing the stroke patients. Almost a higher percentage of patients were having left MCA and right MCA and thosw recovered partially. The data subjected to statistical chi squared test reveals the existence of statistically significant association between lesion in CT Vessel and outcome in patients with acute cerebrovascular disease (p value: 0.022).

Age, gender, associated medical conditions, height, weight and BMI had no statistically significant role to play on deciding the outcome in patients with acute cerebrovascular disease. However there is various factors like associated medical conditions, associated physical conditions, numbness, type of territory involved on CT Scan had significant associations with the outcome of study subjects.

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