

# A study of clinical profile and factors associated of cerebro-vascular stroke

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## Abstract

**Background:** Stroke or Cerebrovascular diseases include some of the most common and devastating disorders: ischemic stroke, hemorrhagic stroke, and cerebrovascular anomalies such as intracranial aneurysms and Arteriovenous Malformations (AVMs). **Aims and Objectives:** to Study clinical profile and factors associated of Cerebro-vascular stroke. **Methodology:** This was a hospital based cross-sectional study in the patients admitted with cerebrovascular accidents (CVA) at the department of Medicine of a tertiary health care centre during the one year period i.e. January 2016 to January 2017. During the one year period there were 44 patients admitted these patients under gone through clinical and anthropometric examination and investigations like MRI/ CT Brain, CBC, and other routine investigations. **Result :** The majority of the patients were in the age group of >80 were 29.55%, followed by 60-70 - 25.00%, 50-60 were 20.45%, 40-50 were 15.91%, 30-40 were 9.09%. The majority of the patients were Male i.e. 61.36 and Females were 38.64. The majority of the patients were having Embolic i.e. 34.09%, Thrombotic - 27.27%, Hemorrhagic - 20.45%, Cortical venous sinus thrombosis (CVTS) in 18.18% type of the stroke. The majority of the patients complained of Headache in 94%, Slurred words and difficulty understanding speech in 90%, Numbness, weakness or paralysis in face, arm or leg etc. In 80% trouble with seeing in one or both eyes in 60%, Trouble with walking in 50% of the patients. The majority of the patients associated with Age > 50 were 75.00 %, followed by K/C/O Diabetes in 56.82%, followed by Obesity (BMI >30) in 47.73%, K/C/O Hypertension in 43.18%, H/O Smoking in 38.64%, H/O Alcohol intake in 27.27%, Hyper-lipidemia in 20.45%. **Conclusion:** It can be concluded from our study that majority of the associated factors were Age > 50, Diabetes, Obesity (BMI >30), Hypertension, Smoking, Alcohol intake, Hyperlipidemia. **Key Words:** Cerebro-vascular stroke (CVA), Obesity (BMI >30), Risk factors of Stroke, Hyperlipidemia.

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## INTRODUCTION

Stroke or Cerebrovascular diseases include some of the most common and devastating disorders: ischemic stroke, hemorrhagic stroke, and cerebrovascular anomalies such as intracranial aneurysms and Arteriovenous

Malformations (AVMs). Most cerebrovascular diseases manifest by the abrupt onset of a focal neurologic deficit, as if the patient was “struck by the hand of God.” According to the Global Health Observatory (GHO), stroke is the second most common cause of death during last decade (2000-2011) with a rising trend<sup>1</sup>. A stroke, or cerebrovascular accident, is defined by this abrupt onset of a neurologic deficit that is attributable to a focal vascular cause<sup>2</sup>. Thus, the definition of stroke is clinical, and laboratory studies including brain imaging are used to support the diagnosis. The clinical manifestations of stroke are highly variable because of the complex anatomy of the brain and its vasculature. The effects of stroke can vary enormously, depending on the area of brain that has been damaged and the extent of the damage. Clinical Features varies from paralysis communication difficulties (problems with speaking,

reading, writing and understanding) difficulties with mental processes, such as learning, concentration and memory. Some patients can present with visual disturbances, urinary incontinence, swallowing difficulties and emotional problems etc. It can take time for the full implications of a stroke to sink in. It has physiological, economical and psychological impact on the patients<sup>3</sup>. Stroke ranks first amongst all CNS diseases both in frequency and gravity. Approximately 20 million people each year suffer from stroke and of these 5 million do not survive<sup>4</sup>. Older population based studies in India conducted in Vellore and Rohtak quoted annual incidence of Stroke as 13 per lac and 33 per lac persons respectively<sup>5,6</sup>. Strokes form nearly 1.5% of all hospital admissions, 4.5% of all medical and 20% of neurological cases<sup>7</sup>. Although stroke is considered to be the disease of older population, the with demographic shift the disease incidence is shifting to younger age group. It is not infrequent among adolescent and young adults (Age 15-45 yrs).

## MATERIAL AND METHODS

This was a hospital based cross-sectional study in the patients admitted with cerebrovascular accidents (CVA) at the department of Medicine of a tertiary health care centre during the one year period i.e. January 2016 to January 2017. During the one year period there were 44 patients admitted these patients under gone through clinical and anthropometric examination and investigations like MRI/ CT Brain, CBC, and other routine investigations. All details of the patients like Age, sex, clinical features and associated factors if any were recorded. The data was presented in the tabular form and expressed in percentages.

## RESULT

**Table 1:** Distribution of the patients as per the age

Age	No.	Percentage (%)
30-40	4	9.09
40-50	7	15.91
50-60	9	20.45
60-70	11	25.00
>80	13	29.55
<b>Total</b>	<b>44</b>	<b>100.00</b>

The majority of the patients were in the age group of >80 were 29.55%, followed by 60-70 25.00%, 50-60 were 20.45%, 40-50 were 15.91%, 30-40 were 9.09%.

**Table 2:** Distribution of the patients as per the sex

Sex	No.	Percentage (%)
Male	27	61.36
Female	17	38.64
<b>Total</b>	<b>44</b>	<b>100.00</b>

The majority of the patients were Male i.e. 61.36 and Females were 38.64.

**Table 3:** Distribution of the patients as per the type of stroke

Type	No.	Percentage (%)
Embolic	15	34.09
Thrombotic	12	27.27
Hemorrhagic	9	20.45
Cortical venous sinus thrombosis (CVTS)	8	18.18
<b>Total</b>	<b>44</b>	<b>100.00</b>

The majority of the patients were having Embolic i.e. 34.09%, Thrombotic - 27.27%, Hemorrhagic - 20.45%, Cortical venous sinus thrombosis (CVTS) in 18.18% type of the stroke.

**Table 4:** Distribution of the patients as per the clinical features

Complains	No.	Percentage (%)
Headache	41	94%
Slurred words and difficulty understanding speech	40	90%
Numbness, weakness or paralysis in face, arm or leg etc.	35	80%
Trouble with seeing in one or both eyes	26	60%
Trouble with walking	22	50%

The majority of the patients complained of Headache in 94%, Slurred words and difficulty understanding speech in 90%, Numbness, weakness or paralysis in face, arm or leg etc. In 80% trouble with seeing in one or both eyes in 60%, Trouble with walking in 50% of the patients.

**Table 5:** Distribution of the patients as per the associated factors

Associated factors	No.	Percentage (%)
Age > 50	33	75.00
K/C/O Diabetes	25	56.82
Obesity (BMI >30)	21	47.73
K/C/O Hypertension	19	43.18
H/O Smoking	17	38.64
H/O Alcohol intake	12	27.27
Hyperlipidemia	9	20.45

The majority of the patients associated with Age > 50 were 75.00 %, followed by K/C/O Diabetes in 56.82%, followed by Obesity (BMI >30) in 47.73%, K/C/O Hypertension in 43.18%, H/O Smoking in 38.64%, H/O Alcohol intake in 27.27%, Hyper-lipidemia in 20.45%.

## DISCUSSION

Stroke is a devastating and disabling cerebrovascular disease with significant amount of residual deficit leading on to economic loss. It has been defined as a rapidly developing signs of focal (or global) disturbance of cerebral function with symptoms lasting for  $\geq 24$  hours, or leading to death with no apparent cause other than vascular origin.<sup>8</sup> It is a collection of clinical syndromes resulting from cerebral ischemia to intracranial hemorrhage. In the west, it is the 3rd most common cause of morbidity and mortality.<sup>9</sup> Some of the recent studies have elucidated the stroke pattern to considerable extent in our country with a prevalence rat population.<sup>10</sup> Recent

study identified that 7% of medical and 45% of neurological admissions were due to stroke with a fatality rate of 9% at hospital discharge and 20% at 28 days.<sup>11</sup> Hypertension, alcoholism, smoking and dyslipidemia are commonest cause of stroke among the elderly,<sup>12</sup> and smoking, alcoholism, increased BMI, diabetes and hypertension are significantly associated with strokes among young people.<sup>13,14</sup> In our study we have seen that The majority of the patients were in the age group of >80 were 29.55%, followed by 60-70 - 25.00%, 50-60 were 20.45%, 40-50 were 15.91%, 30-40 were 9.09%. The majority of the patients were Male i.e. 61.36 and Females were 38.64. The majority of the patients were having Embolic i.e. 34.09%, Thrombotic - 27.27%, Hemorrhagic - 20.45%, Cortical venous sinus thrombosis (CVTS) in 18.18% type of the stroke. The majority of the patients complained of Headache in 94%, Slurred words and difficulty understanding speech in 90%, Numbness, weakness or paralysis in face, arm or leg etc. In 80% trouble with seeing in one or both eyes in 60%, Trouble with walking in 50% of the patients. The majority of the patients associated with Age > 50 were 75.00 %, followed by K/C/O Diabetes in 56.82%, followed by Obesity (BMI >30) in 47.73%, K/C/O Hypertension in 43.18%, H/O Smoking in 38.64%, H/O Alcohol intake in 27.27%, Hyper-lipidemia in 20.45%. These findings are similar to Chirayu V. Vaidya *et al* they found cerebrovascular strokes are more common in males (59.7%) than females (40.3%). Most common age group was 61-70 years (32.8%). Most common clinical feature was hemiplegia (72.6%). Most common risk factor was Hypertension (34%) followed by past h/o cerebrovascular stroke (15%), smoking (14%), dyslipidemia (13%). Most common type of stroke was ischemic (74.6%) and hemorrhagic was 2nd (22.9%).

## CONCLUSION

It can be concluded from our study that majority of the associated factors were Age > 50, Diabetes, Obesity (BMI >30), Hypertension, Smoking, Alcohol intake, Hyperlipidemia.

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