

Study of Stroke in Young Adults in 50 Cases Admitted in Thoothukudi Medical College Hospital

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ABSTRACT

Introduction: Despite considerable increase in primary prevention, diagnostic workup, and treatment, stroke is in second or third place on a fatality list, and predictions indicate that it will remain so in the year 2020. Aim: To study the etiology and risk factors of stroke in young adults.

Material and Methods: 50 patients admitted in age group of 15 to 45 years. Ischemic, hemorrhagic, embolic, cortical venous thrombosis included in this study. Clinical history and detailed examination done in all patients.

Results: Out of 50 patient 20 were ischemic, 50 were hemorrhagic, 5 were embolism 10 were cortical venous thrombosis

Conclusion: Atherosclerosis and hypertension are leading cause of stroke. Smoking, alcoholism diabetes, hypercholesterolemia are the risk factor puerperal CVT is and important cause of young stroke in female.

Keywords: Cerebrovascular Diseases, Age, Incidence, Risk Factors, Etiology

INTRODUCTION

Stroke or Cerebrovascular diseases comprise some of the common and overwhelming ailments: ischemic stroke, hemorrhagic stroke, and cerebrovascular anomalies such as intracranial aneurysms and Arteriovenous Malformations.¹ Stroke is defined by WHO as immediately developed clinical signs of focal or global disturbances of cerebral function serving more than 24 hours or till death with no apparent non vascular cause.^{2,3} Stroke is one of the leading cause of morbidity and mortality. Many of stroke survivors require assistance with activities of daily living and some require institutional care. Overview of incidence and etiology of young stroke provided in this study. The precise definition of young stroke is lacking. Stroke incidence rises steeply with age; therefore, stroke in younger people is less common; however, stroke in a young person can be devastating regarding productive years wasted and strike on an active person's life. As will be outlined below, some conditions of stroke are more frequent in adults under 45 years of age compared to more aged groups. This shifting trend to younger age group poses a great concern to the world regarding days lost to work and mortality. There is the paucity of information on stroke in young individuals covering important types of stroke.^{4,5} Research aimed to study the etiology and risk factors of stroke in young adults.

MATERIAL AND METHODS

This prospective study was conducted in Thoothukudi Medical College Hospital for 6 months. Ethical clearance

and informed consent was obtained. 50 patients in age group of 15 to 45 years admitted in Department of Neurology were randomly included in the study. Patients with Ischemic, hemorrhagic, embolic, Cortical venous thrombosis were included. Patients who presented with drop attacks and loss of consciousness due to other causes were excluded. Clinical history and detailed examination done in all patient. All Patient underwent routine blood investigation, lipid profile, ECG, Echocardiogram, CT scan of MRI brain. Carotid and vertebral Doppler study.

RESULTS

Male patient were 35 in number and female were 15 in number. 25 patient were smoker and alcoholic. Hypertension noticed in 15 patient. Hypercholesterolemia in 20 patient. Hypertriglyceridemia in 7 patient. Diabetes in 20 patient. Postpartum period in 10 patient of cortical venous thrombosis. (Table 1) Out of 50 stroke patient, 20 patient were ischemic stroke. (Table 2) 15 patient were of hemorrhagic stroke. (Table 3) 5 patient were embolic stroke. (Table 4) Cortical venous thrombosis in 10 patient. All of this cortical venous thrombosis were in postpartum state. Cause of embolic stroke mostly presented with weakness of limbs mostly these patient noticed weakness on waking up from bed. Headache is more common in hemorrhagic stroke. Vomiting and seizure were more common in hemorrhagic stroke than in other stroke subtypes. Headache Preceding stroke in cortical venous thrombosis in 8 patients during post- partum period. Seizure preceding cortical venous thrombosis noted in 2 patient in postpartum period.

DISCUSSION

The prevalence of several risk factors in stroke in young has been investigated in two studies from India.^{6,7} In a case control study of young stroke patients (age group 15-45 years) with age- and sex-matched hospital and community controls, the prevalence of various risk factors were investigated. Two hundred fourteen South Indian patients with first acute ischemic stroke and 99 hospital and 96

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How to cite this article: R. Sownthariya, Heber Anandan. Study of stroke in young adults in 50 cases admitted in thoothukudi medical college hospital. International Journal of Contemporary Medical Research 2017;4(8):1745-1746.

Risk factors	Number of stroke patient
Smoking	25
Hypertension	15
Diabetes	20
Alcoholism	25
Hypercholesterolemia	20
Hypertriglyceridemia	7
Postpartum period	10

Table-1: Risk factors in 50 stroke patient

Type	Number of stroke patient
Ischemia	20
Atherosclerosis	15
Hypertension	6
Hyper coagulable state	3
No definite cause	2

Table-2: Types of ischemic stroke

TYPE	Number of stroke patient
Hemorrhagic	15
Hypertension	9
Aneurysm	3
AV Malformation	1
No definite cause	2

Table-3 Types of hemorrhagic stroke

Type	Number of stroke patient
Embolism	5
Congenital heart disease	1
Rheumatic heart disease	4

Table-4: Types of embolic stroke

community controls were included. There was the greater predominance of tobacco usage (odds ratio [OR] 7.77), systolic blood pressure (OR 1.88) and fasting blood sugar (OR 4.55) in patients. High-density lipoprotein (HDL) was low and total cholesterol/HDL ratio was high in patients when correlated with both hospital and population controls. A unit increase in the proportion of total cholesterol to HDL was compared with increasing of stroke risk. More than three elements of metabolic syndrome were present in 12.6% cases when matched to 6% of population controls. Presence of ≥ 3 elements of metabolic syndrome was also hugely correlated with stroke (OR 4.76).

In a study of stroke in the adolescent from Southeast Asia,⁸ the most common risk factors mentioned were hyperlipidemia (53.1%), smoking (49.8%), hypertension (45.8%) and a family history of stroke (29.3%). The presence of hyperlipidemia and hypertension was highly observed in patients with small vessel occlusion, large artery atherosclerosis and stroke due to undiscovered etiology, whereas hyperlipidemia was less generally correlated with cardioembolic stroke.

Sridharan et al.⁹ analyzed the risk factors for ischemic stroke including the patients of all age groups. Hypertension, ECG abnormality, heart disease of any type, diabetes, smoking, and alcohol were associated with stroke. Low HDL and

low-density lipoprotein (LDL) to HDL ratio were observed among stroke patients. South Asians living in the UK are known to have an atherogenic lipid profile, which comprises elevated triglycerides, decreased HDL cholesterol and elevated lipoprotein levels.¹⁰

CONCLUSION

In summary Ischemic stroke is more common in young stroke than hemorrhagic or embolic stroke. Atherosclerosis hypertension are leading cause for Ischemic stroke. Hypertension is an important cause of hemorrhagic stroke puerperal CVT is an important cause of young stroke in female. Smoking alcoholism diabetes hypercholesterolemia are the risk factor.

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Source of Support: Nil; **Conflict of Interest:** None

Submitted: 24-07-2017; **Accepted:** 28-08-2017; **Published:** 08-09-2017