



Critical Review of Stroke

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ABSTRACT

This retrospective study gives the clinical profile of stroke in T.U. Teaching Hospital. Total number of Stroke patients admitted in 4 years period were 683; out of which 434 (63%) were ischaemic and 249 (27%) were haemorrhagic Stroke; Mangoloid accounted for 47% and non-mangoloid 53%; 42% were from urban area and 58% from rural area. Among the risk factors hypertension accounted in 42%; smoking in 28.5%; alcohol in 18.4% and diabetes mellitus in 10.8%. Over all mortality was 17%, maximum being in subarachnoid haemorrhagic group (50%). Risk factors may be controlled with proper health education and by establishing primary neurological centers in rural areas.

Keywords: Cerebrovascular Accident; Stroke; Risk-factors health education.

INTRODUCTION

Vascular disease of the brain is a major problem in modern neurology. This is because of its high prevalence and high percentage of morbidity and mortality. Hypertension, atherosclerosis, rupture of aneurism and arteriovenous malformation, collagen vascular disease, leukaemic syndrome, haemorrhagic and cardiac pathology are the major factors leading to stroke.^{1,2}

One of the reports analyzed in the TUTH on stroke, among 291 patients with stroke 40

were below the age of 40 years. This indicates that the young age of economically active period has also been involved in stroke problems.

Cerebrovascular disease is the third leading cause of death after heart disease and malignancy. It is the most disabling of all neurologic diseases. Approximately 50% of survivors have a residual neurologic deficit greater than 25% and require chronic care.³

In western countries hypertension, heart disease, increased haematocrit, increased fibrinogen, Transient Ischemic Attack (TIA),

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prior stroke, carotid bruits, sickle cell disease, old age, alcohol, cigarette smoking, drug abuse, genetic factors, males, diabetes mellitus, migraine, emboli are the major risk-factors of stroke.^{4,5,6}

The most common variety of complete strokes is atherothrombotic brain infraction, which accounts for 61 percent of all strokes (excluding TIA). The next most common is cerebral embolus (24%).

As of date, no single work has been done critically analyzing the main risk factors for stroke among the Nepalese population and prevalence of stroke by age, sex and ethnicity. As this institute has started specialized neurology services, it becomes a prime concern to make a protocol on stroke prevention, management and to highlight our weaknesses, and identify the problems and recommend their solutions for the better management of stroke.

MATERIALS AND METHODS

Retrospective study

Files of all patients admitted with stroke at TUTH from 2053.1.1 to 2057.12.30 were scrutinized, of which critical analysis covering the risk factors, age, sex, ethnicity, geographical distribution and death rate was done.

Four parameters of the risk factors for stroke were taken. They were diabetes mellitus, smoking, hypertension and alcoholism.

Factors such as hypertension, diabetes mellitus, smoking and alcoholism for stroke were analyzed in all patients with stroke.

All patients underwent complete neurological evaluation, routine examination of blood, haematocrit, biochemistry, urine routine examination, Coagulation Profile, lipid Profile, electrolyte (Na,K,) etc. ECG, echocardiography, and computer tomography.

RESULTS

Total number of patients admitting in 4 years were 12015. Among them the recorded number of stroke patients were 683. Male were 352 rest of them were female, ranging from 15 to 89 years (mean age 59). Patients were classified into two main groups (ischemic stroke and haemorrhagic).

Total number of patients with ischemic stroke was 434 (63%) which was further divided in cardiogenic 98 (32%) and atherothrombotic 336 (77%).

The total number of the patients with haemorrhagic stroke was 249 (27%) which was further subdivided into intracerebral 195 (78%), and subarachnoidal 51 (22%).

Patient with stroke were further divided into Mongoloid which accounts 326 (47%) and non-mongoloids 357 (53%) as well as according to the geographical distribution; total number of patients with stroke from the urban areas were 288 (42%) and from the rural areas 395 (58%).

Results of this study showed that the total number of male patients with stroke were 352 (53%) and female 331 (47%). This study also showed that the stroke is more common in male than female. The mean age of people who suffer from stroke in this study was 59.

Analysis of the study showed that hypertension was found in 42%, smoking in 28.5%, alcoholism in 18.4%, and diabetes mellitus in 10.8%.

Number of death from stroke was also critically analysed, which showed as follows:

Of the 434 ischemic stroke patients the number of death was 64 (14.17%). Of the 249 hemorrhagic stroke patients the number of death was 51 (30.5%). Among the 249 hemorrhagic stroke cases, 51 patients were from subarachnoidal haemorrhage of which 26 (50%) were dead.

DISCUSSION

This study shows that hypertension, smoking and alcoholism are the major risk-factors in Nepali population. This study shows that the stroke in male is more common than in female, male 55% and female 47% which coincides with the data given by The American Heart Association, Heart and Stroke 2000 Statistical Update.³ Mean age for ischemic stroke is 59 years; for intracerebral haemorrhage 56 years and for subarachnoidal haemorrhage 44 year.

This study shows that stroke is more frequently found in rural areas (58%) than in urban areas (42%).

Among the ethnic groups attending the stroke study of this institute, non-mongoloids were affected more (53%) than the mongoloids (47%).

This study also shows that total number of death from ischemic stroke was 14.71% and from hemorrhagic (intracerebral + subarachnoidal) was 30.5%. But among the

subarachnoidal haemorrhagic patients the total number was 51, of which the number of death were 26 (50%).

Analysing the etiology of the ischemic stroke atherothrombotic infraction (non cardiogenic) accounts for 77% and thromboembolic (cardiogenic) account for 23%.

CONCLUSION AND RECOMMENDATIONS

- As hypertension, smoking and alcohol are the major risk factors for stroke, health education is necessary at grass root level.
- Patients with ischemic heart disease should have proper cardiological and neurological assessment to prevent stroke.
- Unavailability of timely angiographic study and neurosurgical intervention may lead to increased mortality in subarachnoidal haemorrhage, hence, emergency angiographic and neurosurgical services should be started.
- As stroke is more common in rural areas, emphasis should be made to establish primary neurological centers in rural areas.

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