ISSN : 2949 - 9100

International Journal of Health and Dentistry Care (IJHDC)

IJHDC : Health and Dental Publication
Available Online at: www.ijhdc.com
Volume – 2, Issue – 6, November – December - 2023, Page No. : 09 - 12

A stroke referred to cerebral vascular accident (CVA): A brain attack

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Citation This Article: Jndrei B. Alexan, "A stroke referred to cerebral vascular accident (CVA): A brain attack", IJHDC –November – December - 2023, Volume. – 2, Issue - 6, P. No. 09 – 12.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Stroke or cerebrovascular accident is still a serious and an immediate threat to the life in spite of modern advances in the management. Worldwide approximately 20 million people each year will suffer from stroke and of these 5 million will not survive[1]. Stroke is the second most common cause of death and major cause of disability worldwide[2]. They compose about 50% of all neurological hospital admissions[3]. With increasing mean population age, stroke is becoming a major medical & social problem. Many who survive are left with a major deformity.

Keywords: Stroke, Transient, Ischemic, Attack, Diabetes Mellitus

Introduction

A health care system which is faced with the monumental task of controlling the various infectious diseases rampant in India has failed to recognise the importance of diagnosing and controlling hypertension. Being a chronic disease with no symptoms, the treatment is not adhered to especially since majority of the patients are poor and uneducated & a very much preventable misfortune befalls these people. Risk factors for stroke include old age, high blood pressure, previous stroke or transient ischemic attack (TIA), diabetes, high cholesterol, tobacco smoking and atrial fibrillation. The most important modifiable risk factors for stroke are high blood pressure and atrial fibrillation. The most common type of stroke is ischemic stroke which accounts for almost 85% of all strokes and occurs due to regional insufficiency or deprivation of blood supply.[4] The specific cause of ischemic stroke in 50% of cases is disease of large vessels (i.e. carotid and main cerebral vessels). Such strokes are called atherothrombotic to denote the primary role of atherosclerosis which in turn is complicated by thrombosis. Clinical presentation, course of the disease and temporal profile of stroke mostly suggest the cause in most of the cases. Localising the lesion provides useful prognostic information for survival, residual disability, recurrence, clues to the cause of stroke and therefore some help to select investigations, treatment and guidelines in rehabilitation.

In the view of above speculations, present study was undertaken to define various risk factors for the stroke, to categorise them according to type and territory and to study the immediate outcome. With lot of advances in management and rehabilitation services considerable improvement can now be achieved in the patient condition to the extent that he may return to his former employment; even in some cases of major stroke.

Aims & Objectives

1. To study the clinical features of stroke in elderly.
2. To study risk factors of stroke
3. To study outcome of stroke in elderly

Material &Methods

Study Type: It is an observational cross-sectional study.

Sample size: Sample size was calculated to be 100.Approval from Institutional Ethical Committee was taken. The subjects were evaluated as per predesigned proforma.

Study Settings: Intensive Care Unit of tertiary care hospital of Department of Medicine

Study Subjects: Elderly patient of stroke

Patients were evaluated and followed up till discharge or death. Outcome of all cases were recorded.

Inclusion Criteria

All patients having clinically and radiologically confirmed diagnosis of stroke

Exclusion Criteria

Diagnosis in all patients will be confirmed by CT or MRI Brain.

1. Patients with ageless than 60yrs.
2. Patients having stroke due to trauma

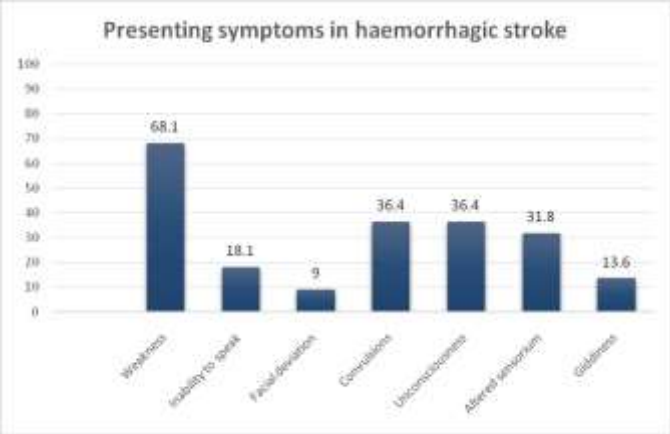
Detailed clinical history was recorded with particular reference to the mode of onset, evolution of neurologic symptoms, prodromal symptoms and symptoms of cardiovascular disease.

Past history of hypertension, diabetes mellitus, valvular heart disease and ischemic heart disease were particularly enquired

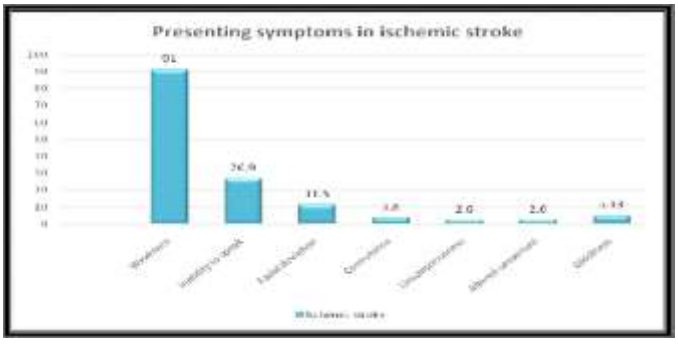
Table 1: Age wise distribution of stroke in elderly patients

Age in years	No. of cases	Percentage
60–70	75	75%
71–80	18	18%
80–90	7	7%
Total	100	100%

Maximum incidence of stroke was observed in age group 60– 70 years and minimum in 80-90 years age. Mean age was 67.778 years with SD of 7.098. 65% were male patients and 35% were females. The male to female ratio was 1.86:



Graph 1: Symptoms in hemorrhagic stroke



Graph 2: showing symptoms in Ischemic stroke

At the time of presentation, most common symptom was weakness on either side seen in 71 (91%) patients

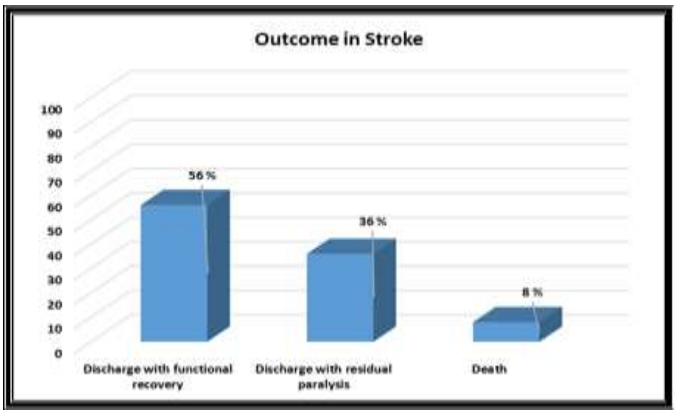
Motor deficit 78(100%) was the most common finding in patients with ischemic stroke. In hemorrhagic stroke, weakness was the most common symptom.

Table 2: Showing Clinical signs in stroke

Neurological findings in ischemic stroke	Percentage %
Impaired consciousness	12.82%
Speech disturbances	26.92%
Cranial nerve involvement	28.20%
Motor	100%
Cerebellar	3.8%
Fundus changes	8.9%

Motor deficit 22 (100%) was the most common finding in patients with hemorrhagic stroke followed by impaired consciousness & fundus changes.

Out of 100 patients studied, smoking was observed in 26 % patients, alcohol in 17 % patients and tobacco chewing in 21% patients. 41 % patients had hypercholesterolemia & 16% were diabetic



Graph 3

In present study, 56% patients discharged with functional recovery whereas 36 (36%) patients had residual paralysis.

Discussion

Stroke is major health problem in most parts of world, it has been a frequent cause of death and disability. In spite of modern advances in management, it is still an immediate threat to life.

An accurate knowledge of natural history and prognostic pointers of stroke, is therefore necessary not only for the reliable predictions of outcome in individual but also for evaluation of new methods of prevention and treatment and for planning of comprehensive health services aimed at control of vascular disease in community. Even with modern standards of medical care, stroke often results in death or permanent disability and even most patients who have apparently recovered from stroke experience a high mortality and excess morbidity which remain remarkable constant over the subsequent years.

Maximum incidence of stroke was found in the 7th decade i.e. 75 patients out of 100 cases were in the age group of 60-69 years (75%). Mean age was 67.778 years with SD of 7.098.

Dalal PM etal[5] showed maximum incidence in 51-70 year age group with mean age of 66 years in Mumbai based stroke registry.

Sridharan et al[6] in Trivandrum based stroke registry showed mean age of 67 years. Age is the single most important risk factor for stroke. For each successive 10 years after age 55, the stroke rate more than doubles in both men and women[7[. Stroke incidence rates are 1.25 times greater in men, but because women tend to live longer than men, more women than men die of stroke each year.

In the present study, motor deficit was most common clinical feature present in 100% patients.

In Nagaraja D et al[8] weakness or paresis (92%) was the commonest presentation. In Dalal PM etal[5] study, motor deficit was present in 82.7%, 22% had cranial nerve deficit. In India, the pooled data incorporating all the studies reveal that ischemic stroke occurs in 68-80 %

and haemorrhagic stroke in 20-32%. Ischemic stroke comprise large vessels. Diabetes mellitus prevalence that is much higher (approximately 10 %to 15 %) compared with the general British population (approximately 4%)[9] and appear stoequal rates in some parts of India.

Cigarette smoking increases risk (RR) of ischemic stroke nearly twotimes[10] with a clear dose-response relation. In both the Framingham Study and the Nurses' Health Study[11] cessation of smoking led to a prompt reduction in stroke risk—major risk was reduced with in 2 to 4 years. In individual cases, the immediate outcome depends on several factors, out of which, the type of cerebro vascular lesion is important one. Sudden death is greatly influenced by the pathological lesion. Type of stroke influence the functional recovery. Reversal of neurological deficit to some extent is more commonly seen in ischemic stroke as compared to haemorrhagic stroke. Rapid reversal of deficit may occur in strokes from ischemic cause but never in haemorrhagic one[12].

Conclusion

It is recommended from the present study that screening of hypertension, diabetes, dyslipidaemia in people aged more than 40 years and tight control of already diagnosed cases should be routinely done. Early intervention and management of atrial fibrillation should be done to prevent the incidence of stroke. Heavy alcohol intake and smoking should be discouraged to prevent stroke. There are a large number of people with undetected hypertension and diabetes. Further larger studies need to be performed for a better understanding of risk factors.

Stroke units, thrombolysis, and rehabilitation are predominantly available in urban areas, particularly in private sector hospitals. As a first step, the Government of India has started the National programme for prevention and control of cancer, diabetes, cardiovascular diseases and stroke (NPCDCS). The government is focusing on early diagnosis, management, infrastructure, public awareness, and capacity building at different levels of health care for all the non-communicable diseases including stroke. An organized effort from both the government and the private sector is needed to tackle the rising stroke burden in India.

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