A Review of Stroke Cases in a Military Hospital in Nigeria

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ABSTRACT

Background: *CVA (Stroke) remains one of the most common neurological illnesses in the country, accounting for a greater percentage of morbidity and morality. Its increasing prevalence is a source of worry to most health personnel.*

Objectives: *The aim of the study is to review the patient characteristic, risk factors, clinical features and prognostic factors among the patients with CVA who were admitted within the period under review; with a view to reinforcing measure to address this factor.*

Method: *This is a retrospective study of all new patient managed for stroke in the medical ward of Military hospital, Port Harcourt from January 1, 2012 to October 31, 2012.*

Result: *A total of 37 patients were admitted with stroke during the period under review. The males were 19 (51.3%) and females, 18 (48.7%). Hypertension (81.1%), Deranged lipid profile (45.9%) and diabetics (24.3%) were the commonest risk factors for stroke. HIV accounted for 10.8% of the patients, and it was also the risk factor in all the patients less than 50yrs. Sixteen (43.2%) patients had left hemparesis, 14 (37.8%) right hemiparesis, while global was 7 (18.9%). A total of 7 deaths were recorded in the first 72hrs of admission.*

Conclusion: *Stroke still contributes significantly to the increasing mortality and morbidity among patients admitted in our hospitals. Modifiable risk factors should be aggressively addressed to reduce the burden of stroke in our society.*

Key words: *Stroke, Military Hospital, Nigeria*

INTRODUCTION

Stroke is defined as a syndrome of rapidly developing Clinical sign of focal or global loss of cerebral functions with symptoms lasting 24 hours or longer or resulting in death with no apparent cause other than of vascular origin.[1]

Stroke has been reported as a major cause of death and neurological disability in adults and imposes a heavy emotional and financial burden on the family of the patient and society.[2]

It remains the 3rd leading cause of death in the united states and the leading cause of serious long term disability.[3] It is estimated that 700,000 American residents experience a new or recurrent stroke with an estimated 500,000 having their first stroke. Though there is limited national statistic on stroke, there are however reports indicating that stroke had become the leading cause of neurological admission in most tertiary hospitals in Nigeria, taking over from central nervous system infections reported in earlier studies.[5,6]

Stroke may be due to infarction (Ischemic stroke) in 80% of cases or hemorrhage in the remaining 20%. Ischemic stroke presents clinically as a focal neurological deficit of sudden onset presenting with headache, weakness of a part of the body and loss of speech as common symptoms, unless the brain stern is involved. Hemorrhagic stroke manifests in diverse ways depending on the site, size of the bleed. Headache, vomiting, global neurological deficit and decreased level of consciousness are characteristic symptoms and there may be quick progress to coma.[7] Hemorrhagic stroke is usually associated with longstanding and uncontrolled hypertension.

The non availability and high cost of radiographic procedures including CT (Computer Tomography) and Magnetic Resonance Imaging has hampered the early accurate diagnosing of different pathological types of stroke in sub saharan Africa.

The risk factors for stroke have been extensively investigated and reported. Studies in Nigeria have confirmed hypertension as the most dominant determinant of stroke[8,9,10]. Increasing age has been reported to be the strongest risk factor for cerebral infarction; primary intracerebral and sub arachnoid bleeds.[11] The age of occurrence is younger for hemorrhagic stroke when compared with Ischemic Stroke[12]. Diabetes mellitus has been reported in up to 20-37% of the patients with stroke [12]. Cardiac diseases, especially rheumatic valvular heart disease which may be associated with atrial fibrillation causing embolic strokes are common determinants of stroke[13].

Sex differences in the stroke patients have not been consistent, but most studies showed higher proportion of death between 60-69yrs [14]. At older age, mortality is higher in women. Other risk factors include cigarette smoking, neurosyphilis, heavy alcohol consumption, homozygous sickle cell disease, obesity, anaemia, dehydration, infections (including HIV), under nutrition and congenital heart disease[8,9,10].

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The management of stroke patients is practically divided into phases; the acute phase which includes ambulance service and care, emergency room care, neuro-intensive care and stroke unit management. The sub acute phase management is mainly supportive and takes place in the stroke care ward and physiotherapy unit. The chronic phase takes place in the community and out patient clinic.[15]

Thrombolytic therapy which is the main stay in the management of ischemic stroke cannot be instituted until the doctor can confidently diagnose the patient as suffering from an ischemic stroke, because this treatment might increase bleeding and could make a hemorrhagic stroke worse.

The non availability of CT scan in most hospitals in this country has hampered the institution of immediate and appropriate treatment of stroke patients.

Mortality in stroke is still high, most especially in haemorrhagic stroke. A study done in Benin reported acute phase mortality of 66.78% and a 3 months mortality rate of 79%[16].

A lot of factors have been studied as predictive factors for mortality in stroke patients. These factors include neurological state of the patients at the time of admission, (using the Glasgow coma Scale), the volume of haematoma, cerebral edema, and the presence of intra ventricular or sub arachnoids extension.

Rehabilitation therapy is the corner stone in the management of stroke patients. Stroke disability is devastating to the patient and the family. In rehabilitating a stroke patient, physical therapy, occupational therapy, speech and language therapy are instituted. Many stroke patients require psychological or psychiatric help after a stroke because psychological problems such as depression, anxiety, frustration and anger are common post stroke disabilities[17-24]. Sometimes, it is also beneficial for family members of a stroke patient to seek psychological help as well.

Some studies have been done to assess the patterns of stroke risk factors, presentation and outcome of management in Nigeria, and little has been done to assess such in a military hospital setting. This study is therefore necessary to give an insight into the burden and outcome of strokes in such a setting, and help in health care planning to improve management and outcome of stroke patients.

METHODS

This is a retrospective study of all new patient managed for stroke in the medical ward of Military hospital, Port Harcourt from January 1, 2012 to October 31, 2012.The case notes of the patients were retrieved from the medical records department of the hospital and relevant data extracted and analyzed. The data obtained were analyzed using SPSS version 15.0 software. Results were expressed in frequencies and percentages.

RESULT

A total of 37 patients were admitted with stroke in the period under review. The ages of the patients ranged from 30yrs to 79yrs with stroke occurring highest among people between 60 – 69yrs. Of the patients, 19 (51.3%) were male while 18 (48.7%) were female.

Hypertension (81.1%), Deranged lipid profile (45.8%) and diabetics (24.2%) were the commonest risk factors for stroke. HIV accounted for 10.8% of the patients. It was also the risk factor in all the patients less than 50yrs.

The neurological examination of the entire patient on admission at the emergency room showed that patients with Right hemparesis were 37.8%, left hemiparesis 43.2%, while global was 18.9%. (See table III).

A total of 7 deaths were recorded in the first 72hrs of admission. Of these, 5 were males and 2 were females.

Table I: Age and gender distribution of patients [N = 37]

Age (years)	Male	Female	Total	percentage
30 - 39	0	2	2	5%
40 - 49	0	1	1	3%
50 - 59	8	3	11	30%
60 - 69	6	9	15	41%
70 - 79	5	3	8	21%
Total	**19(51.3%)**	**18(45.8%)**	**37**	**100%**

Table II: Risk factors in the patients

Risk Factors	Male [n=19]		Female [n=18]		Total [N=37]	
	No	%	No	%	No	%
1. Hypertension	17	89.5	13	72.2	30	81.1
2. Diabetics	5	26.3	4	22.2	9	24.3
3. Deranged lipid profile	10	52.6	7	38.9	17	45.9
4. Previous CVA	5	26.3	1	5.6	6	16.2
5. HIV	0	0.0	4	22.2	4	10.8

Table III: Neurological findings in the patients at the Accident and Emergency Room

Clinical Finding	Male (n=19)		Female (n=18)		Total (n=37)	
	No	%	No	%	No	%
1. Left stroke + Right hemiparesis	7	36.8	7	38.9	14	37.8
2. Right stroke + left hemiparesis	9	47.4	7	38.9	16	43.2
3. Global	5	26.3	2	11.1	7	18.9

DISCUSSION

In the study, the occurrence of stroke increased positively with the age of the patient in both genders. This supports the fact that age remains a non modifiable risk factor for stroke and this finding agrees with other studies[9, 11, 12, 13.]

HIV was the only identifiable factors in those occurring before 50yrs and all were among the females. This may be attributed to the fact that the younger age group is more sexually active and therefore at higher risk of the infection.

Hypertension was the major risk factors for stroke 81.1% among the patients. This agrees with other studies done in urban Nigerian [9, 13, 14]. Deranged lipid profile 45.9%, and diabetes, 24.3% were the 2nd and 3rd commonest risk factors respectively. This is in contrast to other studies that reported Diabetes as the 2nd leading cause of stroke[22]. Deranged lipid profile especially high triglyceride, high LDH and reduced HDL leads to development of artherosclerosis in cerebral vessels, thus cutting blood supply to distal part of the brain. Diabetes was the 3rd identifiable risk factor, 24.3%. This is similar to findings from a study done in Benin[23] that observed diabetes in 26 – 30% of the patients studied, but higher than the 8% observed in North Eastern Nigeria[15]. A good glycemic control is necessary in diabetic patients to prevent stroke.

HIV was the only identifiable factor in 10.8% of the patients and these patients were in the age group of between 30 – 40yrs . All these patients were females.

Previous history of stroke was the fourth most prevalent risk factor and was observed in 16.2% of the patients. This is higher than findings from a study done in Saudi Arabia that reported 9%[13.]

The overall hospital death within the first 72hrs was 19%. The mortality of stroke in this study increased with age, it was higher in males than females. This outcome is similar to what was observed in other studies[7, 9.].

CONCLUSION

Stroke still contributes significantly to the increasing mortality and morbidity among patients admitted in our hospitals. Early presentation to the hospital, prompt and accurate institution of treatment is very vital in determining the outcome.

Modifiable risk factors should be aggressively addressed to reduce the burden of stroke in our society.

HIV remains a risk factor for stroke among the young, and its association with stroke in the young needs to be further explored.

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