



Original Article

Study on Stroke among Hypertensive Patients in a Teaching Hospital

T Islam¹, MN Huda², S Hossain³, MN Islam², E Huq⁴, PM Bhattachariya⁵, SM Alam⁶, PM Basak²

Abstract

Stroke is one of the commonest causes of death and disability in the world. Hypertension is the greatest treatable risk factor for both ischemic and hemorrhagic stroke. This study was carried out in Rajshahi Medical College Hospital to observe the incidence of stroke among hypertensive patients and to compare the occurrence of stroke among patients who were taking antihypertensive drugs regularly and those who were taking irregularly. Hundred stroke patients with hypertension were selected randomly. Ischemic stroke 66% and hemorrhagic stroke 34% was observed. Majority (64%) of hypertensive patient was treated irregularly and only 36% patients were treated regularly with drugs. Incidence of ischemic (66.6%) and hemorrhagic (58.8%) stroke was increased in irregularly antihypertensive treatment patients.

TAJ 2014; 27: No-2: 30-32

Introduction

Stroke is a disease of neurologic mortality and disability. The association between hypertension and stroke is well known and it is the greatest treatable risk factor for ischemic as well as hemorrhagic stroke. Trials of antihypertensive therapy have demonstrated that a reduction of elevated blood pressure causes a reduction in the incidence of stroke¹⁻⁴. Most of the hypertensive patients in this country are not aware of their disease and don't take antihypertensive drugs in an adequate doses on a regular basis.⁵⁻⁶ The effect of inadequate or irregular treatment of hypertension and its complications remain unknown. Thus this study was carried out to observe the extent of drug compliance and control of blood pressure in hypertensive patients admitted with stroke in Rajshahi Medical College Hospital.

Objectives

This study was designed to observe the demographic profile of hypertensive stroke patients and to compare the occurrence of stroke among hypertensive patients who are taking antihypertensive drugs regularly and irregularly.

Methodology

This was a hospital based descriptive study, carried out in the different medical units and neurology ward of Rajshahi Medical College Hospital, Rajshahi. One hundred hypertensive stroke patients were selected. Blood pressure was categorized according to the 7th report of the joint national committee (JNC-7). Stroke was diagnosed by CT scan of brain.

¹ Senior consultant, (Medicine) Sadar Hospital, Chapai Nawabgong.

² Assistant professor, Department of medicine, Rajshahi Medical college.

³ Senior consultant, (Medicine) Sadar Hospital, Kurigram.

⁴ Assistant professor, Department of neuromedicine, Rangpur Medical college.

⁵ Resident Physician Medicine, Rajshahi Medical college Hospital.

⁶ Senior consultant, Sadar Hospital, pabna.

Result

Majority stroke patients were between 51 to 70 years of age. Incidence of stroke was more in male patients (60%) than females (40%) and male female ratio was 1.5: 1. In this study, ischemic stroke 66% and hemorrhagic stroke 34% was observed (table1). More than half (64%) stroke patients had been suffering from hypertension for more than four years (table2). Regarding adherence to antihypertensive treatment (table 3), a large portion (64%) of hypertensive patients were treated irregularly and only 36% patients were treated regularly. Ischemic stroke were 33.3% and hemorrhagic stroke 41.1% in patients who are taking antihypertensive treatment regularly and ischemic stroke were 66.6% and hemorrhagic stroke 58.8% in patients who are taking antihypertensive treatment irregularly (table3). It indicates that incidence of stroke is increased in patients who were poor adherence to antihypertensive treatment.

Discussion

This study showed that majority of the patients (78%) was between 50 years and above. Bell et al⁷ and Sarker CB et al⁸ also showed similar result in their study. The exact time interval before a hypertensive patient develops a cerebrovascular accident is unknown. In Bangladeshi hypertensive patients the problem has been further aggravated by the inadequate and irregular intake of drug. According to the editors of the Framingham study, it usually takes 3 decades for untreated hypertension to affect the cerebrovascular apparatus⁹. In this study 62% developed stroke within five years of their detection of hypertension; in spite of the fact that 64% were taking treatment for this hypertension albeit irregularly. Similar results were reported in the previous study of stroke patients in Dhaka Medical College Hospital in which 57% of the known hypertensive's developed stroke within 5 years of detection of their hypertension.¹⁰ Though it is not known how long the patients were hypertensive before they were detected, it does appear that the hypertensive patients of Bangladesh are suffering from stroke rather early in the course of their diseases. In this study it was found that 64 percent

patients did not take drug regularly. A study of 78 known hypertensive patients, who suffered from stroke, had shown that 92.54 percent patients were taking drugs irregularly¹¹. Another study of the 66 known hypertensive, 81.82% were having antihypertensive treatment irregularly¹². In this study 66 % were ischemic and 34% were hemorrhagic stroke. In regularly treated hypertensive patients, ischemic stroke was 33.3% and hemorrhagic stroke 41.1%. In irregularly treated hypertensive patient the ischemic stroke was 66.6% and hemorrhagic stroke was 58.8%. Incidence of stroke was increased in irregularly treated hypertensive patients. Similar result was described as "untreated hypertension is a risk factor for hemorrhagic as well as ischemic stroke" in a study¹³.

Conclusion

The strong association between hypertension and stroke is definitely a major challenge. So prevention and improving compliance of treatment of hypertension can bring down the incidence of mortality and morbidity of stroke.

Table 1: Type of stroke (n=100).

Type	No. of Patient	Percentage
Ischemic	66	66
Hemorrhagic	34	34

Table 2: Duration of hypertension (n=100)

Duration (yrs)	No. of patient	Percentage
<1	5	5
>1-2	15	15
>2-3	7	7
>3-4	9	9
>4-5	26	26
>5	38	38

Table 3: Type of stroke and adherence to hypertensive treatment (n=100)

Adherence to hypertensive treatment	Ischemic stroke (n ₁ =66)	Hemorrhagic stroke (n ₂ =34)
Regular (36%)	22 (33.3%)	14 (41.1%)
Irregular (64%)	44 (66.6%)	20 (58.8%)

References

- Effects of treatment on morbidity in hypertension. Results in patients with diastolic blood pressure averaging 115 through 129 mm Hg. JAMA 1967 ; 202: 1028-34.
- Veterans Administration Co-operative Study on Antihypertensive Agents. Effects of treatment on morbidity in hypertension. It. Results in patients with diastolic blood pressure avaraging 90 through 114 mm Hg. JAMA 1970; 213: 1443-52.
- Hypertension Detection and Follow up Program Cooperative Group: Five year findings of the Hypertension Detection and High Blood Pressure, including Mild Hypertension. JAMA 1979; 242 : 256-71.
- Amery A, Brixko P, Clement D, Schaepdryver AD, Fagrad R, Forte J. et al. Mortality and Morbidity results from the European Working Party on High Blood pressure in the Elderly trial. Lancet 1985; 1: 1349-53.
- Chowdhury SGM, Ahsan CMQ, Khan AI, Ahmad Q. Experience with 286 hypertensive patients at hypertension Clinic in Dhaka Medical College Hospital. Presented at the Annual Scientific Session of the Bangladesh Medical Association, at Dhaka in 1983.
- Chowdhury SGM, Ahmad Q, Khan FD, Banik D. Effect on blood pressure and compliance in the hypertensive patients after enrolment into a Hypertension Clinic and its relationship with sex, educational status, financial status and awareness about hypertension. Presented at the National Congress of Cardiology, Dhaka. Bangladesh in 1989
- Bell DA, William Brien, Vladimar H, Keefe. BO. Antiphospholipid syndrome. Prevalence among patients with stroke and TIA. Am J Med. 1990;88:593-97
- Sarker CB, Islam MR, Das AB, Anwarullah AKM, Haque A. Risk factors for stroke: a study of eighty cases in two district hospitals in Bangladesh. Bangladesh J Neuroscience' 1993; 9: 48-55.
- Kannel WB, Wolf PA, Verter J, Nc Namara PM. Epidemiologic assessment of the role of blood pressure in Stroke: The Framingham Study. JAMA 1970; 214 (2): 301-10.
- Chowdhury SGM, Ahmad Q, Rahman M, Khan Ali, Ahsan CMQ. Study of Cerebrovascular Accident Cases at Dhaka Medical College Hospital. Presented at the Annual Scientific Conference of the Bangladesh Medical Association at Dhaka in 1984.
- Chowdhury SGM, Ahmed Q, Dhan FD, Alam MR, Arif SM, Roy PK, Stroke in patients having inadequate or irregular antihypertensive therapy. Bangladesh Med Res Coun Bull 1990; XVI: 52-57
- Mannan MA, Alamgir SM. Cerebrovascular Disease: A report of 53 cases. Bangladesh Med Res Council Bull 1975; 1 (1) : 45-50.
- Black DG, Heagerty AM, Bing RF, Thurston H, Swales JD. Effect of treatment for hypertension on cerebral hemorrhage and infarction Br. Med J 1984; 289: 256-9

All corresponds to
Dr. Md. Towfiqul Islam
 Senior consultant
 Sadar Hospital, Chapai Nawabgong.
 Email. drtowfiq71@gmail.com