

FREQUENCY OF KNOWN RISK FACTORS OF STROKE AND ITS OUTCOME IN PATIENTS ADMITTED IN SINDH GOVERNMENT QATAR HOSPITAL KARACHI

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ABSTRACT

Objective: To study the frequency of common modifiable risk factors of stroke in low socioeconomic area.

Methodology: This is a descriptive hospital based study conducted at Sindh Govt. Qatar Hospital, Orangi Town, Karachi from January 2006 to December 2006. All patients above the age of 20 years with features of stroke confirmed by CT scan brain were included. Various modifiable risk factors for stroke and functional outcome at the time of discharge were noted.

Results: Out of ninety patients studied sixty seven (74.4%) had cerebral infarction and twenty three (25.5%) had cerebral hemorrhage. Hypertension was the most common modifiable risk factor in fifty four (60%) followed by smoking in forty (44.4%), Diabetes in twenty three (25.5%), Dyslipidemia in seventeen (18.8%), heart disease in 7.7% and alcoholism 3.3%. More than one risk factor was present in 61.1% of patients. Mortality from stroke was 20% and most of the patients at discharge were dependent on others for their daily activities.

Conclusion: It is concluded that frequency of stroke is high in low socioeconomic area of Karachi. This may be attributed to the presence of single or multiple modifiable risk factors. Educating masses and treating these risk factors aggressively can help in reducing morbidity and mortality of stroke patients.

KEY WORDS: Stroke, Risk factors, Cerebral infarction.

Pak J Med Sci July - September 2007 Vol. 23 No. 4 634-636

INTRODUCTION

Stroke is one of the leading factors of morbidity and mortality world wide. It is the 3rd most common cause of death in industrialized

countries.¹ Stroke kills about 5 million people each year.² In Europe the death rate ranges from 63.5 per 100,000 in Switzerland to 273.4 per 100,000 in Russia.³ The estimated US stroke mortality rate for women was 36.7 per 100,000 and for men it was 46.6 per 100,000.⁴ Not much work has been done on epidemiology of stroke in South East Asia. A few studies done in India shows that the prevalence of stroke varies in different regions and ranges from 40 to 270 per 100,000 rural population.⁵

To reduce the incidence of stroke it is essential to identify and modify the risk factors for stroke. Common modifiable risk factors are hypertension, diabetes mellitus, cigarette smoking, dyslipidemia, valvular heart disease and alcoholism. Age, gender, sex and heredity have been identified as non modifiable risk factors for stroke.

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- * Received for Publication: May 8, 2007
- * Revision Received: June 11, 2007
- * Revision Accepted: July 25, 2007

The aim of the study is to recognize the common modifiable risk factors for stroke in patients admitted in Medical ward of Qatar Hospital Orangi Town, which is a poor socioeconomic area of Karachi.

PATIENTS AND METHODS

This was a descriptive hospital based study. All adult patients above the age of 20 years with stroke admitted to Medical Ward of Sindh Govt. Qatar Hospital Orangi Town, during the period of January 2006 to December 2006 were included. Patients who had brain tumor, tuberculous meningitis, viral encephalitis and or metabolic encephalitis were excluded from the study.

A detailed history was taken and thorough physical examination was done with special emphasis on neurological and cardiovascular systems. History regarding smoking, hypertension, diabetes mellitus, previous history of stroke, underlying Cardiac problem, use of contraceptive pills (in case of females) and alcohol use was specifically asked.

Hypertension was diagnosed by using JNC VII criteria. Those with B.P > 140 / 90 were labelled as hypertensive. Diabetes mellitus was diagnosed using WHO criteria and dyslipidemia according to NCEP III guidelines.⁶ Laboratory investigations included complete blood count, blood sugar, lipid profile and ECG. Echocardiography was done where indicated CT scan Brain was done in every patient.

RESULTS

A total of ninety patients of stroke were hospitalized during the study period. This includes 58.8% male and 41.1% females. The patients were aged between 30 and 100 years with a mean age of 58.73 years. In our study sixty seven (74.4%) patients had cerebral infarction while cerebral hemorrhage was found in twenty three (25.5%) of patients. Most common risk factor for stroke was hypertension (60%) followed by smoking (44.4%), diabetes mellitus (25.5%) and dyslipidemia (18.8%) (Table-I).

Table-I: Modifiable risk factor for stroke (n = 90)

<i>Risk Factor</i>	<i>No of patients</i>	<i>%</i>
Hypertension	54	60
Smoking	40	44.4
Diabetes	23	25.5
Dyslipidimia	17	18.8
Heart Disease	7	7.7
Alcoholism	3	3.3
More than one risk factors	55	61.1

Out of ninety patients 18 (20%) expired and 12 (13.3%) patients were referred to tertiary care hospital, because they required intensive care management which was not available in Qatar Hospital. Thirteen out of 18 patients who expired had GCS of less than 5 on admission, four developed severe sepsis and one died because of myocardial infarction. Eighty four percent of the discharged patients were dependent on others for their daily activities. Sixty patients (67%) were discharged after treatment. Eighteen (20%) expired and twelve (13%) were referred to other healthcare facilities.

DISCUSSION

In this study male patients were more than the female patients. The mean age was 58.73 years, which is same as reported by other local studies,^{7,8} but much lower than what is reported in USA (70%).⁹ The incidence of stroke is declining in USA because of awareness and control of risk factors. Majority of our patients had cerebral infarction sixty seven (74.4%), which is slightly higher than reported by other studies.^{8,10}

Hypertension is the single most important modifiable risk factor for stroke. Hypertension was present in 60% of patients in our study which is similar as reported in other studies.^{11,12} Elevated blood pressure is strongly and directly related to vascular and over all mortality.¹³ Studies have shown that lowering blood pressure substantially reduces the risk of vascular events.¹⁴

In our study 44% of patients were smoker. The study done by Rafique¹² and Jawed¹¹ et al

shows 53% and 42% of patient were smoker respectively. Cohort studies have shown cigarette smoking to be an independent risk factor of ischemic stroke.¹⁵ It has also been reported that subjects who stop smoking reduce this risk by 50%.¹⁶

Diabetes mellitus were present in 25.5% patients which are slightly lower than 33% reported by Rafique, et al.¹² Studies have also shown that the risk of stroke in patients with diabetes mellitus is about four times as compared to normal individuals.¹⁷ Dyslipidemia is seen in 18.8% of cases, which is similar to the other study done in Pakistan by Ali et al.⁸

High mortality of stroke in our study 20% emphasizes the importance of urgently seeking medical advice after the onset of stroke. It is time to initiate screening and follow up programs for hypertension, diabetes and other modifiable risk factors along with effective educational campaigns.

Limitations of Study: This is a small hospital based study so the findings can not be applied to the whole population of low socioeconomic area. Further large scale epidemiological studies are needed to form national guidelines regarding prevention and treatment of risk factors of stroke.

CONCLUSIONS

It is concluded that frequency of stroke is high in low socioeconomic area of Karachi. This may be attributed to the presence of single or multiple modifiable risk factors. Educating masses and treating these risk factors aggressively can help in reducing morbidity and mortality of stroke patients.

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