FREQUENCY OF DIABETES MELLITUS AS A MAJOR RISK FACTOR IN STROKE PATIENTS AT HAYATABAD MEDICAL COMPLEX PESHAWER

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ABSTRACT:

Objectives: To find the frequency of Diabetes mellitus as important risk factor in Stroke patients presenting at Medical A unit of Hayatabad Medical Complex Peshawar from Jan 2011 to June 2011.

Material & Method: This descriptive study was carried out at Hayatabad Medical Complex, Peshawar, Medical A ward from Jan 2011 to June 2011.Hundred patients who clinically presented with features of Stroke and then confirmed on CT scan brain were included in this Study. Diabetes mellitus as a risk factor for stroke was evaluated in these case.

Results: Mean age was 63.73(+13.2).Diabetes mellitus as a risk factor was found in 25 patients 10 were male and 15 female. Twenty percent of the patients were in the age range of 40-50 years, Twenty two percent of the patients were in the age range of 51–60 years, 30% of the patients were in the age range of 61–70 years and 28% were in the age range of 71–80 years. Cerebral infarction was present in 70% of patients while cerebral hemorrhage was present in 30% patients. Among diabetic there is Preponderance of female patients (50%) as compared to males (14.3%).The mean duration of diabetes was 8 years and 7 years among females and males respectively.

Conclusion: Diabetes mellitus is the most common modifiable risk factor for stroke especially in cerebral Infarction. Most of the major risk factors for stroke are modifiable and need awareness, regular use of medication and changes in life style for prevention. The National stroke prevention program should initiate and coordinate public awareness campaigns and develop guidelines to reduce the incidence, morbidity and mortality of stroke in Pakistan.

KEY WORDS: Stroke, Risk factor, Modifiable risk factors.

INTRODUCTION

Stroke is the leading cause of adult disability and is the third commonest cause of death worldwide.[1] Diabetes Mellitus is a modifiable risk factor for a first ischemic stroke[2]. In people with type 2 diabetes mellitus, there is a 2 to 5 fold increased risk for stroke compared with those without diabetes.[3] Modifiable risk factors for stroke include hypertension, diabetes mellitus, hyperlipidemia, cigarette smoking, cardiac disease, drug abuse, heavy alcohol consumption [4]. Stroke is rapidly developing phenomena of symptoms and signs of focal and at times global loss of cerebral function of more than 24 hours with no apparent cause other than that of vascular origin.[5] Stroke is an emergency requiring urgent investigation and treatment.[6] The main pathological types of stroke are cerebral infarction, primary intra-cerebral hemorrhage and subarachnoid haemorrhage.[7]

MATERIAL AND METHODS

This descriptive study was conducted on one hundred patients with stroke, having infarction or hemorrhage as a cause of stroke, admitted in Medical A unit of Hayatabad Medical Complex Peshawar. The duration of this study was six months, from Jan 2011 to June 2011.Criteria for inclusion consisted of patients admitted with stroke and having infarction or hemorrhage as a cause of stroke diagnosed on CT scan of the brain. Patients with stroke secondary to space occupying lesions, meningitis, encephalitis and blood dyscrasias were excluded.

After formal consent, patients fulfilling the inclusion criteria were further assessed through a detailed history of hypertension, diabetes mellitus, smoking, previous stroke, TIA, previous myocardial infarction, angina, atrial fibrillation, alcohol intake and drugs used for hypertension and diabetes mellitus. Patients were diagnosed as diabetic if fasting plasma glucose level was >126mg/dl or random glucose level >200 mg/dl on more than one occasion or symptomatic patients with single abnormal recording. Patients who were Normoglycaemic at the time of presentation but history of diabetes, taking insulin or oral hypoglycemic drugs were also labeled as diabetics. Detailed clinical examination was carried out with particular emphasis on Neurological and cardiovascular systems. Routine investigation like FBC, Blood glucose, urine R/E, ECG were done in all patients while in some patients lipid profile, echocardiography and HbA1c was done.

A simplified clinical approach was adapted by evaluating each patient. All the findings were recorded in printed proforma.

Other relevant data like name, age, sex, address, occupation were also recorded. All the studied variables like age, sex, diabetes mellitus, subtypes of stroke e.g., ischemic or hemorrhagic etc., were analyzed by using SPSS version 11. The data was described as Mean ±SD for numeric variables and frequencies and percentages for categorical variables.

RESULTS:

Among 100 patients admitted with stroke confirmed on CT brain 70 were male while 30 were female patients. The male to female ratio was 2.33:1.The patients were aged between 40 and 80 years while the mean age was 63.73.(Table 2.)

Out of 100 patients 25 were having Diabetes mellitus, 10 were male and 15 female cases (Bar chart) Twenty four patients were known diabetics while 1 patient was diagnosed as diabetic during hospital stay. Among known diabetics, 12 patients were either not using anti-diabetic medication or using it irregularly. All except 10 diabetic patients were on oral hypoglycemic agents. Ten patients were using insulin for less than five years and were also skipping their doses. Duration of Diabetes Mellitus varied from newly diagnosed cases up to twenty-five years.

DISCUSSION:

Stroke is a medical emergency and can cause permanent neurological damage, complications, and death. Increasing age is the strong determinant of stroke, women outnumber the stroke prevalence[7] which is also present in our study. The mean age of stroke presentation is less than that in the west and it may be because of better quality of life and standard of care.[7,8,9] Diabetes mellitus was present in 25 (25%) cases.

Diabetes mellitus increases the risk of stroke. In our study twenty-five percent stroke patients were diabetic which is similar and comparable with other national studies . Diabetes mellitus has been reported as following: Intikhab A (28%),[10] Liaqat A (27%)[11] Basharat RA (21%)[12],Syed Riaz ul Hassan (25.5%)[13],Suhail Ahmad Alani et all (29%)[14],M.safeer (26%)[15] while it is low in comparison with Khan H. (32.70%)[16] Al-Rajeh22 (42%)[17]., Javaid MA(32%)[18] The reason could not be explained. Sixteen percent patients were having both hypertension and diabetes mellitus. The two risk factors often coexist and increase the chances of stroke. Most of our patients were uneducated and unaware of the consequences of poor control of hypertension, diabetes mellitus and other risk factors.

CONCLUSION

Diabetes is the most common modifiable risk factor for stroke especially in cerebral

Infarction. Most of the major risk factors for stroke are modifiable and need awareness, regular use of medication and changes in life style. The national stroke prevention program should initiate and coordinate public awareness campaigns and develop guidelines to reduce the incidence, morbidity and mortality of stroke in Pakistan by prevention and management of the major risk factors.

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