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STROKE;
COMMON FACTORS LEADING IN YOUNG LOCAL POPULATION.

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ABSTRACT… Objectives: To determine the frequency of common factors leading to stroke in young local population. **Study Design:** It is Descriptive Cross-Sectional study. **Setting:** Medical floor, DHQ, Hospital, Faisalabad. **Period of Study:** 6 Months, September, 2016 to February, 2017. **Methodology:** A total of 150 diagnosed cases of stoke between 18-40 years of age of either gender were enrolled in this trial. We excluded all those cases with recurrent history of cerebrovascular accidents, space occupying lesion, head injury, hypoglycemia, transient ischemic attack, CNS infection. We used CT brain showing either infarct or hemorrhage. After a detailed history from patient/relative including the common factors of stroke, all patients undergoing thorough physical examination, CT/MRI Scan brain, lipid profile and fasting blood glucose measurement to rule out the presence/absence of hypertension, smoking, Dyslipidemia and diabetes mellitus being the common risk factors. **Results:** Age distribution shows 38% (n=57) were between 18-30 years while 62% (n=93) between 31-40 years, mean±sd was calculated as 35.21±6.47 years. (Table-I) Gender distribution shows 64% (n=96) male and 36% (n=54) females. (Table-II). Frequency of common factors leading to stroke in young adults reveals hypertension in 60.67% (n=91), diabetes mellitus in 41.33% (n=62), smoking in 31.33% (n=47) and dyslipidemia in 23.33% (n=35). **Conclusion:** The results of the study conclude that among common factors hypertension, smoking, dyslipidemia and diabetes mellitus are the leading causes of stroke and these factors are modifiable and by controlling on these factors, the frequency of stroke in young adults may be avoided.

Key words: Stroke, Young adults, Causes, Hypertension, Smoking, Dyslipidemia and Diabetes Mellitus.

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INTRODUCTION

Stroke is defined as the acute loss of focal and at times global cerebral function; the symptoms lasting for more than 24 hours or leading to death and with no apparent cause other than vascular origin.[1] Transient ischemic attacks (TIA) and stroke are highly prevalent in our country. A recent community-based survey estimated 21.8% cases of stroke and/or TIA in Karachi City.[2] Stroke-specific fatality is ranged between 7% to 20% in multiple local studies. Around 63% among all stroke sufferers may develop the complications while upto 89% of the cases are dependent for daily living activities.[3] Our data regarding risk factor for stroke is consistent with the Western world where most of the cases are found with smoking, diabetes mellitus, hypertension, dyslipidemia and cardiac disease.[3-4]

Stroke is significantly higher in old age group but previous data reveals 18% of the cases are younger, which is a strong indicator for Pakistan with the fact that a large proportion of our population is young adults.[5-7] Previous data regarding the rate of risk factors of stroke reveals that the common risk factors in younger age group are dyslipidemia, diabetes mellitus, hypertension and smoking.[8-10]

This study aimed to record the rate of risk factors of young stroke in our population so that this issue may be high lightened and to control these modifiable risk factors thus preventing this morbidity in young age group.

METHODOLOGY

A total of 150 diagnoses cases of stoke between 18-40 years of age of either gender were enrolled in this trial. We excluded all those cases with recurrent history of cerebrovascular accidents, space occupying lesion, head injury, hypoglycemia, transient ischemic attack, CNS infection. A permission letter from hospital ethical committee was obtained. The patients inducted from medical units of DHQ, Hospital, Faisalabad, admitted through casualty and outpatient department. We used CT brain showing either infarct or hemorrhage. After a detailed history from patient/relative including the common factors of stroke. All patients undergoing thorough physical examination, CT/MRI Scan brain, lipid profile and fasting blood glucose measurement. This was done to detect common factors like hypertension, smoking, Dyslipidemia and diabetes mellitus.

RESULTS

Age distribution shows 38% (n=57) were between 18-30 years while 62% (n=93) between 31-40 years, mean+sd was calculated as 35.21+6.47 years. (Table-I) Gender distribution shows 64% (n=96) male and 36% (n=54) females. (Table-II). Frequency of common factors leading to stroke in young adults reveals hypertension in 60.67% (n=91), diabetes mellitus in 41.33% (n=62), smoking in 31.33% (n=47) and dyslipidemia in 23.33% (n=35). (Figure-1) We stratified the data for age and gender, out of 91 cases with hypertension 57.14%(n=52) were between 18-30 years and 42.86%(n=39) were between 31-40 years of age while 59.34%(n=54) were male and 40.66%(n=37) were females, out of 47 cases of smoking 68.09%(n=32) were between 18-30 years of age and 31.91%(n=15) were between 31-40 years of age while 80.85%(n=38) were male and 19.15%(n=9) were females, out of 35 cases of dyslipidemia 31.43%(n=11) were between 18-30 years of age and 68.57%(n=24) were between 31-40 years while 54.29%(n=19) were male and 45.71%(n=16) were females, lastly, out of 62 cases of diabetes mellitus, 38.71%(n=24) were between 18-30 years of age and 61.29%(n=38) were between 31-40 years while 54.84%(n=34) were male and 45.16%(n=28) were females. (Table-III).

Age(in years)	No. of patients	%
18-30	57	38
31-40	93	62
Total	150	100

Table-I. Age distribution (n=150)
Mean and SD: 35.21±6.47

Gender	No. of patients	%
Male	96	64
Female	54	36
Total	150	100

Table-II. Gender distribution (n=150)

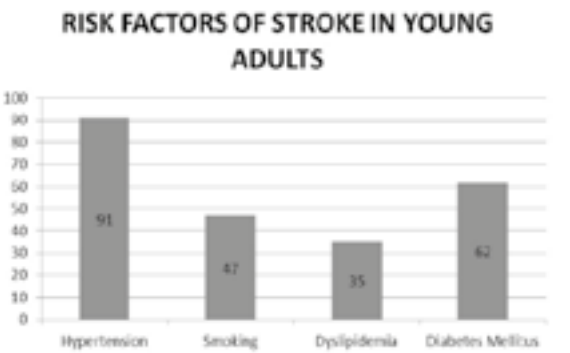

Figure-1. Frequency of common factors leading to stroke in young adults (n=150)

Factors	No. of patients	Stratification for age		Stratification for gender	
		18-30	31-40	Male	Female
Hypertension	91	52(57.14%)	39(42.86%)	54(59.34%)	37(40.66%)
Smoking	47	32(68.09%)	15(31.91%)	38(80.85%)	9(19.15%)
Dyslipidemia	35	11(31.43%)	24(68.57%)	19(54.29%)	16(45.71%)
Diabetes Mellitus	62	24(38.71%)	38(61.29%)	34(54.84%)	28(45.16%)

Table-III. Stratification for common factors with regards to age and gender

DISCUSSION

Stroke in young adults is infrequent but devastating for the affected ones and their families. In recent past, there is a growing interest on this issue owing to increase stroke rates in younger population and improved patient evaluation and treatment options.[11-15]

It is of general agreement that younger age group has a better chance of surviving a stroke as compared to the older ones. However, most of the survivors are social, emotional, or physical sequelae which may impair the quality of life. Additionally, these victims are responsible for providing child care or to generate income for their families. So, the ability to predict prognosis may be of supreme importance in this population.

We aimed to record the rate of risk factors of young stroke in our population so that this issue may be high lightened and to control these modifiable risk factors thus preventing this morbidity in young age group.

The findings of our study are nearly in agreement with a recent Asian study who reveals that hypertension (65.7%), smoking (22.4%), dyslipidemia (37.3%) and diabetes mellitus (52.2%)[10] among patients who developed strokes in young age.

Two studies have been specifically devoted to intracerebral hemorrhage in young adults. In one study, arteriovenous malformations were diagnosed in 20 cases out of 72 patients aged 15 to 45 years (29%). Other etiologies were hypertension (15%), aneurism (9%), and use of sympathomimetic drugs (7%).[16] In another study on 91 patients aged 15 to 40 years, hypertension was the most common etiology, diagnosed in 30% of cases.[17] In a study on non-hypertensive cerebral hemorrhages, arteriovenous malformations, tumors, anticoagulant therapy, and amphetamine like agents were emphasized as the main causes in young patients.[18] In our study, hypertension was the leading cause.

As, the mortality and morbidity in young adults' increases socioeconomic burden immensely as these individuals are responsible for providing manpower, generating incomes and child care for their families, therefore, by knowing risk factors may be of paramount importance in this age group and will help in decreasing enormous socio-economic burden on our limited healthcare resources thereby helping public at large.

CONCLUSION

The results of the study conclude that among common factors hypertension, smoking, dyslipidemia and diabetes mellitus are the leading causes of stroke and these factors are modifiable and by controlling on these factors, the frequency of stroke in young adults may be avoided.

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"No reason to stay,
is a good reason to go."

Unknown

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