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A PROSPECTIVE STUDY OF RISK FACTORS OF STROKE PATIENTS

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ABSTRACT

Cerebrovascular disease have been defined by National Institute of Neurological Disorders and Stroke (NINDS) as a permanent and transient involvement of certain cerebral region as a result of ischemia or bleeding and/or primary pathological damage of one or more than one blood vessels supplying the brain tissue. A total of 211 cases were included in the study. All patients newly diagnosed with stroke were included in this study. In our study 37 patients (17.5%) with non-modifiable risk factors and 174 patients (82.46%) with modifiable risk factors [fig3]. Among 174 patients 104 male patients (59.77%) and 70 female patients (40.20%) were having risk factors [fig 4]. Hypertension (47.29%), smoking (37.16%) and excessive alcoholism (34.46%) were the leading modifiable risk factors. The main objective is to maintain the BP under 120/80 mm Hg. Through efficient public education about the awareness of risk factors and management of stroke will improve the patient care and the incidence of stroke.

KEYWORDS: Cerebrovascular disease patient care and the incidence of stroke.

INTRODUCTION

Cerebrovascular disease have been defined by National Institute of Neurological Disorders and Stroke (NINDS) as a permanent and transient involvement of certain cerebral region as a result of ischemia or bleeding and/or primary pathological damage of one or more than one blood vessels supplying the brain tissue. Stroke is a term used to describe an abrupt onset of focal neurologic deficit that last at least 24 hours and is of presumed vascular origin. Risk

factors for stroke can be subdivided into non-modifiable and modifiable. An individual's risk of having a stroke increases substantially as he or she ages, with a doubling of risk for each decade after age 55. Men are at a higher risk of stroke than women when matched for age, but women who suffer from a stroke are more likely to die from it. The most important modifiable risk factor for stroke is hypertension and a second very important risk factor for stroke is cardiac disease such as CAD, CHF, Left ventricular hypertrophy and atrial fibrillation. The presence of atrial fibrillation is one of the most potent risk factors for ischemic stroke and head trauma / injury for haemorrhagic stroke. Some of the modifiable risk factors are HTN, DM, dyslipidaemia, smoking, alcohol, physical inactivity, obesity and diet. Non modifiable risk factors include age, gender, race, and ethnicity. The main symptoms include weakness on one side of the body, inability to speak, loss of vision, vertigo, or falling. Ischemic stroke is not usually painful, but patients may complain of headache, and with haemorrhagic stroke, it can be very severe. Pharmacological treatment include t-PA, anti- platelet agents, anti-coagulant, hypolipidemic agents, antihypertensive agents and neuroprotectives.

MATERIALS AND METHODS

The study was conducted at Nishtar Hospital, Multan. The study was conducted over a period of six months from November 2015 to April 2016. The study was designed as a prospective observational study by collecting various data of patients who were newly diagnosed with stroke. Preliminary data (age, sex) laboratory investigations, prescribing patterns and drug related problems were collected using data entry forms. A total of 211 cases were included in the study. All patients newly diagnosed with stroke were included in this study. Patients who were diagnosed with other major co-morbidities (cancer, CKD, cardiovascular diseases) and patients having past medical history of stroke were excluded from the study.

RESULTS

The study was carried out over a period of six months from November 2015 to April 2016. During the study period, a total 211 patients were included. Of these 60.19% (n=127) patients were male and 38.81 %(n=82) were female [fig1]. It is evident from the study that male populations were more prone to develop stroke. In our study the majority of patients comes under the age group 60-69 years [fig2]. In our study 37 patients (17.5%) with non-modifiable risk factors and 174 patients (82.46%) with modifiable risk factors [fig3]. Among 174 patients 104 male patients (59.77%) and 70 female patients (40.20%) were having risk factors

[fig 4]. Hypertension (47.29%), smoking (37.16%) and excessive alcoholism (34.46%) were the leading modifiable risk factors. The list of risk factors were given in the [fig 5].At the time of admission 52 patients (24.64%) and 66 patients (31.28%) were coming under stage 1 hypertension based on JNC 8 guidelines [fig 6, 7]. At the time of discharge 67 patients(31.75%) were coming under stage 1 systolic hypertension based on JNC 8[fig 8] and 79 patients(37.44%) were coming under border line diastolic blood pressure based on JNC 8[fig 9].45 patients (40.17%) were having past medical history of hypertension with hypertension at the time of admission, 42 patients (37.5%) were having hypertension at the time of admission and 25 patients (22.32%) were having only past medical history of hypertension [fig 10]. In the study 201 patients (95.2%) were having mixed type of diet and 10 patients (4.7%) were having vegetarian type of diet [fig 11].

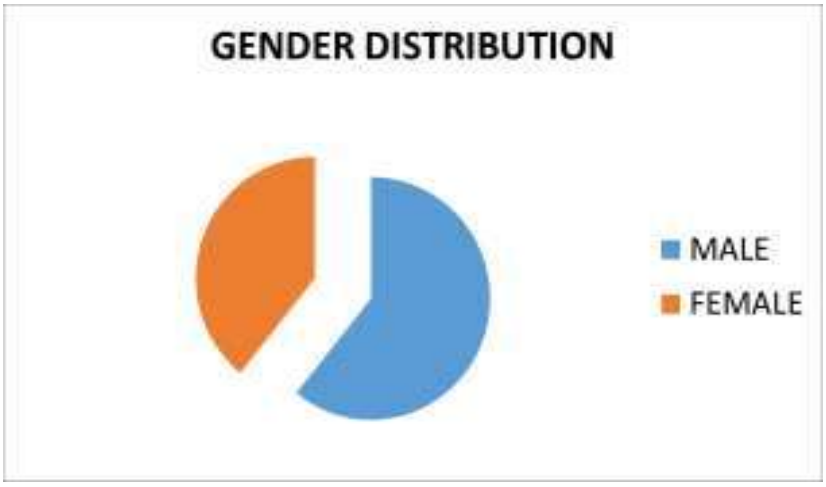

Figure 1: Gender Distribution.

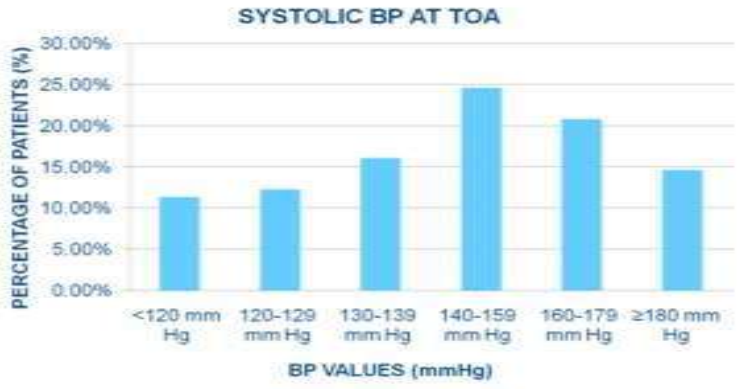

Figure 2: Age Distribution.

Figure 3: Distribution Based on Type of Risk Factor.

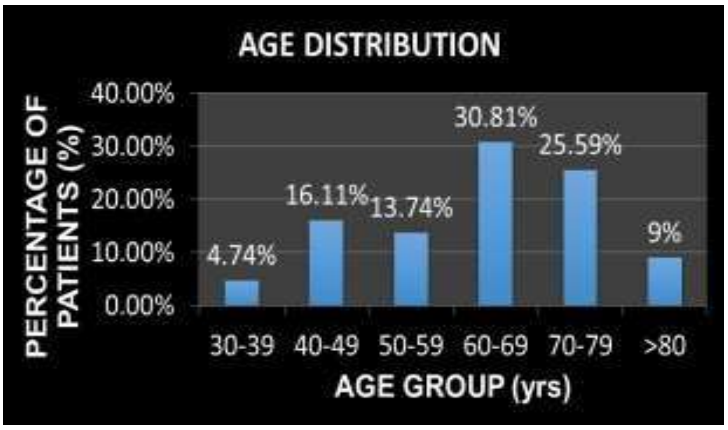

Figure 4: Distribution of Gender Based on Modifiable Risk Factor.

Figure 5: Distribution of Risk Factors.

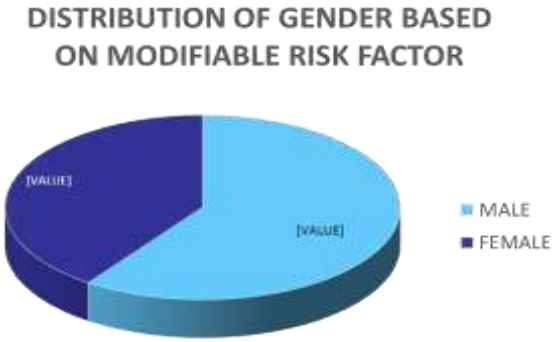

Figure 6: Distribution of Systolic Bp Toa Based on Jnc 8 Guidelines.

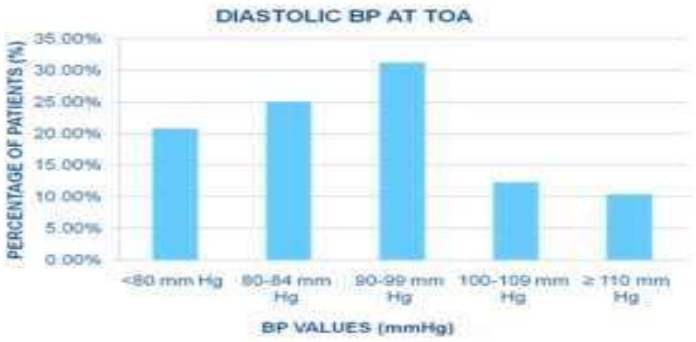

Figure 7: Distribution of Diastolic Bp at Toa Based on Jnc 8 Guidelines.

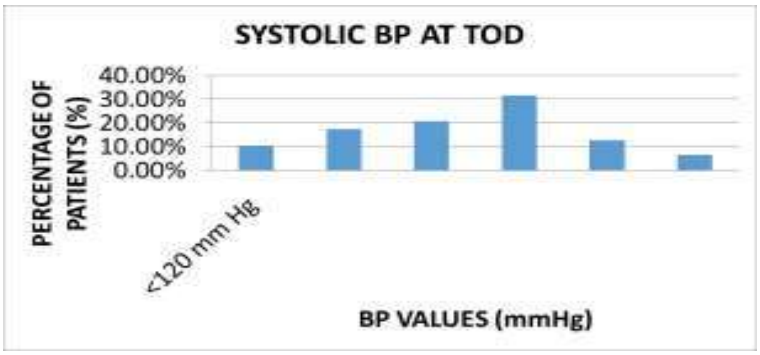

Figure 8: Distribution of Systolic Bp at Tod Based on Jnc8 Guidelines.

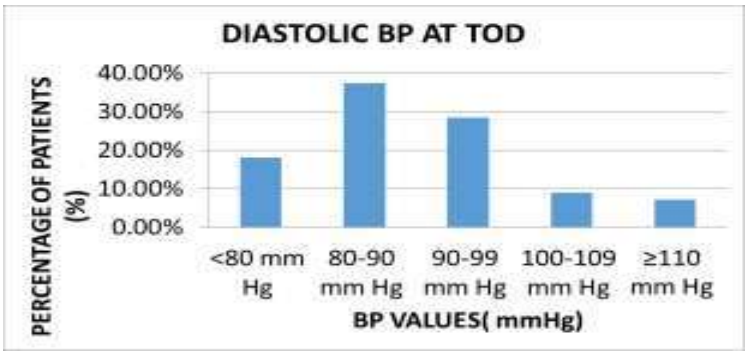

Figure 9: Distribution of Diastolic Bp At Tod Based On Jnc 8 Guidelines.

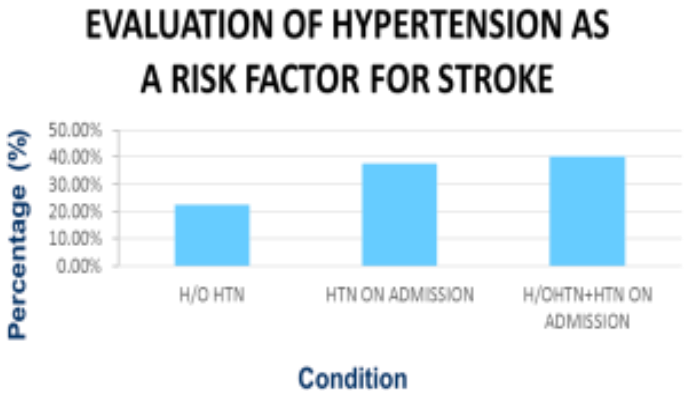

Figure 10: Evaluation of Hypertension As A Risk Factor For Stroke.

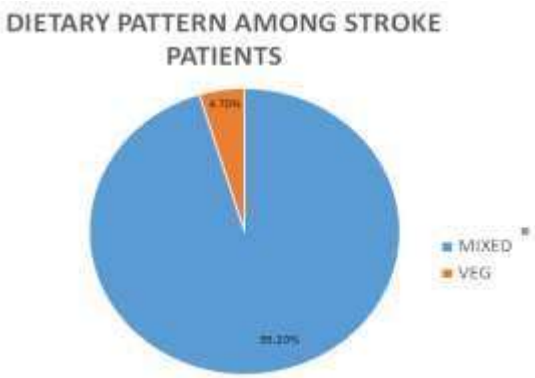

Figure 11: Dietary Pattern Among Stroke Patients.

DISCUSSION

Stroke is a preventable cardiovascular disorder with well- recognized risk factors.[3] It is an important health problem which ranks 3rd after heart disease and cancer among causes of mortality and top of morbidity.[8] The identification and appropriate modification of these risk factors are the targets of both primary and secondary prevention strategies.[3] The objectives of this study were to know about profile of risk factors that may lead to stroke. The main observations of this study were the following: firstly male gender (60.19%) was having a high prevalence overall among stroke patients**.** In many studies geriatric patients were more prone to have stroke. Our study also concludes that 30.81% of patients were coming under the age group 60-69. Thirdly the most prevalent modifiable risk factor found was hypertension (47.29%) followed by smoking (smoking (37.16%) and excessive alcoholism (34.46%). The age is the strongest risk factor for both ischemic and hemorrhagic stroke. The incidence of stroke doubles with each decade over 55 years of age.[3] The BP was monitored at the time of admission and discharge. At the time of admission 24.64% and 31.28% were coming under stage 1 hypertension based on JNC 8 guidelines and at time of discharge 31.75% of patients were under stage 1 class of systolic HTN and 37.44% of patients were under prehypertensive stage according to JNC guidelines 8. The main objective is to maintain the BP under 120/80 mm Hg. If the BP is not controlled there will high chance of having recurrent stroke attack. The literature review reveals that dietary pattern also plays a major role in stroke particularly those patients having mixed diet.[10] Our study also complies with this. Apart from these risk factors, diabetes mellitus, dyslipidemia and head injury also plays a major role in stroke attack. Patients with history of head trauma/injury are most likely to cause hemorrhagic stroke.[11]

CONCLUSION

Our study concludes that most of the stroke cases were occurred due to modifiable risk factors. If these risk factors were controlled majority of stroke cases can be prevented. Blood pressure plays a major role in stroke so if it is not controlled there will be high chance of getting recurrent stroke which will be more severe. Through efficient public education about the awareness of risk factors and management of stroke will improve the patient care and the incidence of stroke.

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