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A CLINICAL STUDY ON THE PATIENTS OF STROKE PRESENTING AT MAYO HOSPITAL LAHORE

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Abstract:

Objective*: The aim of this research is the determination of the presentation mode, aetiology and the outcome of stroke patients.*

Methodology*: The design of the research is retrospective and the study was conducted at Mayo Hospital Lahore in the duration of one year from Aug-2017 to Jul-2018, including fifty patients in total. The attendants of the patients who were in the ICU filled us out with the necessary information regarding our study. Then we compiled the gathered material for presentation mode, aetiology (subarachnoid haemorrhage, cerebral haemorrhage and infarction) using CT scan and stroke patients' outcome. We further entered and analyzed the data in SPSS.*

Results*: During the research, we included a total number of fifty male and female patients (thirty and twenty respectively). The mean of their ages at the time of presentation was 59.9 yrs. Fifty percent (25) patients showing loss of consciousness, 16% (08) patients with fever and vomiting and 32% (16) patients giving symptoms of unilateral weakness were the common types of complaints which we recorded during the course of study. The most recurring factor was hypertension (in 28 patients), whereas the diabetic and smoker patients were 36% (18). We observed ischemia in 62% (31) patients and cerebral haemorrhage in 36% (18) patients. On the other hand, only one patient was having a subarachnoid haemorrhage. Out of the fifty patients, 46% (32) expired because of the deadliness of disease whereas the hospital discharged the rest 36% (18) patients alive.*

Conclusion*: The research concludes that the most common cause for patients having a stroke was ischemia, which we observed mostly in the smoker, hypertensive and older age-group males. The patients who reached hospital late had mortality and morbidity. This research advises conducting basic studies to prevent, recognize early and manage properly the risk factor in order to decrease the occurrence and fatalities caused due to stroke.*

Keywords: *Hypertensive, Subarachnoid, Unhealthy, Vomiting, Dysfunction, Fatalities*

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INTRODUCTION:

We normally associate the cause of stroke with the incidents of dysfunction of the focal brain due to haemorrhage or ischemia and subarachnoid haemorrhage. Annually, about 180-300 cases of stroke occur out of a hundred thousand. In developed countries, the probability of the stroke increases sharply with the increase in age. The rise of occurrence is happening due to the adaptation of an unhealthy style of living. The death of the 20% of patients occurs within a month that face acute stroke. About 20% of the patients of acute stroke die in a month after the incident. About 50% of the patients of acute stroke face physical disability after recovery. The cerebral infarction will happen to eighty-five percent of the patients of stroke as the part of their brain lack the flow of blood, whereas the remaining patients will suffer from intracerebral haemorrhage [1]. These pathologies require brain imaging to get distinguished and MRI and CT scan to guide management [2]. The probability of a hemorrhagic stroke increases with the neurological deficit which gets an indication from the severe vomiting and headache at the beginning [1].

The second largest cause of mortality internationally is a stroke. It is a significant fact that it is the foremost cause of chronic disability and the frequency of incidents will keep rising to the next five decades and more. We are fortunate that since last few decades the researchers have better identified the factors that pose the risks of stroke and has significantly lowered the incidents of stroke by improving the treatment of the diseases like hyperlipidemia and hypertension [3].

This research aimed at the determination of the presentation mode, aetiology and the outcome of stroke patients.

METHODOLOGY:

The design of the research is retrospective and the study was conducted at Mayo Hospital Lahore in the duration of one year from Aug-2017 to Jul-2018, including fifty patients. The attendants of the patients who were in the ICU filled out the necessary information on a proforma which carried the info related to sex, age, hypertension, hyperlipidemia, previous stroke history, smoking and diabetes mellitus. We declared patients as hypertensive where we detected, either at the time of their arrival or during their stay at the hospital, the Diastolic Blood Pressure of Hg greater than 95 mm and systolic BP of Hg greater than 140 mm, 03 or more times. Either these patients were undergoing the therapy for hypertension or not.

Either the patient's diabetic history was undergoing the treatment (counting insulin as well) or not, we considered them patients of diabetes mellitus when their glucose levels were greater than 126 mg/dl in the sample with fasting and greater than 200 mg/dl in the sample taken randomly [4].

We used the Glasgow scale of coma to thoroughly examine and determine the consciousness level of the patients who we received as unconscious when they got admission. We also examined the body parts responsible for power in limbs i.e. bilateral or unilateral limb. In order to analyze the cause of the stroke for example haemorrhage, subarachnoid haemorrhage or infarction we advised the CT scan only. We provided the airway using mouth-gauge immediately to the patients after any type of stroke. We gave the aspiring to the patients who we confirmed of ischemic stroke after CT scan in order to reduce the possibilities of another stroke. As we lacked the facilities to monitor the coagulation profile, we could not arrange for tpA for any patient. Initially, we advised the patients to visit after a week and then after observing their condition, advised them accordingly to observe the stroke's longer duration complications.

RESULTS:

Results: During the one-year period of research we included a total number of fifty male and female patients (thirty and twenty respectively). The mean of their ages at the time of presentation was 59.9yrs. The patients who managed to reach the hospital within 02 hrs were 21 whereas the other twenty-nine arrived within the 03 hrs of stroke. The most recurring factor was hypertension (in 28 patients). The smoker diabetic patients were 36% (18) whereas the four patients had only diabetes. The number of patients with hyperlipidemia was fifteen. We medically managed all the patients except the 01 whom we referred to mayo Hospital to undergo surgery because of acute intracranial hemorrhage.
We gave aspirin to all the patients and as we lacked the facilities to monitor the coagulation profile, we could not treat any patient using thrombolysis like warfarin, heparin or tpA.

We gave anti-hypertension drugs to patients with hypertension. The patients stayed at the hospital for the mean duration of 13±5 days.

Table – I: Clinical Presentation in Stroke Patients (50)

Clinical Presentation	Male		Female		Total
	Number	Percentage	Number	Percentage	Number
Unilateral Weakness	10	62.00	6	38	16.00
Unconsciousness	16	64.00	9	36	25.00
Vomiting & Fever	4	50.00	4	50	8.00
Fever Only	0	0.00	1	100	1.00

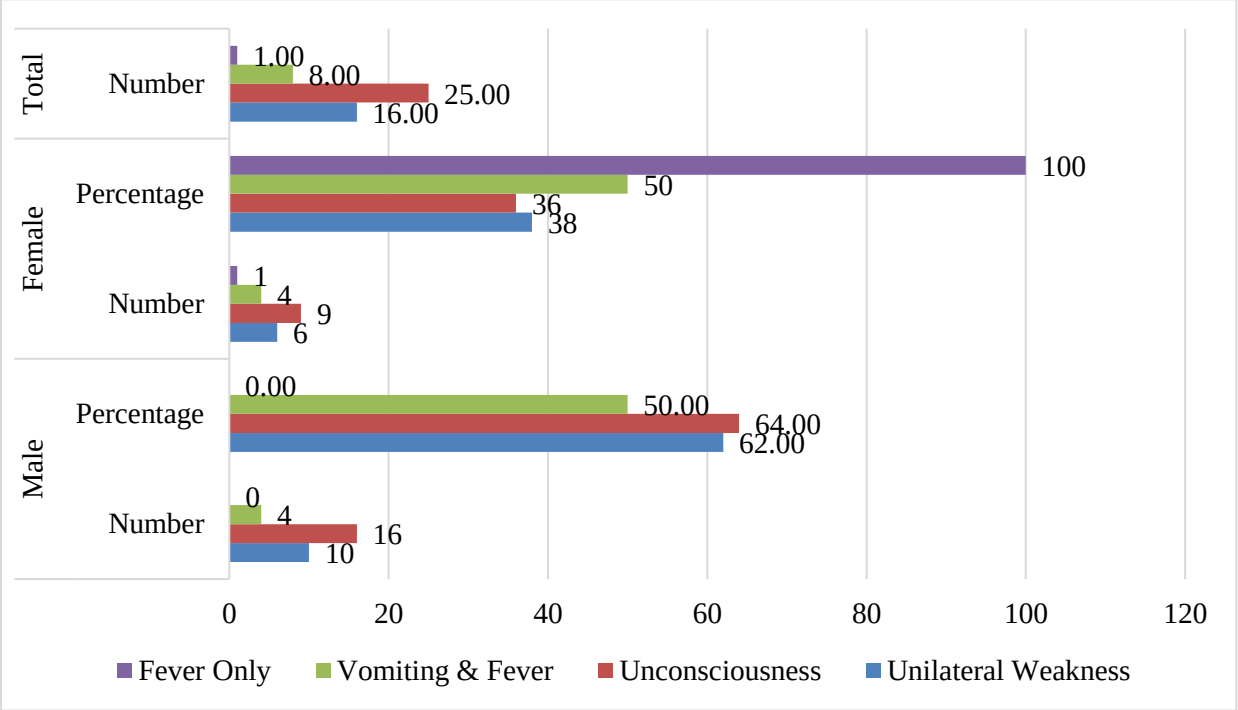


Table – II: Risk Factors in Stroke Patients (50)

Risk Factors	Male		Female		Total
	Number	Percentage	Number	Percentage	Number
Hypertension	17	61.00	11	39.00	28
Diabetic & Smokers	10	56.00	8	44.00	18
Diabetes	3	75.00	1	25.00	4

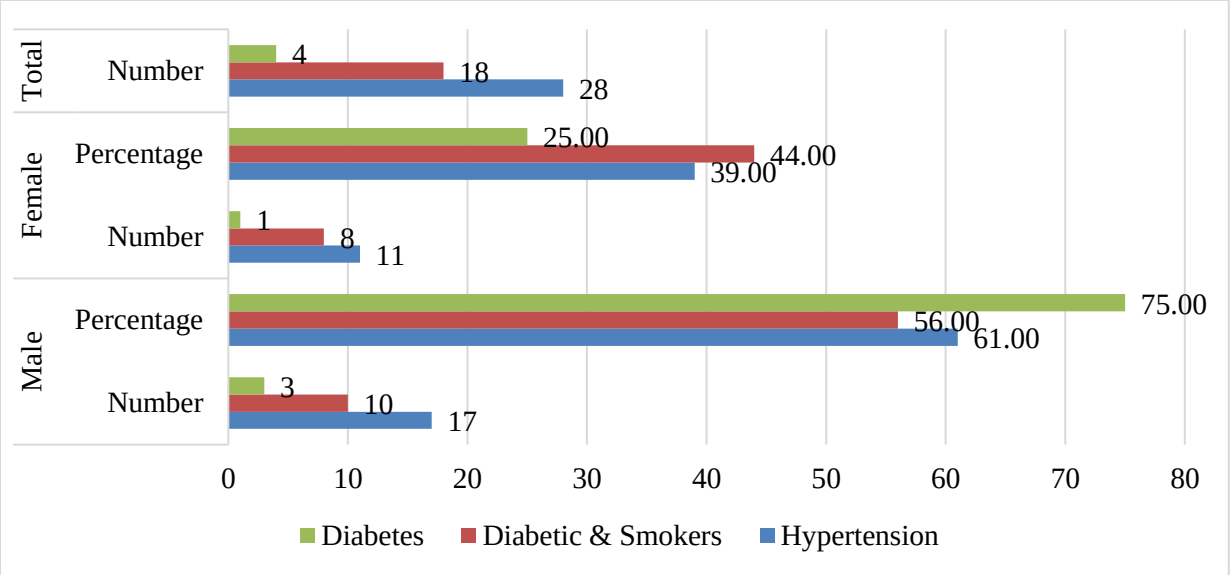


Table – III: Underlying Cause in Stroke Patients (50)

Underlying Cause	Male		Female		Total
	Number	Percentage	Number	Percentage	Number
Ischemia	19	61.00	12	39.00	31
Hemorrhage (Cerebral)	10	56.00	8	44.00	18
Hemorrhage (Subarachnoid)	1	100	0	0.00	1

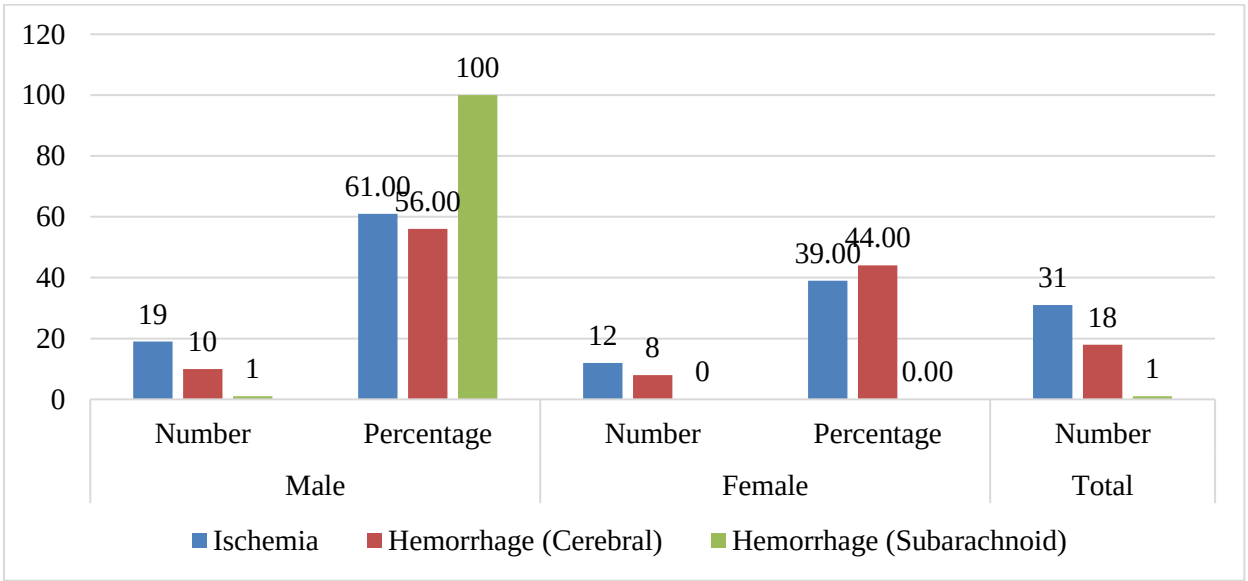
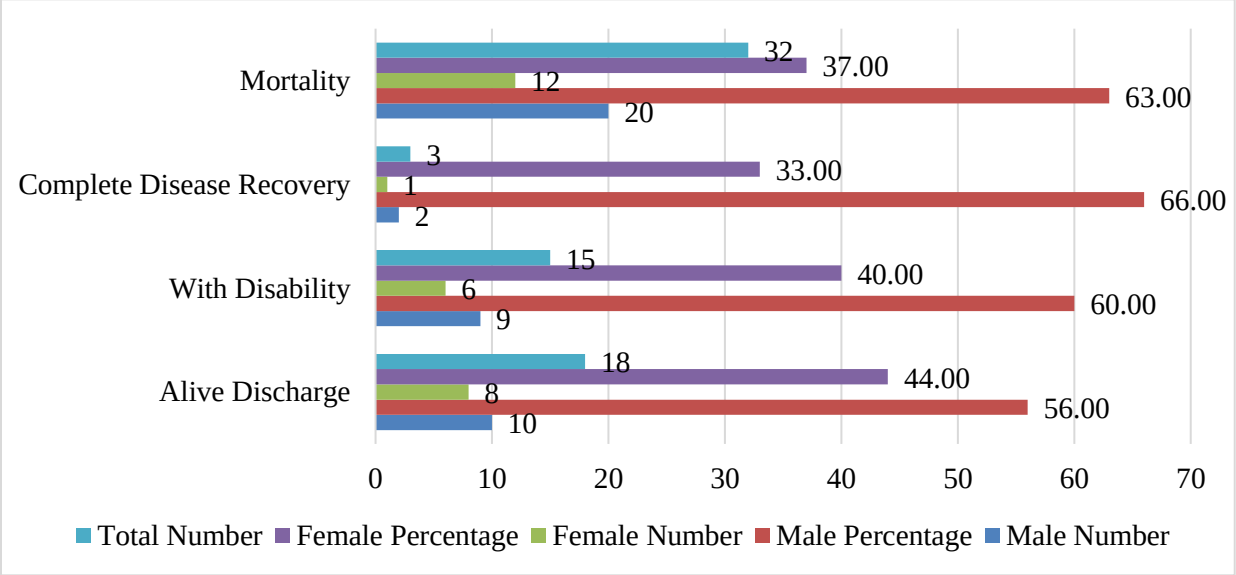


Table – IV: Outcomes in Stroke Patients (50)

Outcomes	Male		Female		Total
	Number	Percentage	Number	Percentage	Number
Alive Discharge	10	56.00	8	44.00	18
With Disability	9	60.00	6	40.00	15
Complete Disease Recovery	2	66.00	1	33.00	3
Mortality	20	63.00	12	37.00	32



DISCUSSION:

This research noted the female to male ratio of patients as 2:3 respectively whereas their mean age as 59.5yrs. We compared the findings of our research with the ones of Rotterdam's study [4] which indicated that the patients of the self-reported stroke prevailed as follows; 11.6% in 85 and above years, 8.9% in 75-84 years, 5.0% in 65-74 years and 2.5% in 55-64 years' age groups. This research endorses that although the mean age was low; in both sexes, the rise in frequency is directly proportional to the rise in age. The risk of stroke is 1.25 times greater in males than that of females, which many types of research prove [5, 6]. The most prevailing reason was hypertension after advanced age, which we observed in 56% (28) patients [6]. We endorsed in our study that Hypercholesterolemia is more of a response for causing ischemic strokes instead of hemorrhagic strokes [5]. Another significant factor posing a risk of stroke is diabetes mellitus, as many studies confirm it [1, 5]. Our study diagnosed 36% (18) patients having diabetes mellitus accompanied by smoking.

In most of the cases, the effects of the stroke develop within seconds and minutes affecting the body unilaterally [4]. Our study also confirms the unilateral weakness after the patients fell unconscious. Most of the times vomiting, headache and unconsciousness happen more frequently in the hemorrhagic stroke patients as compared to the ischemic stroke patients [1], which our study also proves.

As compared to the other researches [1-5], the patients of our study suffer more with ischemic stroke i.e. 62% (31). We used the international and national protocol to manage all of our patients in the hospital's emergency. As we lacked in the facilities to monitor the coagulation profile, we could not treat any patient using thrombolysis like warfarin, heparin or tpA. We gave anti-hypertension drugs to patients with hypertension. Different researches indicate that risk reduces greatly with the use of these drugs [4]. The hospital discharged 18 patients who managed to be alive out of which, fifteen remained physically disabled having problems like speech loss, pressure sores, urinary incontinence [6,7]. We observed the development of post-stroke seizures in 04 patients

amongst those fifteen. The comparison of our findings with the other studies shows the development of post-stroke seizure in 10%, whereas our research observes it as the most common type and confirm it to be 26.6% (04 out of 15) [8-11]. Our research also confirmed that although the incidence of ischemic stroke was more than that of hemorrhagic, the later one had a greater rate of mortality [12].

CONCLUSION:

Our research concludes that hypertension is the most common factor of producing a risk of stroke, particularly in cerebral hemorrhage. Diabetes mellitus stands at the second place. The other significant risk factors, particularly in cerebral infarction, are smoking and hypercholesterolemia. We observed ischemia as the dominating cause of stroke. The research also concludes that the mortality and morbidity of stroke patients increase with the patients arriving late in the emergency departments, having risk factors more in number and lacking the emergency facilities at the primary units of basic health. Morbidity and mortality also reduce with the facilities of referral. It is, therefore, the respective authorities should focus on the early diagnosis and basic training. The change in the standard of living can also do great in decreasing the incidence of this disease and reducing the mortality and morbidity. We advise the scholars that they should conduct the researches further on the observations regarding improvements caused by dropping the risk factors of stroke such as diabetes and hypertension.

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