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ANALYSIS OF CEREBRAL INFARCTION AND ITS RISK FACTORS AMONG LOCAL POPULATION OF PAKISTAN

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Abstract:
Introduction: The type of brain injury characterized by blockage of the blood supply and resulting in anoxia to the brain tissue and formation of the necrotic area lasting for more than 24 hours.
Objectives of the study: The main objective of the study is to analyze the cerebral infarction and its risk factors among local population of Pakistan.
Materials and methods: This descriptive study was conducted in Bahawal Victoria hospital, Bahawalpur during November 2018 to April 2019. It is a descriptive type of cross sectional study. The patients aging 20-75 years were enrolled in our study.94% of the patients enrolled were presented through the emergency department of the Services Hospital,Lahore and the remaining 6% were from the other departments.
Results: In our study,98 patients having necrotic tissue in the brain were documented, the cases were aged 21 years to 75 years. The mean age of males was 54.4 years and that of females was 53.7 years. The most of the cases who suffered from the disease were more than 60 years of age in both the genders.
Conclusion: It is concluded that eighty five percent patients suffering from brain injury result in the cerebral malfunctioning. It is quite a common disease these days. Proper education and awareness must be given to the public regarding the risk factors and prevention of the disease by modifying the life style and other factors responsible.

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INTRODUCTION:

The type of brain injury characterized by blockage of the blood supply and resulting in anoxia to the brain tissue and formation of the necrotic area lasting for more than 24 hours. Loss or the altered level of conscious ness is the one of the most frequent presenting complaint besides hemipleigia. The brain injury is the second leading cause of the death in the world resulting in one hundred and 10 thousand deaths per year.[1] And more than half of this figure suffer from lifelong disabilities .[2] There are some risk factors that are more frequently found in patients suffering from the disease. Some of them are modifiable and others are non-modifiable like race, family back ground, society and civilization. The risk factors that are modifiable are smoking, high fat and high glycemic index foods,diabetes,ischemic heart disease and hypertension. [3] The focus of this study is to high light the dangerous aspects of the disease and the risk factors which are modifiable with proper treatment and rising awareness in the society. There are various presentations of the CVA, some of the patients show hemipleigia, monopleigia, quadripleigia, loss of vision or hearing and gait disturbances. The difference in the clinical presentations is due to involvement of different blood vessels that supply the specific areas of the brain. If the whole of the anterior, middle of posterior cerebral arteries are involved, there may be complex clinical presentations.

Objectives of the study:

The main objective of the study is to analyze the cerebral infarction and its risk factors among local population of Pakistan.

MATERIALS AND METHODS:

This descriptive study was conducted in Bahwal Victoria hospital, Bahawalpur during November 2018 to April 2019. It is a descriptive type of cross sectional study. The patients aging 20-75 years were enrolled in our study.94% of the patients enrolled were presented through the emergency department of Hospital and the remaining 6% were from the other departments.

It was made sure that

1. All of the patients had the first episode of cerebrovascular accident and they were transferred to the hospital within 24 hours of the accident. The person being enrolled from both the genders aged more than 20 years.
2. The computed tomography brain plain scan used in order to confirm the diagnosis of cerebrovascular accident. And differentiate between CVA hemorrhage and CVA infarction.
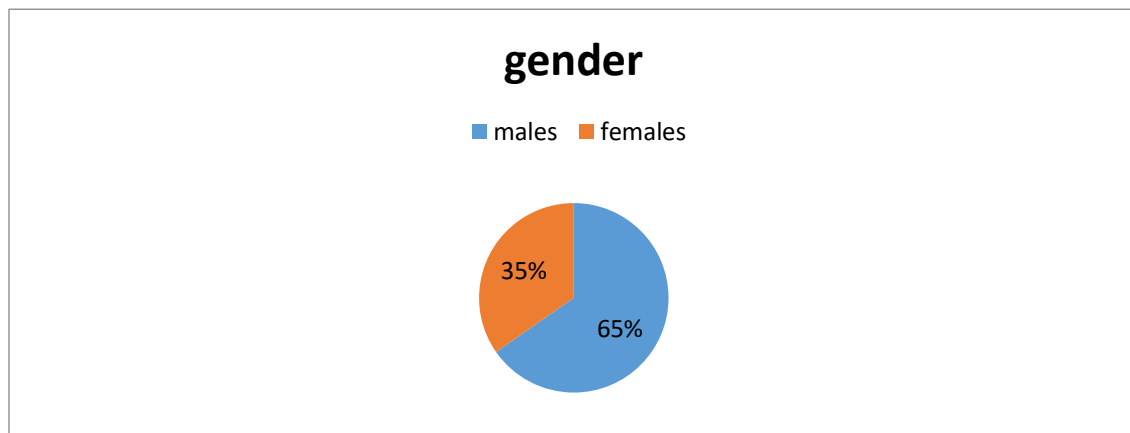
Data collection:

The CT scan brain plain used for confirmation of the disease.It differentiates infarction from the hemorrhage on the basis of density of the tissues and blood. There are a number of factors that may end up in causing CVA, the most important one found is hypertension and smoking being the second most important. The patients who presented with the disease were found to have 160/100 mm Hg blood pressure or above as per the history, before the occurrence of the disease. Diabetes and dyslipidemia were also found as risk factors in these patients.

Statistical analysis:

The data was collected and analyzed using SPSS version 21.0.

RESULTS:

In our study,98 patients having necrotic tissue in the brain were documented, the cases were aged 21 years to 75 years. The mean age of males was 54.4 years and that of females was 53.7 years. The most of the cases who suffered from the disease were more than 60 years of age in both the genders.

gender

Most of the patients enrolled have two or more risk factors as mentioned in Table-I. The most frequent of the risk factors was hypertension followed by smoking. Hypertension was recorded as main culprit in more than fifty % of patients. Thirty five percent cases were smokers and they had history of more than 15 pack years.

Table 01: risk factors of selected patients

Number of risk factors	Number of patients
One	18
Two	22
Three	36
Four	16
Five	6

DISCUSSION:

The risk of the brain injury increases with the increase in the age of the patient [4] and mean age in both the genders is 54.1 years. In a study conducted by Sacco RL reports that the mean age in the patients of CVA is seventy years that is much higher than our study [5]. A study done by Akher shows the average age of fifty three years, the result of this study is in line with results of our study [6]. The lack of education, ignorance towards the health and showing no concern towards the dangerous risk factors are the root cause of cerebrovascular accidents in Pakistan. The most highly prevalent age for this disease is 60 years and above for both genders. Al-Rajeh,in a study, shows that the same age is more prone to suffer from the disorder [7].

Hypertension being the most common etiological agent in our study. In our study, more than fifty percent of patients suffered from hypertension as well as reported by Ali-L [8] and Al-Rajeh [7].With the proper control of high blood pressure, thirty eight percent of the cerebrovascular accidents can be prevented. Diabetes mellitus is another etiological factor of the CVA after hypertension. This study of ours shows that 27% of the patients who suffered from CVA had diabetes as a risk factor along with other factors. The figures are much higher than that of discovered in a study done by Qureshi. In different studies, various percentages were reported for diabetes. Smoking is also an important etiological agent. This risk related to it depends on the quantity and the duration of the smoking cigarettes.

The extra Physical activity or work being carried out with hand at work place increases the risk for brain injury in patients having co-morbidities [9]. On the other hand,the less active people who are fat as well fell victim to the disease. Thirteen percent of cases have the positive family history for the brain injury and this value is a little bit higher in comparison with the other studies conducted in the same field [10].

CONCLUSION:

It is concluded that eighty five percent patients suffering from brain injury result in the cerebral malfunctioning. It is quite a common disease these days. Proper education and awareness must be given to the public regarding the risk factors and prevention of the disease by modifying the life style and other factors responsible.

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