

**ASSESSMENT OF THE RISK FACTORS OF CEREBROVASCULAR ACCIDENT IN  
STROKE PATIENTS: A DESCRIPTIVE STUDY**<sup>1</sup>Sidra Aslam, <sup>2</sup>Muhammad Arshad Mirani and <sup>\*3</sup>Zia Ur Rehman<sup>1</sup>Women Medical Officer, THQ Hospital Sillanwali, Sargodha.<sup>2</sup>Medical Officer, Civil Dispensary Sillanwali, Sargodha.<sup>3</sup>Medical Officer, THQ Hospital Sillanwali, Sargodha.**\*Corresponding Author: Zia Ur Rehman**

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**ABSTRACT**

Objective: There are different types of definitions of stroke given by different origins. Stroke is a sudden mental disorder in which the supply of the blood which carries oxygen to each and every cell of brain stops by some hindrance or narrowing of the blood vessels. The computed topographic scan was in use to discover the cerebral infarction for the very first time. It is an area of necrotic tissues in the brain resulting from blockage and narrowing in the arteries supplying blood and oxygen to the brain. The purpose of this research is to know about the danger aspects of the area of the necrotic tissue resulting in the blockage of the arteries of supplying blood and oxygen to the brain in the patients of brain attack. Methods: The method of this study was descriptive. This research carried out in General Hospital. Lahore in 2019. The computed tomography scan proved the presence of necrotic tissues in 50 patients of brain attack. All the patients having greater than 20 year age were selected as participants of the research. Family background about brain attack, narrowing of arteries in body, cigarette smoking, different heart diseases and high blood pressure are some of the dangerous factors of necrotic tissues in brain. Results: The information collected from all the participants of the research. There was at least two or more than two dangerous factors were present in the patients for blood arteries blockage in cerebral. Most danger and frequent danger factor was high blood pressure which was involving about 55% patients. 30% patients were smokers. Different percentages were available for all the danger factors for cerebral infraction. 51 percent were the men with an average age of fifty years and 49 percent were women with an average age of fifty three years. Conclusions: Area of necrotic tissue in the brain due to blockage in the blood is responsible for more than eighty percent of patients of brain attack which is a very frequent mental malfunction. It is the main cause of impairment of the human body and it also brings miseries to the sufferers and their close relations as well. It increases a burden of disability and misery for patients and their families. The danger factors of cerebral loss of its work are controllable. So, people of society should take important steps to reduce those factors.

**KEYWORDS:** Neuro, Blockage, Cerebral Disorder, Infraction, Adverse Factors.**INTRODUCTION**

There are different types of definitions of stroke given by different origins. Stroke is a sudden mental disorder in which the supply of the blood which carries oxygen to each and every cell of brain stops by some hindrance or narrowing of the blood vessels. The computed topographic scan was in use to discover the cerebral infarction for the very first time. It is an area of necrotic tissues in the brain resulting from blockage and narrowing in the arteries supplying blood and oxygen to the brain. There are many danger aspects which are modifiable to reduce this disorder. Hypertension is the result of drugs taken by the patients or some other reasons. This occurs when B.P is greater than one hundred and sixty millimeter of mercury in upper value and greater than ninety millimeter of mercury in lower

value. It is most common type of the risk factor for cerebral infarction. Stroke is a type of brain attack in which blood or oxygen to some part of brain cannot send due to blockage or narrowing of arteries and it lasts for more than one day. It is a serious kind of mental disorder. Loss of cerebral work is responsible for more than eighty percent of brain attacks.<sup>[1]</sup> Brain attack is the 2<sup>nd</sup> important cause of deaths in the world and it responsible for more than one lakh and fifteen thousand human deaths every year. Same amount of human being have brain attack every year without losing their life and fifty thousand are the victim of disability in the result of this disorder.<sup>[2]</sup> There are some dangerous factors which are not alterable as civilization or society, the background of the family, gender and race.

The dangerous aspects which are modifiable for infraction of cerebral are high blood pressure, different heart diseases, TIAs, cigarette smoking, the narrowing of arteries and a lot of rest.<sup>[3]</sup> The main purpose of this research was to know about the dangerous aspects of cerebral failure and evaluate the different types of the dangerous aspects which are reducible with proper treatment and bringing awareness through proper qualification.

## MATERIAL AND METHODS

The study was descriptive in nature. This research carried out in General Hospital, Lahore in 2019. Ninety three percent of the patients were from emergency department of the hospital and remaining seven percent were from other departments. Following criteria is followed for selection of patients in this study. All the participants had their first brain attack and they were taken to the hospital within one day after the beginning of signs. Participants having greater than twenty years of age were selected from both genders. The computed tomography scan was used for the confirmation of cerebral disorder. The sufferers of brain attack who discovered with other diseases from computed tomography scan rather than cerebral infraction and the patients who placed in extreme care and cannot transfer from one department to other were excluded from study.

Elaborated background information about the danger aspects of cerebral disorder due to blockage of blood and oxygen in the arteries gained. Different types of testing carried out for medical assessment such as B.P record and mental check-up. Electro cardiograph, serum profile, computed topographic scan and X ray of chest are some types of tests applied on the participants. There are different types of definitions of stroke given by different origins. Stroke is a sudden mental disorder in which the supply of the blood which carries oxygen to each and

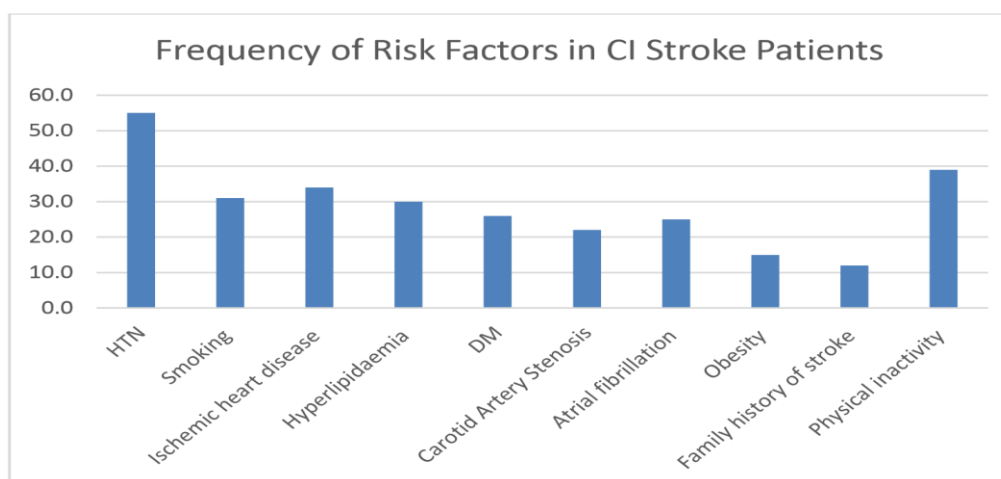
every cell of brain stops by some hindrance or narrowing of the blood vessels. The computed topographic scan was in use to discover the cerebral infraction for the very first time. It is an area of necrotic tissues in the brain resulting from blockage and narrowing in the arteries supplying blood and oxygen to the brain. There are many danger aspects which are modifiable to reduce this disorder. Hypertension is the result of drugs taken by the patients or some other reasons. This occurs when B.P is greater than one hundred and sixty millimeters of mercury in upper value and greater than ninety millimeters of mercury in lower value. It is most common type of the risk factor for cerebral infraction. FBS analysis carried out to know about diabetes in the patients. Dyslipidemia assessment carried out with increasing the cholesterol and triglycerides values. IHD checked when Q waves alter in electro cardiograph with a severe chest pain in the past or at the current moment. Fatness, cigarette smoking, and family background about this disorder are some of other dangerous aspects of this disorder.

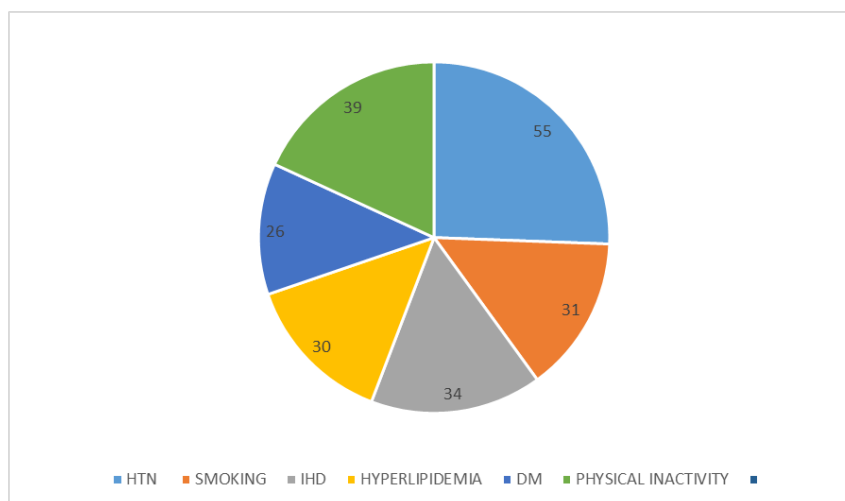
## RESULTS

In this research, documentation of fifty patients of having necrotic tissue in the brain carried out. Males were from twenty one to seventy eight years of age and women were twenty four to seventy eight year of age. The average age of the males was fifty years and average age of females was fifty three years. The most of the patients who got stroke were more than sixty years old in both genders. All the patients have at least two dangerous factors as mentioned in tabel I. The most frequent dangerous aspect was high blood pressure or hypertension. Hypertension was available as main reason in more than fifty five percent patients. Thirty percent patients were smokers and they were using more than 20 cigarettes per day from last sixteen years. Twenty six percent patients were suffering of diabetes.

Table 1:

Frequency of risk factors of cerebral infarction in stroke patients (N =50)						
Risk factor	HTN	Smoking	IHD	Hyperlipidemia	DM	Physical inactivity
No of pts (%)	55	31	34	30	26	39





**Frequency of risk factors for stroke pts**

## DISCUSSION

The danger of the brain attack increases with an increase in age,<sup>[4]</sup> and the average age in this research including both genders was fifty one point five years. Sacco RL reported mean age of seventy years for brain attack which was much greater than our research.<sup>[5]</sup> Akher reported average age of fifty three years which was closer to our report,<sup>[6]</sup> The poor education, ignorance and free hand to the dangerous aspects are the cause of cerebral disorder in Pakistan. Most celebrated age for this disease was the seventh decade of life for both genders. Al-Rajeh reported the same age prone for this disorder.<sup>[7]</sup> Hypertension is the most common danger factor in our study. There were fifty five percent patients of hypertension as mentioned by Ali-L,<sup>[8]</sup> and Al-Rajeh.<sup>[7]</sup> With the control of high blood pressure or hypertension, we can control thirty eight percent of the brain attacks.<sup>[13]</sup> Diabetes is another important risk aspect of the cerebral disorder after hypertension.<sup>[14]</sup> This research proved that twenty six percent patients of cerebral disorder were the victim of diabetes. It was much higher than discovered by Qureshi. There are different percentages mentioned in different studies for diabetes.<sup>[16]</sup> Smoking is another important risk factor. This risk depends upon the quantity of cigarettes used in one day.<sup>[17]</sup> The percentages of the patients were different for different risk factors as mentioned in the Tables. Thirty four percent patients were suffering of IHD and Al-Rajeh discovered the amount very near to it (thirty three percent). All the patients were young and had narrowing or blockage of mitral veins. In our study, twenty two percent patients discovered with narrowing of carotid artery which caused the blockage of blood and oxygen to the cells. Chang YJ almost discovered the same value.<sup>[24]</sup> The extra work carried out with hand at work place enlarges the dangerous aspects for cerebral disorder.<sup>[25]</sup> The less active people are fatty and they are also the best victim for the ischemic brain attack. Twelve percent patients have the family background for the brain attack and it was a little bit higher as compared to the other studies performed in the same field.<sup>[26]</sup>

## CONCLUSION

More than eighty percent patients of brain attack are the result of cerebral malfunctioning. It is very common mental disability. The proper qualification of the sufferers can modify the main dangerous aspects. The main danger factors of cerebral malfunctioning are high blood pressure, different coronary diseases and a lot of rest.

## REFERENCES

1. Warlow CP, Dennis MS, Van Gijn J, Hankely GL, Sandercock PAG, Bamford J, et al. Stroke: A practical guideline to management, 2nd ed. Blackwell scientific publications; Oxford, 2000.
2. Fayyaz M. Risk factors and early prognosis in stroke. *Annals*, 1999; 5(1): 12-15.
3. Schneider AT, Pancioli AM, Khoury JC, Rademacher E, Tuchfarber A, Miller R, et al. Trends in Community Knowledge of the warning signs and risk factors of stroke. *JAMA*, 2003; 289: 343-6.
4. Daven PR, Denis M. Neurological emergencies: Acute Stroke. *J Neurol Neurosurg Psychiatry*, 2000; 68: 277-88.
5. Sacco RL, Gan R, Boden-Albala B, Lin IF, Kargman DE, Hauser WA, et al. Leisure time physical activity and ischemic stroke risk: The North Manhattan stroke study. *Stroke*, 1998; 29: 380-7.
6. Akhter W. Stroke: The common modifiable risk factors and inpatient outcome. Dissertation College of Physicians and Surgeons Pakistan (CPSP). Med/3510-A / 2001.
7. Al-Rajeh S, Adnan A, Gulnar N, Emmanuel I. Stroke in a Saudi Arabian National Guard Community: Analysis of 500 consecutive cases from a population based hospital. *Stroke*, 1993; 24: 16 35-9.
8. Ali L, Jamil H, Shah MA. Risk factors in Stroke. *J Coll Phys Surg Pak.*, 1997; 7(1): 7-10.
9. Nasir M. Clinical Presentation of cerebral infarction and its association with major risk factors.

- Dissertation College of physicians and surgeons Pakistan (CPSP), Med/959/2000.
9. Burgin WS, Staub L, Chan W, Wein TH, Felberg RA, Grotta JC, et al. Acute stroke care in nonurban emergency departments. *Neurology*, 2001; 11,57(11): 2006-12.
  10. Feigin VL, Weibers DO, Nikitin YP, O'Fallen WMI, Whisnant JP. Risk factors for ischemic strokes in a Russian Community: A population based case control study. *Stroke*, 1998; 29: 34-9.
  11. Kissela B, Schneider A, Kleindorfer D, Khoury J, Miller R, Alwell K, et al. Stroke in biracial population: the excess burden of stroke among blacks. *Stroke*, 2004; 35: 426-31.
  12. Hoshida S, Kario K, Mitsuhashi T, Sato Y, Umeda Y, Katsuki T, et al. Different patterns of silent cerebral infarct in patients with coronary artery disease or hypertension. *Am J Hypertens*, 2001; 14(6 Pt 1): 509-15.
  13. Banerjee TK, Mukerjee CS, Sarkhel A. Stroke in urban population of Calcutta-an epidemiological study. *Neuro epidemiology*, 2001; 20(3): 201-7.
  14. Qureshi LI, Safdar K, Patel M, Janssen RS, Frankel MR. Stroke in young black patients. Risk factors, subtypes and prognosis. *Stroke*, 1995; 26: 1995-8.
  15. Rodriguez BL, D'Agostino R, Abbott RD, Kagan A, Burchfiel CM, Yano K, et al. Risk of hospitalized stroke in men enrolled in the Honolulu heart program and Framingham study: A comparison of incidence and risk factor effects. *Stroke*, 2002; 33: 230-6.
  16. Pancioli AM, Broderick J, Kothari R, Brott T, Tuchfarber A, Miller R, et al. Public perception of stroke warning signs and knowledge of potential risk factors. *JAMA*, 1998; 279: 1288-92.
  17. Javed MA, Ahmed M, Sial MSH, Naheed T. Risk factor in stroke. *Pak. J Neurol*, 1998; 4: 55-8.
  18. Kjaergaard JJ, Gelvan A. Risk factors for ischemic stroke in young Greenlanders: *Int J Circumpolar Health*, 2004; 63(2): 287-9.
  19. Ansari AK. Stroke in young adults: Identification of risk factors and prognosis. *Pak J Med Sci.*, 1999; 38: 10-13.
  20. Basharat AR, Yousaf M. Frequency of known risk factors for stroke in poor patients admitted to Lahore General Hospital in 2000. *Pak J Med Sci.*, 2002; 18(4): 280-3.
  21. Aronow WS, Ahn C, Gutstein H. Incidence of new athero-thrombotic brain infarction in older persons with prior myocardial infarction and serum low density lipoprotein cholesterol  $>$  or  $=$  125mg/dl treated with statins versus no lipidlowering drug. *J Gerontol A Biol Sci Med Sci.*, 2002; 57(5): 333-5.
  22. Abu-Rahma, AF, Wuluj T Jr, Crotty, B. Carotid plaque ultrasonic heterogeneity and severity of stenosis stroke, 2002; 33: 1772-5.
  23. Chang YJ, Ryu SJ, Lin SK. Carotid artery stenosis is ischemic stroke patients with nonvalvular atrial fibrillation. *Cerebrovasc Dis*, 2002; 13(1): 16-20.
  24. Hu FB, Stampfer MJ, Colditz GA, Ascherio A, Rexrode KM, Willett WC, et al. Physical activity and risk of stroke in women. *JAMA*, 2000; 283: 2961-7.
  25. Wolfe CDA, Rudd AG, Howard R. Incidence and case fatality rates of stroke subtypes in a multiethnic population: the south London stroke register. *J Neurology Psychi*, 2002; 72: 211-6.
  26. Milhaud D, Bogousslavsky J, Van Melle G, Liot P. Ischemic stroke and active migraine. *Neurology*, 2001; 27,57(10): 1805-11.
  27. Bushnell CD, Samsa GP and Goldstein LB. Hormone replacement therapy and ischemic stroke severity in women: A case control study. *Neurology*, 2001; 22,56(10): 1304-7.
  28. Haepniemi H, Hillborn M, Juvela S. Life style associated risk factors for acute brain infarction among persons of working age. *Stroke*, 1997; 8(1): 26-30.
  29. Sanderg O, Franklin KA, Bucht G, Gustafson Y. Sleep apnea, delirium, depressed mood, cognition and ADL ability after stroke. *J Am Geriatr Soc*, 2001; 49(4): 391-7.
  30. Sheikh AA. Cerebrovascular accidents in hypertensive subjects. Dissertation College of physicians and surgeons Pakistan (CPSP), Med/970-2000.
  31. Marzban M. Risk factors for stroke patients in Civil Hospital Quetta. Dissertation College of physicians and surgeons Pakistan (CPSP), Med/690/1998.