Factors that increases Stroke in Patients at Al-Muthanna Governorate during 2018

Asaad Adil Mnaather1, Musaed Hekmat Al Dahhan2, Sarah N.Shaker3, Kawther A.Ali4

1, 2 Al-Muthanna University, College of Medicine, F.I.C.M.S, Iraq
3 Al-Muthanna health directorate, Diploma of family medicine, Iraq
4 M.B.CH.B
*Corresponding author: asaadneuro@mu.edu.iq (Mnaather)

Abstract

Stroke is an abrupt onset of a neurologic deficit that is attributable to a focal vascular cause. Stroke can be classified According to vascular system into: arterial & venous, while according to pathology into: ischemic (infarction) & hemorrhagic stroke. The study aimed to determine trigger factors & their association with stroke, to determine risk factors of stroke & to estimate the prevalence of stroke in patients of Al-Muthanna province /Iraq. This study was a cross-sectional hospital-based study, done from May –December/ 2018 consisting of 100 Iraqi stroke patients whose are selected randomly from neurological ward in AL-Muthanna teaching hospital, on patients aged (50-80) years. History was taken from every included stroke patients & by radiological imaging (CT scan). Of 100 stroke patients, male: female ratio was 1.2:1. The extent of stroke was 87 % (ischemic) & 13% (hemorrhagic). Most common risk factor for stroke was hypertension (77%) and showed there was statistically significant association of Hypertension with Stroke. Emotion trigger in our study was responsible for 76.90% of ischemic & 23% of hemorrhagic stroke. The statistical analysis was done by using SPSS version 23 and tests of significance were used (x² test and Fisher exact test), and the Significant Probability value was \( \leq 0.05 \). Current study showed that ischemic stroke was more common than hemorrhagic stroke in Al-Muthanna province while hypertension & emotion was the most significant risk & trigger factors respectively. There was significant association between hypertension, emotion and stroke by Univariate analysis.

Key words: stroke, triggers, risk factors & CT scan


1-Introductions:

Stroke is considered common medical emergency. Incidence of stroke increases steeply with age and in many lower- and middle-income nations (1), in developed countries, it represents the 2nd most common cause of mortality and 3rd common reason of disability (2). A stroke is an abrupt (acute) onset of a neurologic deficit, as a result of a focal vascular lesion (3). Common reason of ischemic stroke is thrombosis, while the Causes of intracranial hemorrhage are uncontrolled hypertension, cerebral amyloid angiopathy, aneurysms, arteriovenous malformations, cavernous malformations, capillary telangiectasia & venous angiomas (4). Stroke can be categorized According to vascular system into: arterial & venous; at the same time as according to pathology into: infarction & hemorrhage (5). Risk factors for stroke categorized into modifiable factors (diabetes mellitus, hypertension, ischemic heart disease, obesity), and non-modifiable factors (gender, age, races &
ethnicity) (6). Potential Stroke Triggers: Depression and psychosocial strain as fairly critical trigger element for stroke also Heavy exertion, heavy meal/alcohol binge, chest infections, air pollutants, coffee intake, hospitalization for contamination, Pregnancy/ postpartum, Recreational tablets, urinary tract infections, weather changes are triggers (7). Emotion multiplied occurrence of plaques which might be liable to disruption and a higher chance of thrombotic occlusion, resulting in an ischemic event (8-9). The classical presentation of stroke is Unilateral weakness. Visual subject defects (hemianopia, quadrantanopia, sectoranopia), hemisensory deficit, and neuropsychological disorder (transcortical aphasia, reminiscence disturbances) may be seen after occlusion of the posterior cerebral artery (10). A non-contrast head CT can also become aware of the early signs of stroke, however most importantly will exclude intracranial hemorrhage while Magnetic resonance imaging (MRI) is used when there's diagnostic uncertainty or not on time presentation (11). To reduce the stroke burden, it is important to manage obesity, insulin resistance, metabolic syndrome & other modifiable risk factors. The risk of stroke and mortality lowered through life style modification which include consumption of healthy diet(fruits & vegetables), regular exercised, abstinence from smoking, decreased alcohol intake, and reduction and maintenance of weight (12). Recently, the identifications of stroke triggers is new area in stroke epidemiology to understand the major stroke risk factors & why strokes occur at a particular point in time (13).

**Aim of study:**

- To determine trigger factors for stroke & their association with stroke
- To determine risk factors of stroke
- To estimate the prevalence of stroke in patients of Al-Muthanna province /Iraq

**2-Methodology: -**

**2.1 study design and setting**

this study was a cross-sectional study, done from May-December/2018 consisting of 100 Iraqi stroke patients whose are selected randomly from neurological ward in AL-Muthanna teaching hospital. Inclusion criteria: acute stroke patients aged (50-80) years. Exclusion criteria: out of study population age & who have acute head trauma

**2.2 Sampling**

we included stroke patients those confirmed diagnosis by radiological imaging and clinical feature, patients whose involved in this study either ischemic or hemorrhagic stroke.

**2.3 Tools of study**

Clinical features, physical examination & radiological imaging

**2.4 statistical analysis**

All continuous data follow a normal distribution, so mean and standard deviation was used to represent the data. The socio-demographic distribution of study population, these data were presented as charts and tables in simple proportion and comparisons of subgroups were done by using Pearson Chi-square test. Data of the research was analyzed by using SPSS version 23. The statistical significant difference for p-value less than 0.05 was taken at confidence interval of 95%.

**3-Results:**

http://doi.org/10.36295/ASRO.2020.231609
A cross sectional hospital based-study was conducted on 100 stroke patients with male: female ratio 1.2:1 and mean age 64.7±11.699. The extent of stroke was 87% (ischemic) & 13% (hemorrhagic). The most common risk factor for stroke was hypertension (77%) and showed there was statistically significant association of Hypertension with stroke. The most common trigger factor for stroke was emotion (39%) & statistically significant associations.

Emotion trigger in our study was responsible for 76.90% of ischemic & 23% of hemorrhagic stroke. Also percentage of emotion factor was more in male (21.8%) than in female (17.2%) stroke patients but this difference was statistically not significant.

**Figure 1- Extent of stroke**

**Figure 2-prevalence of hypertension in stroke**

**Figure 3-prevalence of emotion related to stroke**

**Table 1-prevalence of risk factors & their association for stroke**

[Annals of Tropical Medicine & Public Health](http://doi.org/10.36295/ASRO.2020.231609)
4-Discussion:
This study is concern about the prevalence of stroke, associated risk factors& trigger factors in patients attending Al-Muthanna province\Iraq from during 2018.

The our study showed that extent of ischemic stroke was (87%) and hemorrhagic stroke was (13%) and this in Annals of Tropical Medicine & Public Health [http://doi.org/10.36295/ASRO.2020.231609](http://doi.org/10.36295/ASRO.2020.231609)
Our study showed the commonest risk factor in stroke patients was hypertension (77%), in comparable with study of Azra Zafar et al (15) that was (78%), in our study diabetes mellitus risk factor was (43%) & this in comparable with study of Zhe Kang Law et al (16) that was (49%), in our study ischemic heart disease percent was (18%) & this in with of study of Suhail Ahmed Almani et al (17) that was showed (16%), also smoking risk factor was (36%) that was in comparable with study of Tanika N. Kelly et al (18) that showed (38%).

In our study showed the most common trigger factors for stroke was emotional factor (39%) & this in comparable with study of Ashish Sharma et al (19) that showed emotional factor (38%), also in comparable with study of Sushil Razdan et al (20) that showed the emotional factor was (23%). Also our study showed the emotional trigger factor was significantly common in ischemic (76.90%) than in hemorrhagic strokes (23%) that was comparable with study of Koton S, Tanne D, Bornstein NM, Green MS (21) that showed emotional can trigger ischemic stroke in early hours post psychological trauma was (71%).

Yet, despite the differences between a lot of studies there was consistent evidence of a higher risk of cerebrovascular events early following outbursts of emotional attack like anger, psychological trauma & anxiety.

5-Conclusion:

• Prevalence of stroke in our study within acceptable percentage in comparable with other study
• Our study showed that ischemic stroke was more common than hemorrhagic stroke in Al-Muthanna province
• Hypertension & emotion was the most significant risk & trigger factors respectively.
• There was significant association between hypertension, emotion and stroke by Univariate analysis.

6-Recommendation:

• Educational programs about prevention of stroke at community level
• Early detection & control of hypertension
• Further study about stroke in young

7-References:


10. Okkes Kuybu; Rimal H. Dossani, Posterior Cerebral Artery Stroke. 2018 Jan


20. Sushil Razdan, KK Pandita and Sunil Kumar Raina, Triggering Risk Factors for Stroke: A Case Crossover Study from a Tertiary Care Hospital in Northwest India January 03, 2013