

Epidemiological Aspect of Stroke Cases in Al- Ramadi City

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Abstract:

Objectives: To study the subtypes of stroke, prevalence among age groups, sex, and the effect of some risk factors.

Patients and methods: 182 Stroke cases admitted to Al-Ramadi General Hospital during the period from November 2001 to August 2002 were studied. Clinical diagnosis of stroke was documented by spiral computerized tomography of the skull. Risk factors analysis was made based on history, clinical examination and laboratory investigations.

Results: The study showed that peak of stroke cases was in the sixth and seventh decades of the life with a mean age of 62.77 ± 12.7 and the incidence in males was 55.5% (101) while in females was 44.5% (81). The frequency of stroke subtype was 71.6% (130) of infraction type and 28.4% of hemorrhagic type.

Risk factors were found in 83.6% of cases and hypertension was the most common risk factor and the least one was previous history of transient ischemic attack. These results were nearly similar to other studies in Iraq.

Conclusions: Stroke is a common medical problem Al-Ramadi city. Majority of patients were having risks factors and the most common were hypertension cardiovascular disease, and diabetes mellitus.

Key words: Epidemiology, Stroke Infraction, Hemorrhage.

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Introduction:

Stroke incidence and prevalence reflect the impact of stroke in the community¹. Neurological disorders are a major cause of morbidity and mortality all over the world², especially stroke which presents the most common single cause for hospital admission³. An example that stroke is one of the leading cause death and serious long term disability is that in the United States stroke annually affects 600.000 people and causes 160.000 death and is the third most common cause of death after heart disease and cancer⁴.

Epidemiological data about stroke in Iraq is scanty and in Al-Anbar governorate is not available at all. A pervious study has estimated the death due to stroke in Iraq in 1978 to be about 1978 [males 1092 and female 7061 (6)]. We tried in this study to evaluate the epidemiological aspects of stroke by studying the stroke cases admitted to Al-Ramadi general hospital, the only central hospital in Al-Ramadi city and only place where CT scan available in this govemorate.

Aim of Study:

Is to assess the incidence, sex and age distribution, subtypes of stroke and presence of risk factors in stroke patients in Al-Ramadi City.

Patients and Method:

This descriptive study was conducted in Al-Ramadi General Hospital in Al-Ramadi city from Nov. 2001- August 2002 on 182 patients admitted to the hospital with features of acute stroke. A full history was taken from all patients or their relatives including history of risk factors like hypertension (HT), diabetes mellitus (DM), cardiovascular diseases (CVD), and past history of transient ischemic attacks (TIAs) or stroke.

A full clinical examination was done and spiral CT scan of the skull was performed to all patients and other investigations were also done including random blood sugar, erythrocyte sedimentation rate, chest X-ray and electrocardiography (E.C.G.).

Results:

The total number of patients was 182. The mean age of patients was 62.77 ± 12 years with a minimal age of 32 and maximum age of 94 years. These patients constitute 6.8% of all patients admitted to the medical ward in the hospital. 101(55.5 %) of patients were males 81 (44.5 %) were female. 73 of male patients have had infarction and 24 have had haemorrhage (44.1% and 17.4% of total cases respectively). We found that the highest percent of cases in both sexes was in the age group 60-69 years and the lowest was in the age group below 40 years. Both the subtypes of stroke (infarction and haemorrhage) were highest in the age group 60-69 years as shown in table 1.

Table 1: the distribution of cases and the incidence of stroke subtypes in different age groups:

| Age groups years | No of cases | % | Infarction | | Haemorrhage | |
|---------------------|-------------|-------|------------|------|-------------|------|
| | | | No | % | No | % |
| <40 | 7 | 3.85 | 4 | 3 | 3 | 5.8 |
| 40-49 | 11 | 6 | 7 | 5.4 | 4 | 7.7 |
| 50-59 | 38 | 20.9 | 27 | 20.8 | 11 | 21.1 |
| 60-69 | 70 | 38.46 | 53 | 40.8 | 15 | 32.7 |
| 70-79 | 37 | 20 | 26 | 20 | 17 | 21.1 |
| 80-89 | 14 | 7.7 | 9 | 7 | 5 | 9.6 |
| >90 | 5 | 2.8 | 4 | 3 | 2 | 2 |
| Total | 182 | 100 | 130 | 100 | 52 | 100 |

Regarding the prevalence of risk factors, 83.6% of cases has one or more risk factors, HT was the most common risk factor for stroke (62%) and the least one was past history of TIAs (7%) and this applies for both sexes as shown in table II.

The case fatality rate in this study was about 11% and it was almost equal among patients with infarction and hemorrhage.

Table II: the prevalence of some risk factors in all stroke cases.

| Risk factors | No. of cases | % of total |
|------------------|--------------|------------|
| HT | 113 | 62 |
| CVD | 45 | 24.7 |
| DM | 43 | 23.6 |
| Recurrent stroke | 43 | 23.6 |
| Previous TIAs | 13 | 7 |

Discussion:

The mean age of stroke patients in this study was 62.77 ± 12.71 y. which is slightly less than the results found in Hussein study in Mousil which was 63.7 ± 11.6 (6), but higher than that of Al-Qurtani in Baghdad which was 58.72 ± 13.35 (7). and Alaa' study in Baghdad which was 58.95 ± 13.47 (8).

The males; females ratio was 1.2:1 which was less than Alaa' study (1.5: 1) (8) and of Al-Rajeh study which was 2.2:1 (9). In this study the peak incidence of infarction stroke (40.8%) was in the age group of 60 – 69 year mostly due to high incidence of - cerebral atherosclerosis. The of hemorrhagic, stroke in this age group (60-69) was 32.7% of total cases of hemorrhagic strokes; this result is similar to that in other studies (8.11.12.).

This study also showed that males are affected more than females in both infarction and hemorrhagic groups.

Male constitute 40.1% of infarction type & 15.4% of hemorrhage type from all cases which was less than Alaa' study (8) which showed that percentage of males with infarction and hemorrhagic were 42.7% and 17.4% from all stroke cases respectively.

The study showed that the most prevalent risk factor for stroke was HT. (62%) which is almost equal to that of Alaa' study (61.77%) (8). (CVD) was present in 24.7% cases which is less than in Alaa' study (34.78%) (8).

DM among our patients was found in 23.6% of cases and again this is less than in Alaa' study (8) which was (28.85%).

The patients who gave a history of acute stroke were 23.6% which was more than that of Alaa' study (17.4%) (8) as shown in table (3).

Table III: Comparison Between prevalence of risk factors in this study and Alaa' study

| <i>Risk factors</i> | <i>% in this study</i> | <i>(% in Alaa' study</i> |
|---------------------|------------------------|--------------------------|
| HT | 62 | 61.77 |
| CVD | 24.7 | 34.78 |
| DM | 23.6 | 28.85 |
| Recurrent stroke | 23.6 | 17.4 |
| Previous TIAs | 7 | 9.5 |
| | | |

Conclusion:

Stroke is a common problem in Al Ramadi city and the types of stroke patients were nearly similar to that in other Parts of Iraq. The majority of patients were of middle aged and elderly group.

The majority of the patients had risk factors and the most common were hypertension, CVD&D.M.

Recommendation:

Prevention of stroke is an important factor in reducing the morbidity and mortality in our society and this can be achieved by good control of risk factors. Therefore screening and proper treatment of risk factors especially HT, DM, is expected to reduce the incidence of stroke.

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