INTRODUCTION

Stroke is a public health problem due to their direct annual costs relating to hospital care, related fees and their indirect annual costs linked to the consequences of residual disability [1]. Stroke is one of the leading causes of morbidity and mortality worldwide [2]. Therefore, epidemiological studies on stroke in different parts of the world are needed [3]. More standardized care through stroke units and rehabilitation centers contributes to reduce mortality, dependence and institutionalization, even if progresses are still remaining [1]. Patients who visit the retirement care center constitute an aging population with a high risk of stroke and a high cost of care with high mortality. However, very little epidemiological data are available on this subject in Africa in particular in Senegal. The objective of our study was to describe the epidemiology of stroke at the Retirement Care Center of Dakar in IPRES.

METHODS

We conducted a retrospective cross-sectional study from January 2010, to April 2016. We carefully recorded medical files of stroke patients followed as outpatient in the neurology unit of IPRES. We considered all patients who performed a brain CT-scan. We collected data related with the sociodemographic characteristics, paraclinical examinations, risk factors, as well as evolution. Data analysis was done using the software SPSS 21.0. The results were expressed as frequency and means with standard deviation. We also compared percentages and results were considered significant for a p-value < 0.05.

RESULTS

Descriptive study

During the period of our study, 1400 patients were followed in outpatient neurology unit. Among them, 276 cases presented a stroke. However, only 275 (19.6%) have been exploited due to the availability of brain CT-scan.

Patients were aged from 43 to 101 years with a mean age of 71.8 ± 8.7 years. The main average groups represented were 70-79 and 60-69 with respective percentages of 43.3% and 32.7%. The difference between this age groups among hemorrhagic and ischemic stroke was not statistically significant (p = 0.723).

Concerning the brain CT-scan, 243 patients (88.4%) presented cerebral infarct. The main risk factors were high blood pressure HBP (80%), diabetes (17.1%) and history of stroke (14.2%). Frequent complications encountered were epilepsy (11.5%) and vascular dementia (8.7%), motor disability (6.5%) and stroke recurrence (6%). Approximately 22 deaths have been noted giving a lethality rate of 12.02%. Most patients (54.44%) experienced clinical improvement.

Stroke represents a major public health problem. It is therefore necessary to fight against stroke by early diagnosis and management of risk factors including HBP, especially among the elderly.
Analytical study

High blood pressure (HBP) was found in 29 (90.63%) hemorrhagic stroke patients and 191 (78.6%) of ischemic stroke patients. The difference was statistically significant (p = 0.01).

102 (37%) patients performed an electrocardiogram (EKG). The EKG was normal in 57 and abnormal in 45 patients. However, some patients presented multiple cardiac abnormalities on EKG. The main cardiac abnormality was atrial fibrillation, found in 31% of cases. Trans-thoracic cardiac ultrasound was done in 94 (33.4%) patients and the results were abnormal in 54 patients. Results showed dilated cardiomyopathy among 8 patients. Doppler ultrasound of neck vessels was done in 97 patients and the results were abnormal in 47 (47.4%) patients. It was essentially carotid stenosis found in 19 (7%) cases.

The risk factors found were HBP (80%), diabetes (17.1%), history of stroke (14.2%), smoking (7.6%), alcohol consumption (2.9%), cardiopathy (1.5%), dyslipidemia (1.1%) and obesity (0.4%).

We also found past medical history of epilepsy, dementia, breast cancer, cerebral amyloid angiopathy, chronic obstructive pulmonary disease, cataract, glaucoma, prostatectomy, and femoral neck fracture were found in 0.4% each.

The association of HBP to other risk factors has been analyzed. 14.5% of cases were hypertensive and diabetic, 2.5% were hypertensive and alcoholics and 0.7% were hypertensive and smoker.

For ischemic stroke, aspirin, statins and antihypertensive drugs were frequently prescribed. While statins and antihypertensive drugs were mainly prescribed for hemorrhagic stroke. All patients underwent physiotherapy.

Regarding evolution, 66.5% of patients appeared regularly in control consultations. Many patients (54.4%) experienced clinical improvement with a good motor and phasic recovery.

The complications encountered were epilepsy (11.5%), vascular dementia (8.7%), motor sequelae (6.5%) and stroke recurrence (6%). About 22 deaths have been noted meaning 12% of lethality rate. Mortality were more frequent for hemorrhagic stroke patients and 191 (78.6%) of ischemic stroke patients. The difference was statistically significant (p = 0.01).

In our study, 88.4% of cases presented ischemic stroke, this is close to the prevalence of a Palestinian study that found 82.3% of ischemic stroke. HBP was the main risk factor (90.63%) which is higher than study conducted in Senegal that found 69.7% [7]. Our study was conducted in a geriatric population where hypertension is more common. In Gabon, a rate of 81.9% of hypertension has been noted in stroke patients [7]. We found a male predominance a sex ratio of 1.95. Male predominance has been found in a review conducted by Appelros et al [8].

In our study, 11.6% of the patients had embolic cardiac disease. Among these diseases, atrial fibrillation (36%) was mainly found. Most of African studies found proportions ranging from 23 to 54, 16%, while the European series found lower rates from 5.35 to 13.60% [9-11].

The main complications encountered were epilepsy (11.5%), vascular dementia (8.7%), motor sequelae (6.5%) and stroke recurrence (6%). In England in 1997, Burns et al. [12] reported a frequency of 11.5% of post-stroke seizures which increased with age. It is worth noting that the brain vascular lesions increase the risk of seizures and epilepsy. They are involved in at least third of epilepsies occurring after 60 years and thus represent the most frequent cause of epilepsy in this age group.

CONCLUSION

At the end of this work, we noticed that strokes represent a major public health problem with serious consequences and disabling sequelae. It is necessary to fight against stroke by early diagnosis of risk factors including hypertension, especially among the elderly. A large-scale sensitization about these risk factors and stroke warning signs will contribute to reduce the burden related to this condition.

REFERENCES

Basse et al. (2017)


