Hemorrhagic stroke of the old person in Congo Sounga et al

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**Article original**

**Hemorrhagic Stroke of the Old Person at the Department of Neurology, General Hospital of Loandjili, Pointe-Noire, Congo.**

**Accident Vasculaire Cérébral Hémorragique du Sujet Agé dans le Service de Neurologie, Hôpital Général de Loandjili, Pointe-Noire, Congo.**

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| **INTRODUCTION**: Hemorrhagic Stroke (AVCH) is a serious disease, constituting 15% of strokes; it is often of reserved prognosis with an important lethality. The main objective of this study was to describe the epidemiological, clinical, paraclinical and progressive aspects of AVCH of the elderly subject in Pointe-Noire. **METHODOLOGY**: This was a retrospective and descriptive study from January 1, 2017 to December 31, 2017 involving patients aged 60 years and over who had a AVCH confirmed by cerebral computed tomography. Sociodemographic data, medical antecedents, severity signs associated with the neurological table and clinical course were collected and analyzed on SPSS software version 16.0 with uni and multivariate tests. **RESULTS**: We collected 93 files of elderly patients with AVCH. The mean age of our study population was 72.5 years (± 8.5). Our study population was 62.7% women. The main risk factors found were dominated by high blood pressure (98.9%). In cerebral computed tomography, the hematomas were located in the capsulolenticulo-thalamic region in 73.6% of cases, compared to 15.1% of cortical seat. The average hospital stay was 15 days. The evolution towards a death concerned 36,5%. **CONCLUSION**: AVCH poses a public health problem whose knowledge of risk factors can prevent its occurrence and / or improve its prognosis. |
|  | **RESUME** |
| **INTRODUCTION** : L’accident vasculaire cérébral hémorragique (AVCH) est une maladie grave, constituant 15 % des accidents vasculaires cérébraux (AVC) ; il est souvent de pronostic réservé avec une importante létalité. L’objectif principal de cette étude était de décrire les aspects épidémiologiques, cliniques, paracliniques et évolutifs des AVCH du sujet âgé à Pointe-Noire. **METHODOLOGIE** : Il s’agissait d’une étude rétrospective et descriptive allant du 1er janvier 2017 au 31 décembre 2017 portant sur des patients âgés de 60 ans et plus ayant présenté un AVCH confirmé par une tomodensitométrie cérébrale. Les données sociodémographiques, les antécédents médicaux, les signes de gravité associés au tableau neurologique et l’évolution clinique ont été collectés et analysés sur logiciel SPSS version 16.0 avec des tests uni et multivariés. **RESULTATS** : Nous avons colligé 93 dossiers des patients âgés atteints d’AVCH. L’âge moyen de notre population d’étude était de 72,5 ans (±8,5). Notre population d’étude était composée de 62,7% de femmes. Les principaux facteurs de risque retrouvés étaient dominés par l’hypertension artérielle (98,9%). A la Tomodensitométrie cérébrale, les hématomes étaient localisés en région capsulolenticulo-thalamique dans 73,6% des cas, contre 15,1% de siège cortical. Le séjour hospitalier moyen était de 15 jours. L’évolution vers un décès a concerné 36,5%. **CONCLUSION** : L’AVCH pose un problème de santé publique dont la connaissance des facteurs de risque permet de prévenir sa survenue et/ou d’améliorer son pronostic. |

**INTRODUCTION:**

Stroke is a diagnostic and therapeutic emergency and, because of its frequency and severity, is a real public health problem. Stroke has gone from 3rd to 2nd cause of death worldwide after coronary events [1-2]. The incidence of this pathology increases significantly with age on an aging world population. Indeed, the number of people over 60 will triple in the world, and the over 80 will quadruple [1-2]. This suggests a strong growth in the prevalence of stroke over the century. In Congo, stroke is the leading cause of hospitalization in neurology, with more than 70% of hospitalized cases. They are responsible for 2/3 of the deaths in the Department of Neurology at the Hospital and University Center of Brazzaville [3]. Hemorrhagic forms account for 15% of stroke [2]. They reflect the rupture of a blood vessel within the cerebral parenchyma, ventricles or subarachnoid spaces. Arterial hypertension is the most important risk factor and Cohort studies show that one in two stroke occurs in a previously hypertensive patient [1-3]. Strokes are fraught with functional disability and significant mortality [3-4]. Thus, the aim of this work was to describe the epidemiology, in its socio-demographic, clinical and evolutionary components, of hemorrhagic stroke in a population of people over 60, hospitalized in the neurology department of the General Hospital of Loandjili in Pointe-Noire.

**MATERIELS ET METHODES**

This was a retrospective and descriptive study of inpatient records from January 1, 2017 to December 31, 2017 for AVCH who had received a cerebral computed tomography scan. The diagnosis of AVCH was based on clinical criteria and computed tomography. Thus, any patient with signs and symptoms related to a focal neurological deficit that occurred suddenly and remained persistent for more than 24 hours was considered to have a stroke, the hemorrhagic nature of which was confirmed by a CT scan of the brain. The study involved 196 patients hospitalized in the Neurology Department of Loandjili General Hospital. From these files, we only included patients aged 60 and older who met the definition criteria for stroke. Excluded from this study were all patients whose records did not include the result of cerebral computed tomography or did not mention the clinical course at discharge. Variables studied: They were of order: socio-demographic (age, sex), clinical (medical and surgical history: existence of arterial hypertension, diabetes, history of stroke, or other vascular risk factors), and progressive (favorable or unfavorable). Statistical analyzes: Statistical analyzes were performed with SPSS software version 16.0 for Windows. Univariate analyzes were performed with frequency and mean (standard deviation) calculation. Operational Definitions: The age of 60 was selected according to the age of cessation of professional activity in the Congo, which is 60 years old.

**RESULTATS :**

We collected 93 files of patients presenting AVCH, corresponding to a frequency of 47.5% in hospitalization in our service. Our patient population was 60 to 85 years old with an average age of 72.5 years (± 8.5) and a majority age group of 60 to 69 years (62%) (Fig 1),

Figure 1: distribution by age

 of which 62.7% of women and 37.3% of men, and a sex ratio of 1.68. The main risk factors found were: arterial hypertension 98.9%, diabetes 30.1% and history of stroke 23.6% (Table I).

Tableau I: risk factor distributions

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| --- | --- | --- |
| Facteurs de risque | n | Pourcentage (%) |
| HTA | 92 | 98,9 |
| Diabetes | 28 | 30,1 |
| AVC | 22 | 23,6 |
| Tobacco | 16 | 17,2 |
| Autres  | 7 | 7,5 |

At the physical examination, 79.7% of patients had a good general condition. In the acute phase, blood pressure (BP) was high in the majority of patients, with systolic BP in between 160 and 250 mmHg in 71.2% of cases, and diastolic BP between 95 and 170 mmHg in 83.1%. % of cases. A hemocorporal motor deficit was found in 88.2% of patients, mainly complete and total (hemiplegia) (39%), associated with coma in 47.5% of cases and speech disorders in 53.9% of our patients. series (aphasia 43.7% or dysarthria 10.2%). Seizures were reported in a quarter of patients on admission or during hospitalization. Cardiovascular examination was normal in all patients except one, who had cardiac arrhythmia.

In brain scan the hematomas were localized in the capsulo- thalamo-lenticular region in 67.8% of the cases, or in cortical in 15.3% of the cases. A tentorial location was found in 11.7% of cases. The electrocardiogram was normal in 45.8% of cases; Pathological cases included left ventricular hypertrophy (3.4%), left atrial hypertrophy (2.7%) and ventricular extrasystole (1.7%). Cardiac ultrasound, performed in only 18 patients, returned normal (72.9%) or with hypertensive heart disease (27.1%). Biologically, 42.4% of cases had acute hyperglycemia, varying between 1.16g / l and 4g / l, for a total average of 2.58g per liter. The increase in total cholesterol involved 71.2% of patients with an average of 1.8 g for a maximum value of 4 g / l. The average HDL level was 1.22 g while the LDL ranged from 0.98 to 3.97 g / l for an overall average of 1.72 g / l. Inflammation was present in half of the patients with an increase in sedimentation rate (50.8%) and C-reactive protein (49.1%) for extremes of 24 mg / l and 96 mg / l. The average hospital stay was 15 days with extremes of 1 to 29 days and a hospital stay of 10 days for 46.7% of patients. The evolution was unfavorable towards death for 34 patients, ie a case fatality rate of 36.5%. Thus, 32.4% of patients died during the first 10 days of life and 82.4% of patients with a disorder of consciousness with a Glasgow score of less than 8.

**DISCUSSION:**

In the literature No descriptive cohort study or epidemiological data specific to the elderly AVCH was found, however, the mean age of VCHAs ranges from 49 to 56 years [2] and differs from one country to another, as in young subjects. Our study returned to an average age of 72.5 years. This average age is close to that found by some authors (67.9 years and 84.4 years) [1-5]. Others report a much lower age 62.7 years and 57 years [3-6]. In our series the female predominance was 62.7%. This female predominance is found in several studies 58.4% in Singapore [7], 54.8% in Dakar [1], and Madagascar with a sex ratio of 0.78 [8]. In France, too, he affects a lot more women [5]. Only this variability according to the sex remains a controversy; so for some authors, the male predominance is as in Congo [3]. , Mauritania [9] and Mali [10].

In our cohort the risk factors for stroke found were hypertension, history of stroke, and diabetes. Globally, in 80% of cases, hypertension is the main risk factor for AVCH in both the elderly and the young [11-6]. It concerned 98.9% of our patients. This rate is a little higher than that reported in the literature [1-5-6]. Arterial hypertension leads to structural and functional haemodynamic changes in the cerebral arteries [10] and causes vascular degeneration responsible for the formation of microaneurysms, which can lead to the occurrence of cerebral haemorrhage [2, 10,11]

HTA also remains the main risk factor found in young subjects with stroke as reported by some authors in 62.3% and 84.9% [12-13]. Prevention should involve early diagnosis and good management of patients with hypertension.

We found diabetes in 30.1% of cases. Similar frequencies, 30 and 41.8% respectively, were also found by Tchizinga and Bendriss [14-15]. Gnonlonfoun et al [16] in a study of the study of acute phase hyperglycaemia of DALYs in 16649 patients aged 15 to 20 years, had established a relationship between the age of diabetes and stroke, The relative risk of stroke death was significantly higher in patients initially diabetic (known to have been on treatment for at least five years) than in patients who developed diabetes later.

The history of stroke was found in 23.6% of cases, this result is similar to that of Sautereau [5] which found 22% of cases. Anna Bass [6] and Kamadore [1] found respectively 12.9% and 10.7% of cases. This difference is explained by the fact that their studies were not specific to the elderly.

In the literature, tobacco and alcohol are among the toxic substances that promote the onset of AVCH. For tobacco, the risk depends on the number of cigarettes consumed and the duration of intake, it is a major risk factor for atherosclerosis [11]; the relationship between daily alcohol consumption and the risk of stroke is complex. It is likely to increase blood pressure and triglycerides and is therefore considered a risk factor for the development of stroke. As with smoking, there is a dose-dependent effect. In our study, 8.5% of patients took tobacco and 3.5% took alcohol. Seizures, found in 20% of cases in the literature were represented by 25.9% of patients. Seizures make the patient's prognosis less likely because they represent a phenomenon of rebleeding in the brain [10-17].

The location of the hematoma was of capsuloenticulothalamic localization in 73.6%, lobar in 15.1% and 11.3% under tentorial CT scan without injection of contrast medium, results similar to those of A sow [12]. found respectively 66%, 19% and 10% of cases. Schwartz [18] found that 40-70% of patients with capsuloling lenticular and cerebellar hematoma were hypertensive. In the literature, the results are inconsistent with variable locations according to the underlying series and etiologies [1-12]. The differences observed in the distribution of hematomas could be related to the high prevalence of hypertension in our series.

The average length of stay was 15 days as found in the literature [6-12], compared with 7 days for some authors [19]. Balogou and Sautereau found respectively 23.1 and 23 days [5-13]. This difference is due to selection bias because these are subjects who survived the acute phase but had a stroke that was severe enough to require rehabilitation. Mortality was 36.5% in our study and was higher in patients with a Glasgow score of <10, which has been reported by other African authors [6-19]. The evolution was uncertain when the Glasgow score was ≥10. Mapoure [20] notes a high mortality of 82.25% in AVH associated with coma. The death rate at 32.4% reflects the severity of this condition. This high mortality by AVCH has been found in several studies [21-22]. It was 51.1% in Mali [10] and 56% in Senegal in the Sagui series [23]. Predictors of death vary with level of consciousness, size of hematoma, and presence of intraventricular hemorrhage [24-25]. This study presents some limitations related to inaccessibility to examinations (biology and MRI) and treatment. Some patients died before lab tests. This higher mortality rate in African series than in Europe [26-27] reflects the failings of management, and the difficulty of managing co-morbidities (disorders of consciousness, glycemic abnormalities, renal failure).

**CONCLUSION:**

AVCH turns out to be a public health problem. Its early mortality remains very important. Its appropriate care and its prevention necessarily requires a good control of blood pressure figures because the HTA remains its main risk factor in our regions.

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