

Management of Cardiovascular Emergencies in Ziguinchor: Difficulties and Prospects in Semi - Urban Areas. About a Prospective Study at the Hospital de La Paix in Ziguinchor

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ABSTRACT

Introduction: Cardiovascular diseases are one of the leading causes of death in the world. In our countries, they are underestimated because of the insufficiency of the diagnostic means. The purpose of our study was to evaluate the management of cardiovascular emergencies at hospital de la Paix in Ziguinchor, to identify problems related to the caring and to propose solutions to improve it.

Methods: We conducted a prospective 18-month study at the Emergency Department of the hospital la Paix in Ziguinchor. We included all hospitalized patients for cardiovascular emergency during the study period. The studied parameters were socio - demographic data, antecedents, field, time of consultation, means of transport, time of care, main reason for hospitalization, medical diagnosis and evolutionary modalities.

Results: The average age was 57.5 ± 15 years with female predominance (52.9%). Majority of our patients were of low socioeconomic status (53.6%). Transport mode was unsafe in the majority of cases (73.3%). Average consultation time was 10 days and the average time to take care was 2 hours and 30 minutes. Hypertension was the main cardiovascular risk factor (60.1%) and acute dyspnea, the main reason for hospitalization (56%). Cardiomyopathy was the main underlying pathology. A mortality rate of 26.8% and an average ICU length of stay of 4.32 ± 2 days were noticed.

Conclusion: Cardiovascular emergencies are common. They are dominated by hypertensive emergencies in our series, the mode of transport is inadequate, consultation time is long and mortality rate is high.

Keywords

Cardiovascular emergencies, Hospital de la Paix, Ziguinchor.

Introduction

Cardiovascular diseases (CVD) are currently responsible for the majority of deaths worldwide and their incidence is increasing in all countries despite improved management [1].

In 2015, the number of deaths attributed to CVD was estimated at 15 million [2]. Sub- Saharan Africa is not spared from this

scourge. In 2013, about 1 million deaths were attributable to CVD in Sub - Saharan Africa; which accounted for 5.5% of all CVD-related deaths globally, 11.3% of all-cause deaths and 38% of non-communicable disease related deaths [3]. This reflects the epidemiological transition marked by the gradual decline of infectious diseases and the development of chronic noncommunicable diseases. Most of these CVD occur in a life-threatening emergency setting.

In Senegal, they account for 46% of medical emergencies [4].

The large influx of patients received in the Emergency department (ED) of the Ziguinchor Peace Hospital (South of Senegal) in a cardiac emergency situation led us to carry out this work, whose objective was to evaluate the management of cardiovascular emergencies in Ziguinchor, to identify the difficulties of management and to propose solutions to improve the management of cardiovascular emergencies in Ziguinchor.

Methodology

We conducted a prospective study over a period of 18 months (March 2017 to September 2018) at the Emergency department (ED) of the hospital de la Paix in Ziguinchor.

We included all patients admitted to the ED for cardiovascular emergency during the study period. Namely: cardio - circulatory arrest, acute pulmonary edema, cardiogenic shock, acute coronary syndromes (ACS), aortic dissections, pulmonary embolism (PE), pericarditis, severe rhythm or conduction troubles and hypertensive emergencies.

We made a record of support which included socio-demographic data, personal and family history, terrain, time of admission (delay between onset of signs and arrival at the hospital), referral system, mode of transportation, reasons for admission, time to medical care at the ED, clinical and paraclinical data, and mode of evolution.

The data were analyzed using SPSS software version 22.

Results

We included a total of 153 patients during the study period. Cardiovascular emergencies accounted for 11.7% of all hospitalizations at the ERU during the same period.

The average age of our patients was 57.5 years (range, 14 to 92 years) and the most represented age group was 55 to 65 years of age (Figure 1). Our patients were predominantly female (52.9%) with a male / female sex ratio of 0.88.

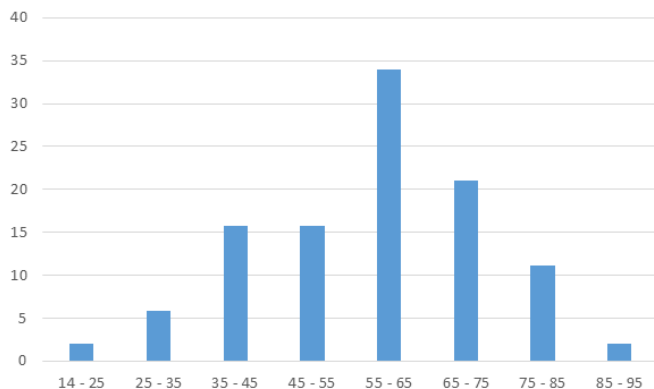


Figure 1: Patients distribution by age class.

Most of our patients were of low socioeconomic status (53.6%) and most of them were not referred by a medical facility (64.5%).

Non-medicalized mode of transport was mostly used (73,3%) (Figure 2).

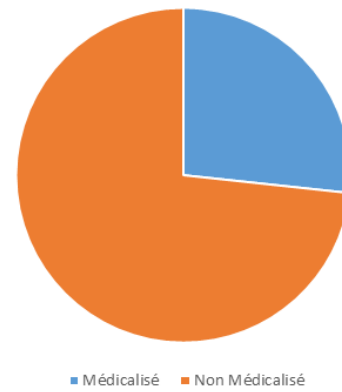


Figure 2: Patients distribution by mode of transportation.

An average consultation time of 10 days (range of 0.4 to 30 days) and an average cardiac management time of 2 hours 30 minutes (range of 24 minutes and 5 hours 15 minutes) were noticed.

Acute dyspnea was the main reason for emergency admission. The (Figure 3) summarizes the main reasons for admission to ED.

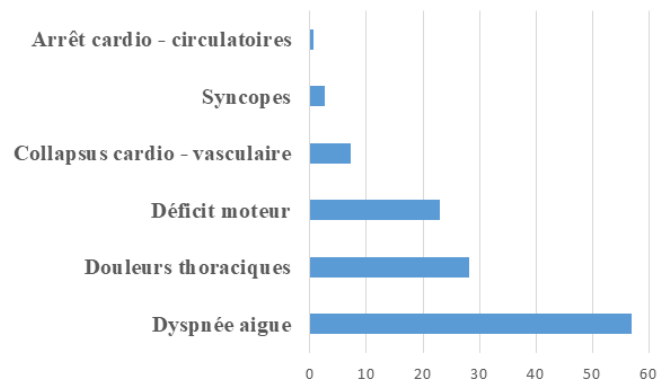


Figure 3: Main reasons for admission to the emergency department.

Hypertension was the main cardiovascular risk factor (60.1%) and cardiomyopathies were the main underlying pathology (Table 1).

Average duration of hospitalization : 4.32 days (range 1 to 12 days).

Diagnostic Médical	Nombre de cas	Pourcentage (%)
Cardiomyopathie	42	27,5
Péricardite	2	1,3
Valvulopathies	9	5,9
Embolie Pulmonaire	11	7,2
AVC	36	23,5
SCA	16	10,5
Dissection Aortique	1	0,7
Bloc auriculo - ventriculaire complet	2	2
Urgence HTA	34	21,4
Total	153	100

Table 1: Medical diagnosis.

The evolution was favorable in most cases and the mortality rate

was 26.8% (Table 2).

Evolution	Nombre de cas	Pourcentage (%)
Favorable	109	71,2
Transfert	03	1,9
Décès	41	26,9
Total	153	100

Table 2: Evolution of patients in hospital.

Discussion

The frequency of cardiovascular emergencies in our study was 11.7% much lower than the one of KANE [4] and MBOLOSIA [5] where they accounted respectively for 46% and 32.52% of hospitalizations. This difference is due to the versatile nature of our emergency unit which, apart from cardiovascular emergencies, also receives emergencies from other medical specialties. We do not have specialized cardiovascular emergencies support units.

Our patients were relatively young compared to those of Western series. The average age in our study was 57.5 years comparable to that of several African series [4-8] while it is 67 years in the Western series [8]. This is probably due to easier, earlier access to care and better therapeutic education.

Most of our patients are of low socioeconomic status, which can also be a barrier to early consultation.

The time between the onset of symptoms and arrival at the hospital is long. It was 10 days in our study, longer than other series where it ranged between 1 and 07 days [4,7,10]. This is certainly due to the limited means of most patients who initiated a late consultation.

The way of transport is unsafe for the most part. In our study, only 26.8% of patients arrived by ambulance while in other series, this involved an average of 5% of patients [6,9]. Our hospital is a reference structure that polarizes several health districts that are referential structures in case of emergency.

The main cardiovascular emergencies profile found in our study is comparable to the results of the other authors [4-7,10,11] and confirms the prominent place of hypertension as a major cardiovascular risk factor involved in stroke and acute heart failure. Underlying conditions were cardiomyopathies (27.5%), stroke (23.5%) and severe hypertension (21.4%). Coronary heart disease was involved in 10.5% of cases.

The mortality rate is high. It is 26.9% in our study with variable proportions depending on the series and ranging from 4% [6] to 50% [4]. This high mortality is attributable to several factors: the low socioeconomic level of our patients, the long consultation period, the unsuitable mode of transport and the insufficiency of the technical platform of our emergency services.

This work allows us to formulate several proposals to reduce morbidity and mortality related to cardiovascular diseases in an

African continent in the midst of an epidemiological transition. The fight against the danger of cardiovascular diseases can not be achieved without an effective prevention policy against cardiovascular risk factors by informing and properly educating populations.

This fight also involves the establishment of mutual health to promote access to care for the poorest layers, the regional construction of cardiology centers with cardiology intensive care units meeting standards [12], quality training of caregivers in the timely and adequate management of CVUs and the regional establishment of SAMU with availability of an emergency call center to reduce consultation times and care because "time is golden" in Cardiology.

Conclusion

Cardiovascular diseases are responsible for the majority of deaths worldwide and are frequently in the form of CVE.

The practitioner, most often the cardiologist, has to deal with a variety of situations that are life-threatening in the short term.

Management of cardiovascular emergencies in Ziguinchor faces many problems. Our study shows that it concerns a young and economically active population in our regions. It also reveals long consultation times and an unsuitable mode of transportation.

It also reveals the central role of hypertension as a major cardiovascular risk factor and a high mortality.

Reducing this mortality will require an effective prevention policy against cardiovascular risk factors and good regional organization of the cardiovascular emergency management system.

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