ACUTE CORONARY SYNDROME: Analysis of Complications and Management at Ignace Deen Hospital, Conakry

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ABSTRACT

Introduction: Acute coronary syndromes (ACS) represent the acute manifestation and most severe form of coronary artery disease; due to their varied complications, they remain the leading cause of mortality in developed countries.

The aim of our study was to analyze the various complications of ACS, highlighting their clinical impact, and their therapeutic management in the cardiology department of Ignace Deen Hospital in Conakry.

Materials and Methods: This was a prospective descriptive study lasting 06 months, from January 10 to July 10, 2023, in the cardiology department of Ignace Deen Hospital, Conakry; we included all patients admitted and hospitalized for coronary syndrome with at least one of its complications. Our study variables were quantitative and qualitative.

Results: During the study period, 92 cases of coronary syndrome were recorded, including 52 complicated cases (56.52%); the average age of our patients was 56.4 +/- 11 years; they were predominantly male, with a sex ratio of 2; arterial hypertension (n=46) and smoking (n=34) were the most common modifiable cardiovascular risk factors in 88.46% and 65.38% respectively; heart failure (n=36) and rhythm disorders (24) were the most frequent complications in 69.23% and 46.15% respectively; in terms of treatment, all patients benefited from medical therapy, 11 from thrombolysis (21.15%) and 07 from angioplasty (13.46%); there were 13 cases of death (25%).

Conclusion: Coronary syndromes are frequent in our context, resulting in a high rate of complications requiring rapid and appropriate management.

Keywords

Acute coronary syndromes, Complications, Ignace Deen, Conakry.

Introduction

Acute coronary syndrome (ACS) is the clinical manifestation of a sudden disruption in coronary blood flow, and remains one of the world's leading causes of morbidity and mortality [1].

Cardiovascular disease accounts for around 30% of global mortality each year, with Acute Coronary Syndrome (ACS) affecting around 15 million people worldwide every year [2]. In Europe, it is estimated that around 1.5 million new cases of ACS are diagnosed each year, while in the USA, the number of new cases of ACS is estimated at around 720,000 per year [3]. Cardiovascular disease (CVD), including ACS, is increasingly common in Africa, accounting for around 10% to 15% of deaths on the continent, with a growing prevalence, particularly in urban areas [4], a study in southern Nigeria estimated that acute heart disease accounted for around 15% to 20% of admissions to cardiology departments [5], in Kenya, around 10% to 12% of hospital deaths are due to cardiovascular complications, including ACS [6].

While early management and therapeutic advances have significantly reduced the mortality associated with cardiovascular events, the complications of ACS remain a major challenge for cardiovascular medicine. Despite optimized treatments, a number of patients continue to face serious complications, whether immediate, such as acute heart failure, or longer-term, such as heart rhythm disorders or the risk of recurrence [7].

The aim of our study was to analyze the various complications of ACS, highlighting their clinical impact, and their therapeutic management in our context.

Patients and Methods

Our study took place in the cardiology department of the Hôpital National Ignace Deen, a national reference center for the management of cardiovascular diseases in Guinea. We conducted a prospective descriptive study lasting 06 months, from January 10 to June 09, 2023, in the cardiology department of Ignace Deen Hospital in Conakry. We included all patients admitted and hospitalized for coronary syndrome with at least one of the following complications

- Heart failure
- Sudden death
- Rhythm and conduction disorders
- State of shock
- Mitral insufficiency (MI)
- Left ventricular aneurysm

Our study variables were qualitative and quantitative, divided into

Sociodemographic and anthropometric data: age (in years), gender (male or female).

Risk factors for coronary heart disease: hypertension, smoking, diabetes, dyslipidemia, obesity. Management: coronary revascularization (angioplasty), associated medications (thrombolysis)

Hospital evolution: hemodynamic, hemorrhagic, ischemic complications, rhythm disorders, conduction disorders, sudden death. Socio-epidemiological, clinical, therapeutic and evolutionary data were collected using a dedicated form. Analysis was performed using SPSS 21 software, with frequencies for qualitative variables and means for quantitative ones. Data were collected anonymously, with confidentiality guaranteed.

Results

During the study period, 92 cases of coronary syndrome were recorded, including 52 complicated cases (56.52%); the mean age of our patients was 56.4 +/- 11 years; they were predominantly male, with a sex ratio of 2 (Table 1); arterial hypertension (n=46) and smoking (n=34) were the most common modifiable cardiovascular risk factors, accounting for 88.46% and 65.38% respectively (Figure 1); heart failure (n=36) and rhythm disorders (24) were the most frequent complications, accounting for 69.23% and 46.15% respectively (Table 2); in terms of treatment, all patients

had received medical treatment, 11 had undergone thrombolysis (21.15%) and 07 had undergone angioplasty (13.46%) (Table 3); there were 13 cases of death (25%) (Table 3).

Table 1: Distribution of patients by socio-demographic characteristics.

Variables	Numbers (N=52)	Percentages (%)
Type		
Male	**37**	**71,1**
Female	15	28,9
Age(years)		
20-40	15	28,9
41-60	**28**	**53,8**
> 60	9	17,3
Total	52	100

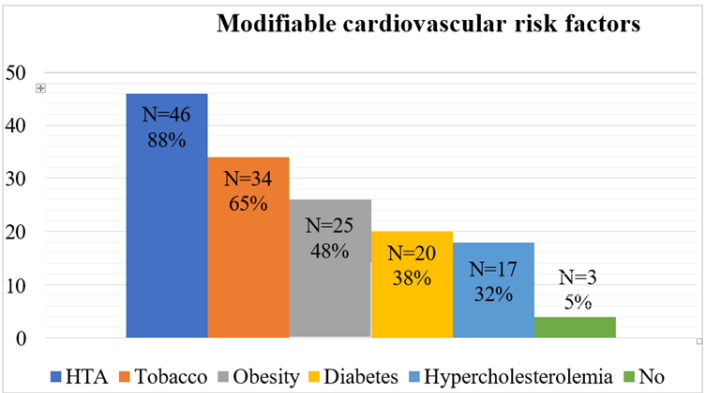Sex ratio: 1.8 Average age: 56.4± 11 years Extremes: 20.

Figure 1: Distribution of patients according to cardiovascular risk factors.

Table 2: Distribution of patients according to complications.

Complication	Workforce	Percentages (%)
Heart failure	**36**	**69,23**
Rhythm disorder	**24**	**46,15**
Conduction disorder	15	28,80
Sudden death	8	15,38
Mitral insufficiency	2	3,85
Right ventricular aneurysm	1	1,92

Table 3: Breakdown of patients by treatment.

Treatment	Workforce	Percentages
Medicinal	**52**	**100**
Thrombolysis	11	21,2
Instrumental	10	19,2
Evolution		
Deaths		
No	39	75
Yes	13	25

Discussion

According to the Global Burden of DISEASE STUDY GBD, the prevalence of coronary heart disease increased in sub-Saharan Africa by 10% between 1990 and 2017 [8]. In our study, we found a hospital prevalence of 20.35%, higher than that found in Kenya, in a study carried out at Aga Khan Hospital, where it was 5.1% [9].

These variable figures are still at low levels compared with those in Western countries such as France, where data from the FAST-MI 2010 study recorded 3079 myocardial infarctions in 213 hospitals [10]. The prevalence of ACS is higher in high-income countries, but incidence has been rising in middle- and low-income countries in recent decades, with a more marked trend in urban areas where modern lifestyles, stress and Westernized eating habits play an important role.

In our study, the 41 to 60 age group was the most represented, with a mean age of 56.4 +/- 11 years; our study was superimposed on that of N'GETTA et al., who found in their study a mean age of 55.4 ± 11 years; these data suggest that coronary disease is increasingly affecting young subjects in Africa, especially in the presence of major risk factors [11].

Hypertension and active smoking were the risk factors most frequently found in our study. This observation was noted in the INTERHEART Africa study, where these risk factors were incriminated in 89.2% of first episodes of myocardial infarction in sub-Saharan Africa. These risk factors are major and often combined, accelerating the arteriosclerotic process [12].

Heart failure and rhythm disorders were the most frequent complications in 39.1% and 26.9% respectively; a study carried out in Benin in 2005 reported comparable results. This similarity could be explained by the long delays before admission to hospital and the rarity of coronary reperfusion treatments undertaken, with frequent complications dominated by hemodynamic failure [13].

In our study, ST+ coronary syndromes were the most common (71.5%). Similar results were found in Kenya and in the FAST-MI registry, but in lower proportions, 56% and 57% respectively [10,14]. We noted 13 cases of death, or 25% our study was comparable to that of Mboup et al. in 2014 had found 14.13%.

Conclusion

Complications of acute coronary syndrome are frequent and can seriously affect the prognosis of patients. Prompt management and effective prevention of risk factors are essential to improve vital prognosis of sufferers.

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