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Research Article

Mortality related to Acute Coronary Syndrome in the Cardiology Department of CHU Ignace Deen in Conakry

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Abstract

Coronary heart disease is a major cause of mortality and morbidity, particularly in the context of acute coronary syndromes (ACS). The aim of this study is to assess in-hospital mortality related to ACS in the cardiology department of CHU Ignace Deen.

Methods

This is a 6-month (June 1 - November 31, 2023) longitudinal descriptive study of patients hospitalized for ACS at CHU Ignace Deen.

Results

Of the 388 patients hospitalized, 69 (17.78%) had ACS, the majority men (53.9%) with an average age of 58.8 years. The main risk factors were hypertension (78.3%), advanced age (52.2%) and smoking (29%). Chest pain (95.7%), palpitations (75.4%) and dyspnea (62.3%) were the dominant symptoms. Persistent ST-segment elevation ACS accounted for 94.2% of cases. Troponin was positive in 19% of patients, and cardiac kinetic abnormalities were observed in 34.8%. The recorded mortality rate was 15.9%, with sudden death and heart failure the main causes of death.

Conclusion

The high prevalence of ACS at CHU Ignace Deen, with notable mortality, is linked mainly to heart failure and sudden death.

Keywords: acute coronary syndrome (acs); in-hospital mortality; heart failure

Introduction

Coronary heart disease, including acute coronary syndromes (ACS), is a major cause of mortality and morbidity worldwide [1]. ACS can be divided into two main types: persistent ST- segment elevation ACS (ST+ ACS), associated with a complete and prolonged coronary occlusion [2], and non-ST-segment elevation ACS (ST-ACS), characterized by a partial occlusion] [3]

ST+ acute coronary syndrome (ACS) is the most severe form of coronary artery disease and its consequences in terms of morbidity and mortality [4].

It constitutes a diagnostic and therapeutic emergency, and its management is a veritable race against time. The aim is to repermeabilize the occluded coronary as quickly as possible, either by interventional techniques (angioplasty) [5]. Or pharmacologically (fibrinolysis), both of which can be performed in certain cases [6].

In Europe, the rate of ACS varies from 50 to 90 cases per 100,000 inhabitants, due to risk factors such as smoking, hypercholesterolemia, diabetes, high blood pressure and a sedentary lifestyle [7]. In Côte d'Ivoire, the prevalence of ACS has risen from 3.5% since the CORONAFRIC I study to 13.5% in 2016 [8] from 11% in Senegal and 4.7% in Burkina Faso] [9,10]. ACS case- fatality remains high in the region, reaching 38% in Senegal and 17.65% in Mali [9]. In Guinea, little research has explored this subject] [11]

This study aims to describe in-hospital mortality associated with ACS in the cardiology department of CHU Ignace Deen in Conakry.

Methodology

1-Study framework

Our study took place in the cardiology department of Hôpital National Ignace Deen, a national reference center for the management of cardiovascular diseases in Guinea Conakry.

2-Type and period of study :

We conducted a descriptive, longitudinal study from June 1 to November 31, 2023, of patients hospitalized for ACS in the cardiology department of Hôpital National Ignace Deen.

3-Inclusion criteria :

All patients at least 18 years of age admitted to the cardiology department of Hôpital National Ignace Deen for ACS during the study period were included anonymously.

Patients for whom data were unavailable or incomplete were not included.segment elevation on the electrocardiogram (ECG), with or without elevation of biological markers of myocardial necrosis.

4-Parameters studied were

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

History and risk factors for coronary artery disease: hypertension, smoking, diabetes mellitus, dyslipidemia, obesity. Clinical features: chest pain, dyspnea, palpitations. Time to admission

Clinical presentation: patients were divided into two main groups according to electrocardiographic abnormalities and whether or not biological markers of myocardial necrosis were elevated: ACS with persistent ST-segment elevation (ACS ST+), ACS without persistent ST-segment elevation with Troponin I positive (ACS ST- T+) or negative (ACS ST- T-).

Cardiac ultrasound: disorders of segmental kinetics (akinesia, hypokinesia or dyskinesia), left ventricular systolic function.

Coronary angiography: used to assess coronary lesions. Coronary angiography was considered normal when the coronary arteries were smooth, without atherosclerotic plaque or spastic phenomena. Non-stenosing atheroma was described as a reduction of less than 70% of the reference caliber in the epicardial arteries and less than 50% in the common trunk. Stenosis is a narrowing of the lumen of a vessel greater than or equal to 70%, and greater than or equal to 50% for the common trunk, with the presence of a downstream flow. Occlusion is a total obliteration of the lumen with an absence of downstream flow [12].

Management: coronary revascularization (by angioplasty or coronary artery bypass grafting), associated medications. -

Hospital course: hemodynamic, hemorrhagic, ischemic complications, rhythm disorders, conduction disorders, death.

Data collection: Socio-epidemiological, clinical, paraclinical, therapeutic and evolutionary data were collected via a dedicated form. Analysis was performed using SPSS 21 software, with frequencies for qualitative variables and means for quantitative ones**.**

Ethical considerations: Data were collected anonymously, with confidentiality guaranteed.

Results

Of the 388 admissions, 69 were for ACS, representing a hospital prevalence of 17.78%. The majority of patients were male (53.9%), with a sex ratio of 2.8, and the age groups most affected were 61-70 years (33%) and 51-60 years (32%), with a mean age of 58.8 ± 12.4 years.

The main risk factors identified included arterial hypertension (78.3%), age (52.2%), smoking (29%), and diabetes (14.5%).

Chest pain was the main symptom (95.7% of cases), followed by palpitations (75.4%) and dyspnea (62.3%). Among patients, 39% were admitted after 12 hours of symptom onset, while 61% arrived within 12 hours.

ST+ ACS was the predominant form (94.2%), with only 5.8% of patients suffering from non- ST-segment elevation acute coronary syndrome. Echocardiography showed kinetic disturbances in 34.8% of patients.

The mortality rate was 15.9%, mainly due to sudden death and heart failure. Deaths were divided between heart failure (18.2%) and sudden death (27.3%).

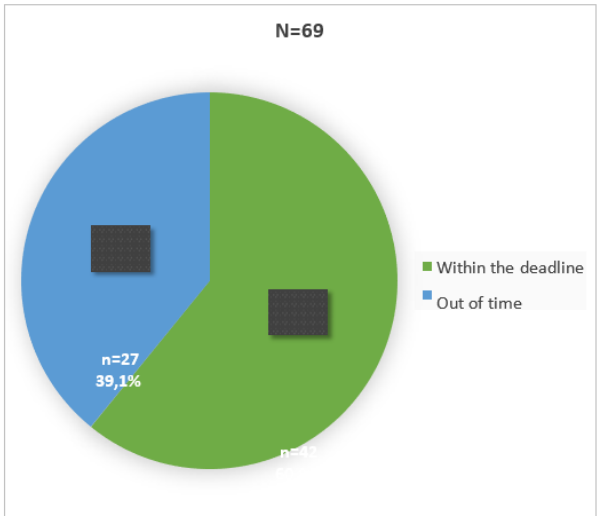
Features	Workforce	Percentage
Age (years)		
- 31 - 40	9	13
- 41 - 50	6	8,7
- 51 - 60	22	31,9
- **61 - 70**	**23**	**33,3**
- 71 - 80	7	10,1
Mean±Et [extremes]	**58,8 ± 12,4**	**[31 - 85]**
Gender		
- **Male**	**51**	**73,9**
- Female	18	26,1
Ratio(M/F)	**2,8**	

Table I: Distribution of patients by socio-demographic characteristics

Clinics	Workforce	Percentage
Reasons for consultation		

- **Chest pain**	**66**	**95,7**
- Palpitations	52	75,4
- Dyspnea	43	62,3
- Cough	3	4,3
- Fever	1	1,4
FDRCV		
- **HTA**	**54**	**78,3**
- Age	36	52,2
- Tobacco	20	29
- Diabetes	10	14,5
- Sedentary lifestyle	6	8,7
- Dyslipidemia	2	2,9

Table II: Distribution of patients by clinical characteristic



NB: Within the time limit = patients admitted before 12 hours from onset of pain. Out of time

= patients admitted after 12 hours from onset of pain.

Figure 1: Distribution of patients by length of stay in hospital

Features	Workforce	Percentage
Imaging workup		
ECG		
- Lower	30	43,5
- Extended anterior	17	24,6
- Antero-septo-apical	13	18,8
- Circumferential	12	17,4
- Anteroseptal	7	10,1
- Previous	5	7,2
- Necrosis Q wave	2	2,9
- Low lateral	2	2,9
- Troponin		
- Elevated troponin	13	18,8
Cardiac Doppler ultrasound		
- Segment anomaly	24	34,8

- LV dilatation	19	27,5
- Thrombus	7	10,1
- Ischemic MI	3	4,3
- Impaired LVEF	2	2,9
Coronary angiography		
- IVA	3	4,4
- IVA+CD	1	1,5
Features	**Workforce**	**Percentage**
Imaging workup		
ECG		
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- Impaired LVEF	2	2,9
Coronary angiography		
- IVA	3	4,4
- IVA+CD	1	1,5

Table III: Distribution of patients by paraclinical characteristics

Features	Workforce	Percentage
Infarct territory		
Previous	**42**	**60,8 %**
Lower	30	43,5 %
Circumferential	12	17,4 %
Lateral	4	5,79 %
Cardiac ultrasound		
Impaired LVEF	2	2.9
Hpokinesia	24	34.8
Akinesia	6	8,69
Dyskinesia	3	4,34
Coronary angiography		
IVA	4	10.1
CD	1	1.5
Cx	2	2,8

Table III: Distribution of patients by paraclinical characteristics

Treatment	Workforce	Percentage
- **Anti-aggregant**	**69**	**100**

- **Beta blocking**	**69**	**100**
- **IEC**	**69**	**100**
- Diuretic	43	62,3
- Statin	35	50,7
- Thrombolytic	12	17,4
- Anticoagulant	6	8,7

Table IV: Breakdown of patients by treatment

Evolution	**Workforce**	**Percentage**
Deceased		
- Yes	11	15,9
- **No**	**58**	**84,1**
Causes of death	**(n=11)**	
- Heart failure	2	18,2
- **Sudden death**	**3**	**27,3**

Table V: Distribution of patients according to evolution

Discussion

Of the 388 admissions, 69 were for ACS, representing a hospital prevalence of 17.78%. The majority of patients were male (53.9%), with

a sex ratio of 2.8, and the age groups most affected were 61-70 years (33%) and 51-60 years (32%), with a mean age of 58.8 ± 12.4 years.

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List of abbreviations

SCA : acute coronary syndromes

CHU : University Hospital

Conflict of interest

None.

Authors' contributions

All authors have read and approved the final, revised version of this article.

Thanks

We would like to thank all those who contributed to this study

Authors' contributions

Baldé Elhadj Yaya, Camara Ousmane Mamadama, Keita Fatoumata Binta, contributed to the design of the study and discussion of the results.

Camara OM and Keita Fatoumata Binta contributed to data collection and analysis of statistical data for the study.

TOURE Fodé Abdoulaye took an active part in drafting the manuscript and editing the article, ensuring the accuracy and clarity of the information presented.

Kaba Abdoul Karim translated the document into English

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