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Research Article

Acute Coronary Syndrome in Women at the CHU le Luxembourg of Bamako

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Abstract

Introduction: Acute coronary syndromes have been very little studied in the female population in black Africa. Our series showed an increase in the prevalence of acute coronary syndromes in the female population compared to previous studies. Through this retrospective study, we evaluated the epidemiological, clinical, paraclinical, therapeutic and evolutionary specifications of acute coronary syndromes in women.

Methodology: This was a retro and prospective study, concerning patients admitted for an acute coronary syndrome over a period of 3 years from September 1, 2019, to August 30, 2022, in the interventional cardiology unit at the CHU le Luxembourg of Bamako.

Results: During the study period, 74 patients' files were collected out of 251 patients, i.e., a frequency of ACS in women of 29.5%. The average age of the patients was 59.31 ± 10.89 years (37 and 83 years) and the age group 45-65 years was the most affected. The risk factors were essentially high blood pressure 66.2% (n=49), physical inactivity 66.2% (n=49) and diabetes 59.5% (n=44). The predominant functional signs were atypical chest pain in 56.8% of cases (n=42). The electrical aspect was mainly persistent ST-segment elevation in 61% (n=45). Seventy-six percent (n=56) of patients were treated 12 hours after the first medical contact. The approach for coronary angiography was radical in 93%. Coronary angiography was pathological in 92% (n=68). Lesions were single vessel in 29.7% of cases and multi-vessel in 62.2% of cases.

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Conclusion: Acute coronary syndrome in women is characterized by atypical of symptoms with a delay in diagnosis and management. Coronary lesions are characterized by multi-vessel involvement in the majority of cases.

Keywords: Acute coronary syndrome; Coronagraphy; Women, CHU Luxembourg bamako.

Introduction

Cardiovascular pathologies are considered to be a pathology of men; however, they are the leading cause of death among women in developed countries. Hospitalizations for myocardial infarction are increasing by 5% per year in women under 60 years [1]. There are significant dissimilarities in clinical presentation, aggregation of comorbidities, cardiovascular risk factors, and quality of medical care delivery in men and women with coronary artery disease [2]. In the AHA report of United States, prevalence of coronary heart disease is higher in men than in women (8.3% versus 6.2%) and increases with age. The average age of the first heart attack in women is 72 years, against 65.6 years in men [3]. This report also notes an increase in this incidence with age, but also a much higher increase in black women than white women, regardless of age [3].

Women with coronary disease have higher morbidity and poorer overall health status. In addition, certain conditions specific to women, such as early menopause, adverse pregnancy outcomes and cardiotoxic treatments for breast cancers, autoimmune/inflammatory diseases, fibromuscular dysplasia, polycystic ovary; increase the risk of coronary disease, especially in young women [2,4].

In Africa, few studies have focused on ACS in women. In order to specify the epidemiological particularities and the modalities of management of acute coronary syndromes in women, we undertook this work.

Patients and methods

This was a descriptive cross-sectional study with retrospective and prospective recruitment over a period of 03 years from September 01, 2019, to August 30, 2022. This work was carried out in the interventional cardiology unit of CHU le LUXEMBOURG of Bamako in Mali. We included all patients admitted for acute coronary syndrome and having undergone coronary angiography with or without angioplasty in the interventional cardiology unit during the study period. Acute coronary syndrome was retained on the basis of typical or atypical angina pain or dyspnea with persistent ST-segment elevation on the electrocardiogram or absence of persistent ST-segment elevation associated with an elevation of the troponin.

A survey sheet was developed to collect socio-demographic data, cardiovascular risk factors, admission times, clinical, paraclinical and therapeutic data. Ethics and confidentiality were respected. Data were analyzed using SPSS.version 26 software.

Results

During the study period, 74 patients' records were collected out of 251 patients admitted for acute coronary syndromes, i.e., a frequency of ACS in women of 29.5%. The average age of patients was 59.31 ± 10.89 years with extremes of 37 and 83 years. The 45-65 age group was the most affected (Figure 1). Predominant

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cardiovascular risk factors were high blood pressure 66.2%, physical inactivity 66.2% and diabetes 59.5% (Table 1). Main functional sign was atypical chest pain in 56.8% of cases (n=42). Electrocardiographic aspect was mainly persistent ST-segment elevation in 61% (n=45) of cases (Table 2).

Seventy-six percent (n=56) of patients were treated 12 hours after the first medical contact (Figure 2). The approach for coronary angiography was radical in 93%. Coronary angiography was pathological in 92% (n=68) of cases. Lesions were single vessel in 29.7% of cases and multi-vessel in 62.2% of cases (Table 2).

Angioplasty with placement of an active stent was performed in 58% of our patients (n=43) including 4.6% (n=2) of primary angioplasty and the stents were active stents in 100% of cases.

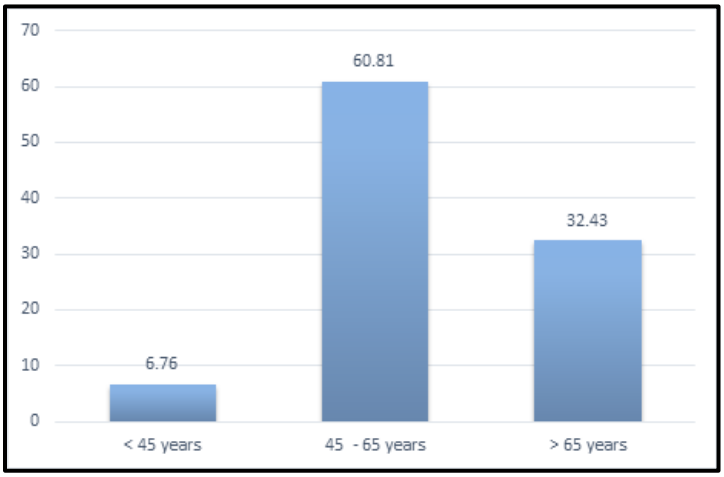

Figure 1: Age range of patients.

Clinical characteristics	Number (n=74)	Percent%
Facteurs de risque cardiovasculaire		
High blood pressure	49	66,2
Sedentary lifestyle	49	66,2
Diabetes	44	59,5
Obesity	12	16,2
Dyslipidemia	10	13,5
Tabacco	1	1,4
Functional signs		
Atypical angina pain	42	56,8
Typical angina pain	19	25,7
Dyspnea	2	2,7

Table 1: Clinical characteristics.

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Paraclinical data		Number (n=74)	Percent%
Electrocardiographics			
SCA ST+		45	61
SCA ST-		29	39
Angiographics			
Procedure	Coronary angiography	74	41,9
	Coronary angioplasty coronaire	43	58,1
Approach	Radial	69	93
	Femoral	5	7,0
Site of coronary lesions	Inter ventricular anterior	54	73,0
	Circonflex	35	47,3
	Right coronary	45	60,8
	Left main	5	6,8
Truncal status	Normal	6	8,1
	Mono-truncular	22	29,7
	Bi-truncular	23	31,1
	Tri-truncular	23	31,1

Table 2: Paraclinical data.

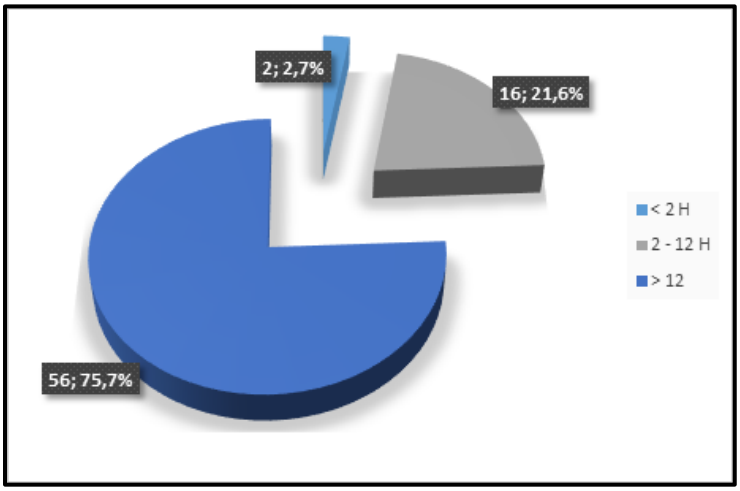

Figure 2: First medical contact time.

Discussion

Frequency of ACS in women in our study was 29.5%, close to 32% for Gabet in France [5], lower than 38.1% Ba in Dakar [6] but higher than 20.5% for N 'Guetta in Abidjan [7]. Coronary disease occurs in women a little late, as they are protected by estrogen until menopause [2,8]. In our study, we found an average age of 59.31 ± 10.88, a relatively young population compared to what is described in literature. Ba, et al., had found in Dakar an average age of women who had an ACS of 68.8 ± 9.5 years [6]. Women, at a certain age, in our

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regions, do not have the culture of practicing physical activity, so this could explain this high percentage of sedentary patients in our study. Apart from physical inactivity and menopause, hypertension and diabetes were the main cardiovascular risk factors with respectively 66.2% and 59.5%, this similarity is described in the literature in women with a disease coronary [9-11]. Active smoking was reported for patients (1.4%). Ba, et al., found in Dakar a frequency of 6.1% [6]. These data reflect the low frequency of smoking among women in our countries. Chest pain was atypical in 56.8% of our patients, in agreement with the 47.9% of M'Boup in Dakar [12]. This atypia is the hallmark of coronary disease in women [2]. Electrocardiographic aspect was mainly persistent ST segment elevation in 61% of cases, close to 54.1% for M'Boup in Dakar [12].

Treatment time was more than 12 hours after the first medical contact for 76% of our patients. This testifies to the late diagnosis and management of our patients. This situation is due to the absence of a diagnostic and treatment circuit for chest pain in our country as well as the high cost of coronary angiography and angioplasty procedures. According to M'Boup in Dakar, the extension of the admission period is due to a lack of awareness and a lack of financial means [12]. Radial approach is strongly recommended by learned societies because of its association with a low risk of complications, particularly hemorrhagic [13]. In our study the radial approach was used in 93% of cases, higher than the 51.4% of Mathew in India [14]. Coronary angiography was normal for 8% (n=6) in our series. In women with acute coronary syndrome, absence of coronary obstruction is observed more commonly than in men according to Madika, et al. [15]. Bi-truncal and tri-truncal lesions were the most found with 31.1% each, mono-truncal lesions were noted in 29.7% of the cases. In Tunisia, Abid et al had objectified single-vessel lesion in 34% of women and 67% of poly-vessel disease [16].

Coronary angioplasty with active stent placement is the coronary reperfusion technique of choice in acute coronary syndrome. It was performed in our patients in front of clinical ischemic recurrence, the absence of segmental akinesia on transthoracic echocardiography. Angioplasty was performed in 58% of our patients, of which only 4.6% had primary angioplasty. The low rate of primary angioplasty is explained by the late delay in treatment. Stents were active stents in 100% of cases.

Conclusion

Acute coronary syndrome exists in women in sub-Saharan Africa. It is characterized by the atypia of clinical symptomatology, delay in diagnosis as well as delay in management. Multivessel involvement is common in coronary angiography with a low rate of primary angioplasty. This finding should encourage stakeholders in the health sector to raise awareness, continue medical training and make care accessible.

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