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EC CARDIOLOGY
Case Report

Silent Infarction. About a Case

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Abstract

Coronary Heart Disease remains one of the leading causes of mortality and morbidity in developed countries. There are few cases of silent AMI described in the literature. Silent heart attack affects one out of five people with infarction, and is more common in diabetics. The objective of this study is to present a near-clinic of silent infarction in a 77-year-old male patient who came to the Accident and Emergency unit, referring to a feeling of coldness in the upper limbs. Electrocardiogram and cardiac enzymes showed the presence of an acute myocardial infarction. After treatment with streptokinase the patient demonstrated the effectiveness of the treatment on the electrocardiogram. A diagnosis and early treatment in this type of infarction guarantees a better survival and quality of life.

Keywords: *Acute Myocardial Infarction; AMI; Silent Myocardial Infarction*

Introduction

Coronary heart disease continues to be a major cause of mortality and morbidity in developed countries, both in the general population and in the elderly, however in recent years we are witnessing a decrease in cardiovascular disease mortality. The report by the US Department of Health (NHANES), published in 2016, estimates the number of patients with coronary heart disease at 15.5 million, estimating a prevalence of 6.2% in subjects over 20 years old (7.6% men and 5% women). This document reports approximately 660000 patients with a new coronary event a year. Mortality remains high. In the last decade, the management of Acute Myocardial Infarction (AMI) with aggressive reperfusion strategies, and the improved post-AMI management, on the other hand, lead to decrease of the incidence in developed countries given the Primary prevention strategies [1].

Heart disease is the leading cause of death in Cuba and 65% of deaths from this disease occur specifically for ischemic diseases; 44% Of them, because of acute myocardial infarction [2]. The incidence of coronary heart disease is double or more in men, in proportion to women [3].

Ischemic heart disease is a disorder that occurs when part of the myocardium receives an insufficient amount of blood and oxygen; Arises specifically when there is an imbalance between the supply of oxygen and the need for it by this muscular layer. People with ischemic heart disease belong to two major groups: patients with chronic coronary artery disease, whose most common initial condition is stable angina, and patients with acute coronary syndromes composed of unstable angina and acute myocardial infarction with or without ST segment elevation. The most frequent cause of myocardial ischemia is atherosclerotic attack [4].

The cardiovascular risk factors that predispose to the occurrence of ischemic heart disease are known. These risk factors are obesity, advanced age (older than 55 years in men and 65 years in women), diabetes mellitus, hypertension, sedentary lifestyle, chronic kidney disease, smoking, dyslipidemia, family history of premature coronary disease in relatives of first grade. Obstructive sleep apnea has also been found to be a cardiovascular risk factor [5].

The most frequent and main clinical manifestation of acute coronary syndromes (ACS) is chest pain. Consultations for chest pain in the USA 6 million per year, with 15% of those over 65 years of age [1]. Although the literature also mentions that 30% of myocardial infarctions are silent, mostly in women (35% vs 28%) [5].

Case Presentation

Patient FRN, 77 years old, with a history of deafness, using hearing aids and having been operated several years ago with Colon Diverticulum. On this occasion he goes to the Accident and Emergency unit because he was playing dominoes and began with a cold feeling in both lower limbs, he denies pain or any other accompanying symptom.

Physical exam data:
FC 78L x minutes
TA 150/99 mm Hg
FR 19 x minutes
Complementary to admission:
Electrocardiogram 1: ST-T elevation of more than 1 mv in DII, DIII, AVF, V5, V6.

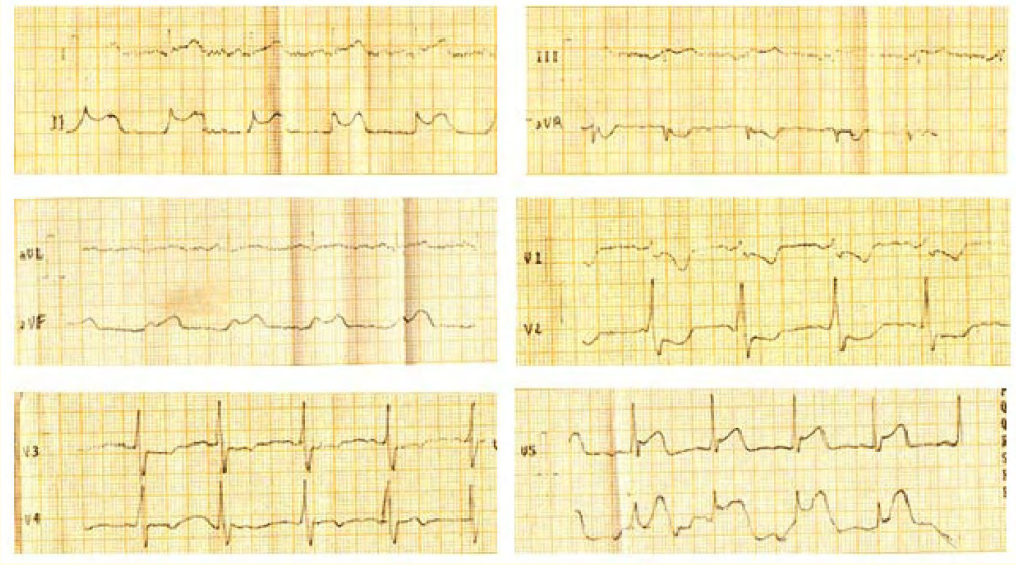

Figure 1: *Electrocardiogram 1.*

Blood Glucose: 4.2 mmol/l
TGP 22.0 IU/l
TGO 43.9 IU/l
LDH 375 IU/l
CPK 218 IU/l
CK-MB 66 IU/l

He was diagnosed with acute lower and lateral myocardial infarction and treatment commenced Complementary at 4h after the onset of infarction:
TGP 80.0 IU/l
TGO 430 IU/l
LDH 984 IU/l
CPK 3315 IU/l
CK-MB 288 IU/l

At 6 hours post-Streptokinase the electrocardiogram showed T negative in ID and aVL and pathological Q of more than 25% of the R in II, III and aVF, in V5 and V6 the ST-T segment normalised. The Echocardiogram was normal.

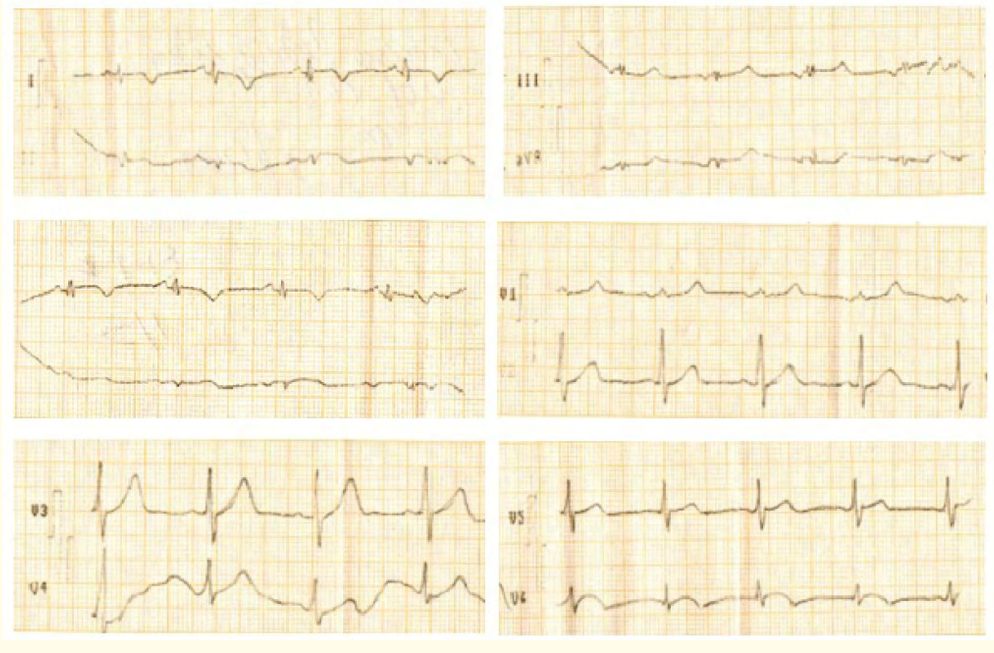

Figure 2: *Electrocardiogram 2.*

Evolution

The patient within a few hours, after general measures, oxygen therapy with O_2, thrombolysis with Recombinant Streptokinase, administration of atenolol (50 mg) and ASA (125 mg), the sensation of coldness in both upper limbs disappears, maintaining stable vital signs, Well hydrated, without signs of heart failure, pulmonary congestion, hypoperfusion, or cardiac arrhythmia. Good diuresis. Normotensive. After 5 days of evolution the patient is withdrawn with ASA 125 mg daily, Atenolol (100 mg) 1/2 tablet daily.

Discussion

There are few cases of AMI described in the literature, and much less the silent ones, perhaps because these infarcts do not have a typical clinical picture, and the patient often does not seek medical assistance. In vast majority of cases are accidentally diagnosed when the acute episode has already passed.

Silent heart attack, affects one out of five people with a heart attack. There are no or very mild symptoms [6]. Literature shows that this entity is much more frequent in diabetic patients [6,7]. When a silent myocardial infarction occurs even if it goes unnoticed, it can cause scarring in the myocardium. Almost all strokes occur in the left ventricle due to their increased demand for oxygen and the greater thickness of their wall, 15% affect both ventricles and only 3% to the right ventricle [6]. In the case presented above, the patient did not suffer precordial pain only felt a feeling of coldness in both upper limbs, a symptom not typical of any disease, but as mentioned above, the non-presence of pain does not make it less dangerous. Patient also only had as a risk factor age over 55 years old and male, did not suffer from any chronic disease that predisposed him to suffer from a heart attack.

The authors agree that the electrocardiogram (ECG) and some special blood tests that measure concentrations of cardiac enzymes are diagnostic tests that help detect an acute myocardial infarction [6,7]. The ECG of this patient on arrival showed changes at the territories of lower and lateral walls of the heart, and cardiac enzymes were slightly increased upon admission, which does not coincide with the results found by other authors who report that in the first hour of acute myocardial infarction cardiac enzymes may be normal [6]. This may be due to the fact that, because the patient did not present a typical clinical picture, it might have been delayed in requesting medical attention, 4 hours after arrival the enzyme levels had increased to more than double the initial values, which demonstrated the presence of the infarction.

Several authors agree that every patient with a reasonable suspicion of AMI with presumably new ST-segment elevation or BCRI, who enters within 12 hours of having started the symptoms, should undergo reperfusion with fibrinolytics [1,6,7]. This patient presented Elevation of the ST segment in DII, DIII, aVF, V5 and V6, and only after an hour he had begun to feel the cold sensation in the upper limbs, that´s why there was criteria for treatment with fibrinolytics. Recombinant streptokinase was administered, after which the patient progressed favorably and the ECG after thrombolysis showed regression of the ST-T segment to normality with Q wave of necrosis only in the lower face, which demonstrates the effectiveness of the fibrinolytic treatment In this patient, coinciding with that described by other authors [1,6].

Conclusions

This patient, despite presenting with an atypical clinical picture of AMI, was precociously diagnosed and treated so he had a favorable evolution and presented no complications, which guarantees a better survival and quality of life.

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