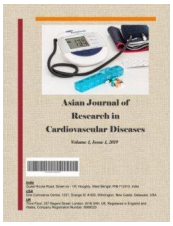

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Coronary Artery Aneurysm Revealed by an Acute Coronary Syndrome in a Patient with Systemic Lupus Erythematosus: A Case Report

Hind Adnane[1*], Saousan Serbout[1], El Ghali Med Benouna[1], Drighil Abdenasser[1] Azzouzi Leila[1] and Habbal Rachida[1]

[1]Cardiology Department, Ibn Rochd University Hospital, Morocco.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Systemic lupus erythematosus is an inflammatory autoimmune disease of unknown etiology. The coronary lesions are extremely rare, particularly aneurysms.

We report a case of a coronary aneurysm of a patient diagnosed with Systemic lupus erythematosus who showed up at the emergency department presenting, since for 4 hours, an acute retro-sternal chest pain radiating to his jaws.

An electrocardiogram was performed urgently and showed an ST-elevation of 2mm in the infero-basal territories and right leads (V3r, V4r).

The patient underwent coronary angiography which revealed an aneurysmal dilatation of the right coronary artery with multiple atherosclerotic aneurysms of different sizes with no thrombus visualized within the lumen.

Coronary aneurysms are fatal and have potential complications that should be considered in the diagnostic of Cardiac involvement in Systemic lupus erythematosus since early detection might allow complete healing.

**Corresponding author: E-mail: hndadnane@gmail.com;*

Keywords: Systemic lupus erythematosus; coronary aneurysm; acute coronary syndrome.

1. INTRODUCTION

Systemic lupus erythematosus is an inflammatory autoimmune disease of unknown etiology, involving an immune response of autoantibodies (most commonly anti-nuclear) against the patient's own tissues responsible for multi-organ disorders especially, cutaneous, renal and cardiac.

The most commonly reported cardiac involvements are Libman-Sacks endocarditis, myocarditis or pericarditis. The coronary lesions are extremely rare, particularly the coronary aneurysms, and described in only 0.15 to 4,9% of cases [4].

2. CASE PRESENTATION

A 54-years-old man with a diagnosis of systemic lupus erythematosus in its cutaneous form since 2 years has been under antimalarials (Nivaquine) for one year, stopped 2 months before he showed up at the emergency department presenting, since 4 hours, retro-sternal chest pain radiating to his jaws. He was a chronic smoker for over 25 years.

Physical examination revealed a haemodynamically stable patient with arterial pressure at 110/70 mmHg, and heart rate at 74 bpm, otherwise, the auscultation was normal.

An electrocardiogram was performed urgently, showed a first degree arterioventricular block, with an ST-elevation of 2mm in the infer-basal territories and right leads. (Fig. 1).

The patient received a loading dose of aspirin and clopidogrel, as well as low molecular weight heparin. A transthoracic echocardiography showed a mild basal and infero-septal basal hypokinesia with a preserved left ventricular ejection fraction (60%), a good longitudinal systolic function of the right ventricle and a dilated ascending tubular aorta at 41 mm, (27 mm / m² for a body surface area at 1.5).

Initial biological assessment found positive Ic troponins(0.17ng/ml), negative C-reactive protein, normochromic normocytic anemia (Hg=10.9g/dl) and lymphopenia at 210 elements / mm3.

The patient underwent coronary angiography which revealed an aneurysmal dilatation of the left communal trunk (Fig. 2), and the right coronary artery with multiple atherosclerotic aneurysms of different sizes (Fig. 3), with no thrombus visualized within the lumen.

Anti-nuclear and native anti-deoxyribonucleic acid antibodies were positive. There were no circulating antiphospholipids antibodies.

We concluded then to the diagnostic of an ST Elevation Myocardial Infarction secondary to a coronary aneurysm as part of a Systemic lupus erythematosus cardiac involvement.

The patient received a medical treatment based on immunosuppressants. Double anti platelet aggregation was maintained as well as a betablockers and statins. The patient remained asymptomatic after one year of the event.

3. DISCUSSION

Aneurysmal dilation of the coronary arteries has been commonly described in patients treated for polyarteritis nodosa, Takayasu and d Kawasaki diseases, combined with atherosclerosis [1].

The prevalence of coronary aneurysms in Systemic lupus erythematosus (SLE) patients is unknown [1]. The mechanism leading to the development of coronary aneurysms in SLE patients is not fully understood; it has been reported to be an inflammation and a sequelae of necrosis of medial tunica. Coronary aneurysms may be associated with thrombosis [3].

Due to their poorly elucidated mechanisms, their variable presentations, and the lack of a large scale outcome data on their various treatment modalities, coronaryaneurysms and ectasia rema in a challenge to the clinician [8].

Since traditional cardiovascular risk factors may play a role in the progression of coronary artery disease to coronary aneurysms, they should be controlled. All major epicardial coronary arteries may be involved; however, no involvement of the left main coronary artery has been reported [1]. Multiple and giant coronary aneurisms have been reported [2-3].

There are no guidelines for the best management strategies for SLP patients with

coronary aneurysms. The control of cardiovascular risk factors is the key of treatment [1].

We need to increase knowledge of lupus coronary heart disease and its complications. Coronary aneurysms are fatal and have potentially complications that should be considered in the diagnosis of Cardiac involvement in SLE patients since early detection might allow complete healing.

This case also emphasizes the importance of angiography in early diagnosis and treatment.

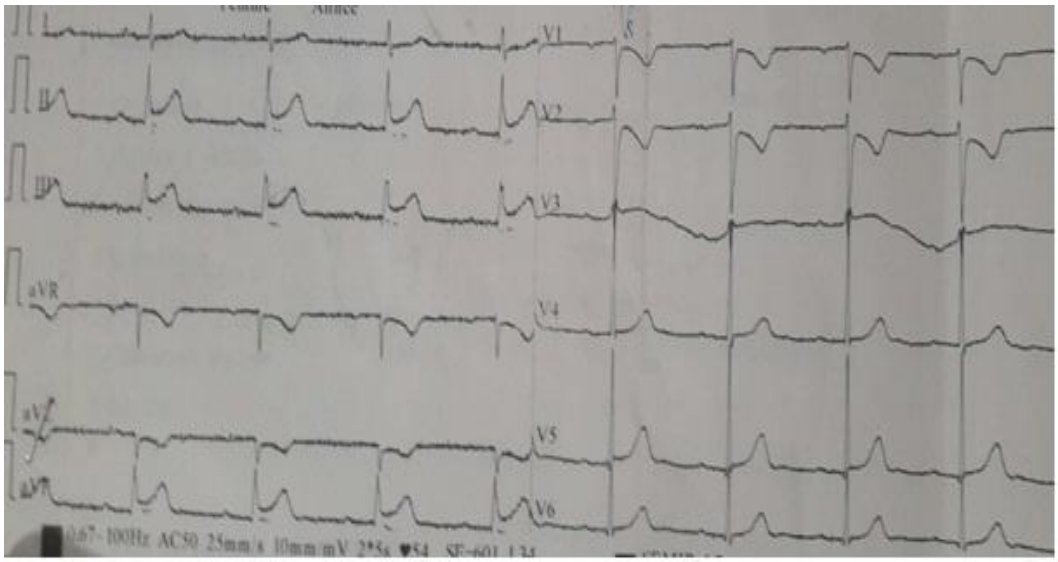

Fig. 1. ST-elevation of 2 mm in the infero-basal territories and right leads and a first degree arterioventricular block

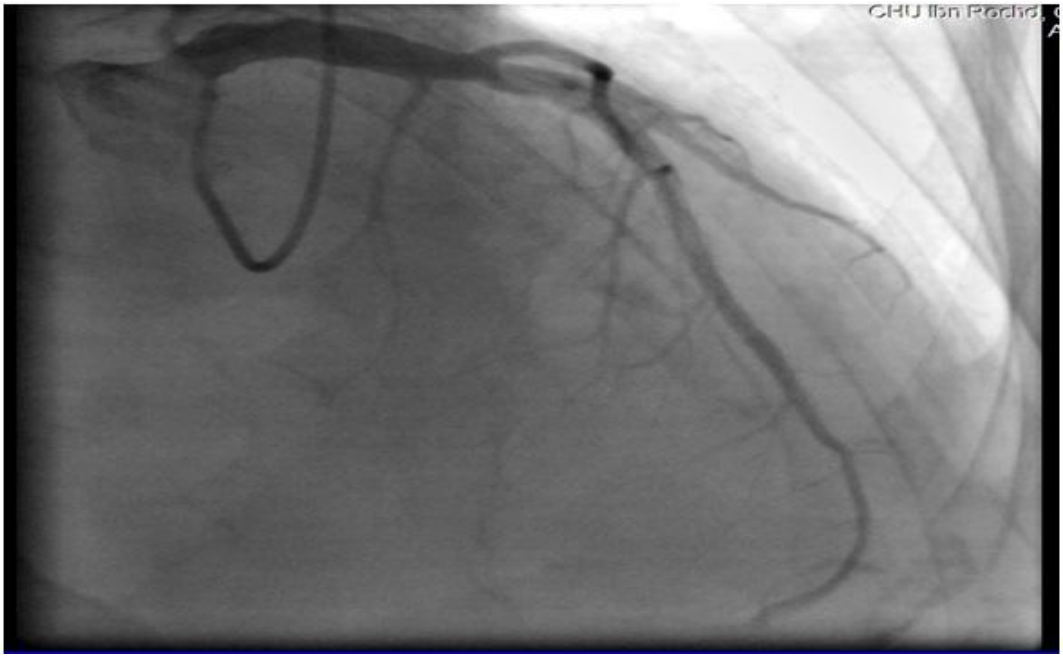

Fig. 2. An aneurysmal dilatation of the left communal trunk

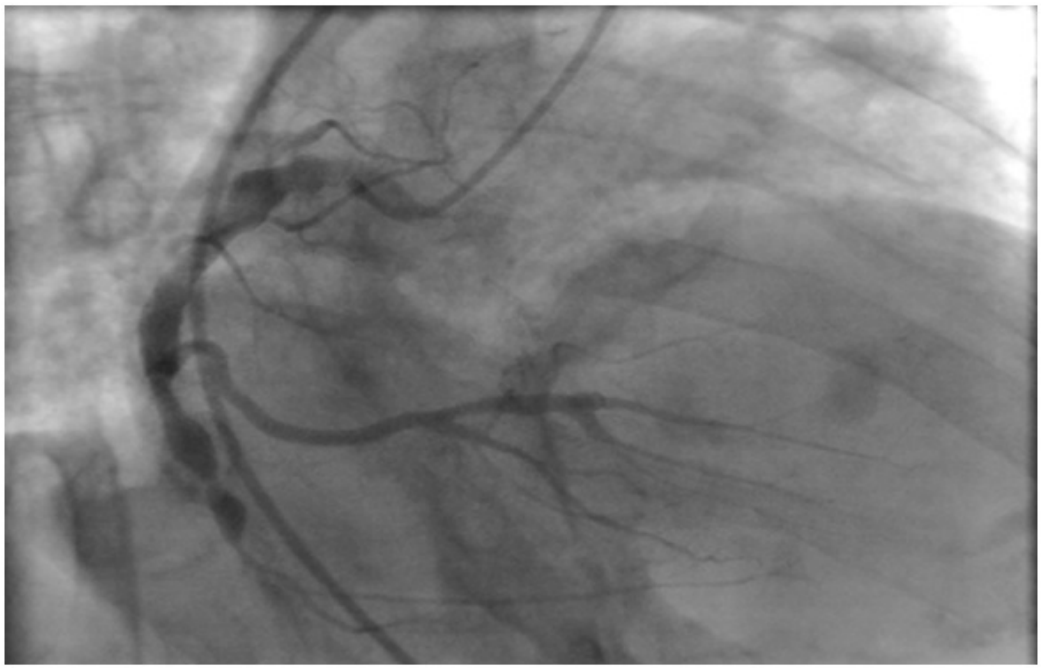

Fig. 3. An aneurysmal dilatation of the right coronary artery with multiple atherosclerotic aneurysms of different sizes

4. CONCLUSION

Cardiac involvement in systemic lupus erythematosus is quite common and can remain asymptomatic for a long time. Coronary aneurysms remain a very rare complication that can mimic acute coronary syndrome. The prognosis remains severe by the occurrence of a coronary failure.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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