Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Cardiology

Diagnosis and Treatment Delays Could Cost: Fatal Outcome of Lupus-Related Myopericarditis

H. Rami[1*], M. Hamidi[1], L. El Bahri[1], F. Kotaibi[1], M. Cherti[1]

[1]Department of Cardiology, Ibn Sina University Hospital, Rabat, Morocco

DOI: https://doi.org/10.36347/sjmcr.2025.v13i06.047 | **Received:** 12.05.2025 | **Accepted:** 16.06.2025 | **Published:** 21.06.2025

***Corresponding author:** H. Rami
Department of Cardiology, Ibn Sina University Hospital, Rabat, Morocco

Abstract | **Case Report**

We reported a case of severe lupus myopericarditis that rapidly progressed to cardiogenic shock. A 27-year-old woman with no significant medical history developed prolonged fever, weight loss, and acute dyspnea. Significantly elevated troponin levels, global hypokinesia, and a large epicardial effusion were found on echocardiography. The patient was initially diagnosed with systemic lupus erythematosus (SLE) according to the EULAR/ACR classification, fulfilling seven positive criteria. The diagnosis of acute lupus myopericarditis was highly suspected as the underlying cause of the cardiogenic shock. Furthermore, the patient did not undergo the CMR test due to restricted access and her instability. She was transferred to the critical care unit, initiated on noninvasive ventilation, and required dual inotropic support. Regrettably, the patient succumbed on the second day of hospitalization. Our case highlights the importance of early identification and treatment of acute presentations in patients with systemic lupus erythematosus.

Keywords: systemic lupus erythematosus, acute heart failure, myopericarditis.

INTRODUCTION

The clinical presentation of systemic lupus erythematosus (SLE) affects nearly every organ system in the human body. Although SLE can occur in both children and adults, it is most commonly observed in women of reproductive age. Cardiac involvement as an initial manifestation of SLE is rare, but when present, it is associated with significant morbidity and mortality in 50% of cases. Pericarditis is the most common complication; clinically overt myocarditis is reported in only 9% of patients with SLE.

Here we describe the clinical course of a 27-year-old female with a de novo presentation of myo-pericarditis secondary to SLE with the diagnostic challenges we encountered

CASE PRESENTATION

A 27-years-old female with a past medical history of miscarriage, she was also noted to have a 1-year history of progressive fatigue and 10kg weight loss. Presented to the emergency department for sudden onset of dyspnea, chest pain and fever. On evaluation, vitals were notable for normal blood pressure (104/62 mmHg), tachycardia (140 beats per minute), tachypnea (respiratory rate 25 breaths per minute) and fever. His cardiovascular exam was remarkable for bilateral lung crackles and elevated jugular venous pressure without extremity edema.

The EKG tracing revealed a sinus rhythm with a heart rate of 140 b.p.m., in addition to diffuse microvoltage and repolarization abnormalities. (Figure 1)

An echocardiogram showed a large pericardial effusion with partial collapse of the right cavities (Fig. 2), accompanied by LV dilatation and global hypokinesia with an ejection fraction of 35%. No structural valvular abnormalities were observed.

Leucopenia and normocytic normochromic anemia have been identified during blood tests. hypocomplementemia was associated with elevated inflammatory biomarkers (C-reactive protein [CRP] 69 mg/L [normal range, 0–8]. The patient had a normal renal function

There was evidence of acute myocardial injury with elevated cardiac biomarkers (high-sensitive troponin I (347 ng/L and brain natriuretic peptide (502.5 ng/L). iron, vitamins levels and thyroid function were normal.

Antinuclear antibody and anti-DNA antibody were positive. Autoimmune screen showed strongly positive antinuclear antibodies (ANA) at 840 IU/ml (N < 7), with presence of anti-dsDNA antibodies.

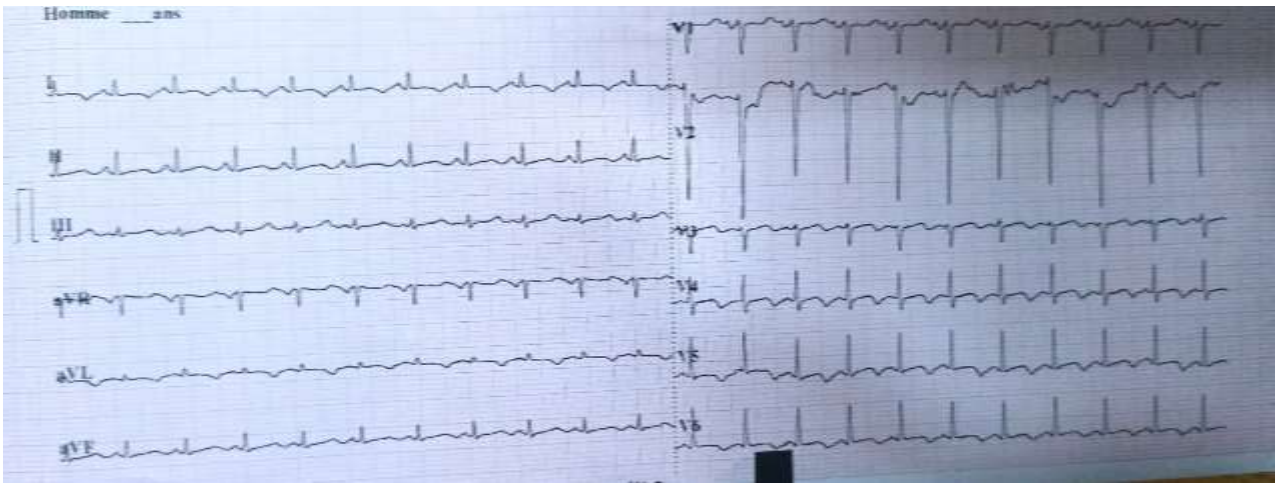

Figure 1: Electrocardiogram (ECG). Admission ECG was in normal sinus rhythm with diffuse T-wave and diffuse micro-voltage

MANAGEMENT

In this case, acute pericarditis was initially suspected due to abnormal ECG findings and the presence of pericardial effusion, but elevation of cardiac biomarkers was suggestive of associated myocardial lesions. Given the patient's youth, absence of cardiovascular risk factors, and echocardiographic findings of left ventricular systolic dysfunction with global hypokinesia, a diagnosis of acute myocarditis was favored at this point rather than acute coronary syndrome.

Our patient was initially diagnosed with SLE according to the EULAR/ACR classification (positive ANA, positive anti-dsDNA antibodies, low complements, leukopenia, positive agglutinin test without hemolysis, epicardial effusion, malar rash, and fever. The disease activity index of SLE was 16 and she had active SLE. Myopericarditis complicating probably Systemic Lupus erythematosus was highly suspected. However, the patient did not undergo the Cardiac MRI due to restricted access and her instability.

The patient benefited from pericardial draining, yielding 800cc of yellowish exudate fluid. Epicardial fluid cytology, microscopy, and culture were unremarkable. She was shifted to the intensive care unit and started on noninvasive ventilation and needed double inotropic support. Unfortunately, the patient had already passed away on day 2 of the hospital stay.

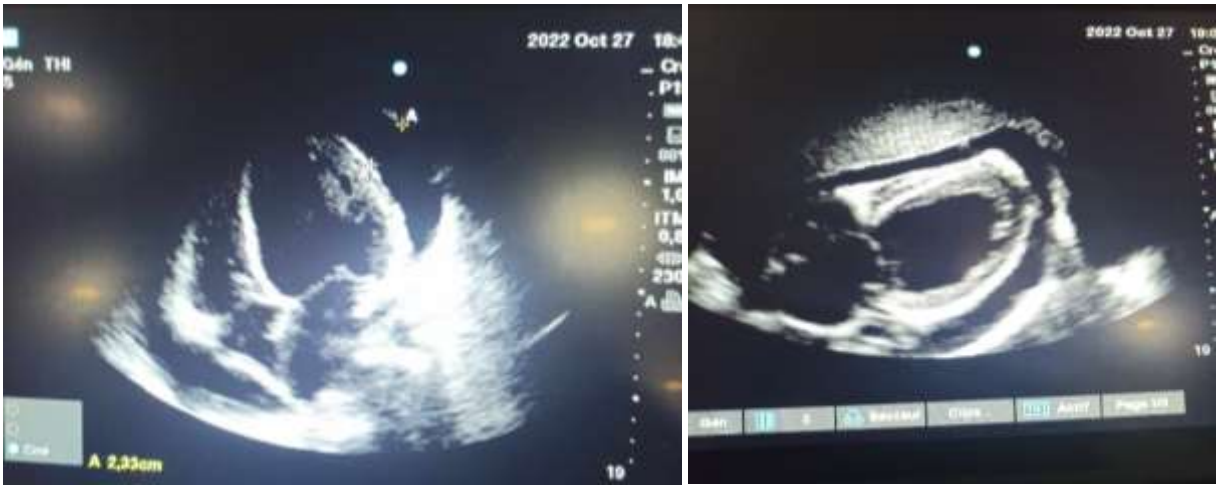

Figure 2: An apical four-chamber and sub costal views on transthoracic echocardiogram obtained on the day of the admission demonstrating a large -sized pericardial effusion

DISCUSSION

SLE is an inflammatory autoimmune disease with an unknown origin that primarily affects women of reproductive age and can cause damage to multiple organs, including the cardiovascular system. Diagnosing SLE is challenging, so the American College of Rheumatology established 11 diagnostic criteria; a

definitive SLE diagnosis requires meeting 4 out of these 11 criteria [1].

Primary lupus myocarditis (LM) is rare and a potentially fatal manifestation, observed clinically in 3-9% of patients with SLE. However, the incidence can be as high as 57% (post-mortem analyses), suggesting a high prevalence of subclinical disease [2]. Clinical symptoms can range from unexplained tachycardia to severe congestive heart failure. There is a wide variety of etiologies that can lead to myocardial involvement in SLE, including vascular, immunological, and infectious factors [3].

Few cases of acute myocarditis and heart failure as the first signs of SLE have been documented. Borenstein et al. identified only 5 cases of myocarditis among 140 patients with systemic lupus erythematosus (SLE)[4]. Badui et al. found a 14% incidence in a prospective study.[5] Cheng et al. documented a case of significant left ventricular dysfunction occurring in the absence of other systemic lupus erythematosus signs for the first time [6] .Tanwani et al. documented a cohort of myocarditis patients in 2018.[7]

Echocardiography is frequently used to support the diagnosis of LM. Although some patients might have obvious LV dysfunction, up to 25% of patients have a relatively preserved left ventricular ejection fraction [13]. The left ventricle usually remains non-dilated (60%) at the moment of symptom onset. Pericardial involvement is observed in 50% of patients, while diastolic dysfunction may be present in up to 90% of patients. Early detection of subtle LV systolic and/or diastolic dysfunction during the presentation of LM is crucial, given the poor outcome associated with more advanced LV systolic dysfunction (LVEF <35%).[8]

The gold standard for the diagnosis of myocarditis (spectrum of aetiologies) remains endomyocardial Biopsy. EMB is a low-risk procedure, despite its invasive nature. The risk of EMB is significantly influenced by operator expertise and procedural volume [9].Cardiac magnetic resonance (CMR) is an emerging noninvasive imaging method that may be an alternative to myocardial biopsy [10-11]. The CMRI criteria for diagnosing myocarditis come mainly from studies in non-rheumatological diseases [12]. It is still unclear if the criteria are applicable to individuals with SLE and may be generalized, due to the fact that the pathophysiological mechanisms involved are very different.

There is no consensus on management of SLE cardiomyopathy because of its rarity. Limited evidence supports initial and early management with steroids, conventional therapy for heart failure, adjuvant treatment strategies (anticoagulation and antiarrhythmic drugs) and correction of cardiovascular risk factors [10]. Immunosuppressive and immunoglobulin therapy may be effective in patients in whom active inflammation is detected [14]. In severe cases, cardiac transplantation is a viable option for SLE patients with heart failure.

Essential conclusions

All three layers of the heart may be affected by systemic lupus erythematosus (SLE). Although myocarditis is frequently asymptomatic, it can result in cardiac failure in SLE. Given the potential for rapid progression, it is crucial to identify acute lupus myocarditis and administer corticosteroids at the earliest opportunity. Our patient experienced a rapid detoriaration and unfortunately passed away

Acknowledgements: Not applicable.

Funding: There is no source of funding or any form of financial assistance that contributed to this case report.

Availability of data and materials: No new data were generated or analysed in support of this research

Conflict of interest statement: The authors declare that they have no competing interests.

REFERENCES

1. Aringer, M., & Johnson, S. R. (2020). Classifying and diagnosing systemic lupus erythematosus in the 21st century. Rheumatology (Oxford, England), 59(Suppl5), v4–v11.https://doi.org/10.1093/rheumatology/keaa379
2. Durrance, R. J., Movahedian, M., Haile, W., Teller, K., & Pinsker, R. (2019). Systemic Lupus Erythematosus Presenting as Myopericarditis with Acute Heart Failure: A Case Report and Literature Review. Case reports in rheumatology, 2019, 6173276. https://doi.org/10.1155/2019/6173276
3. Kreps A, Paltoo K, McFarlane I. Cardiac manifestations in systemic lupus erythematosus: a case report and review of the literature. Am J Med Case Rep. 2018;6(9):180–3 DOI: 10.12691/ajmcr-6-9-3.
4. Borenstain DG, Fye WB, Arnett FC, Stevens MB. The myocarditis of systemic lupus erythematosus: Association with myositis. Ann Intern Med. 1978;89:619–24 DOI: 10.7326/0003-4819-89-5-619
5. 5.Badui E, Garcia-Rubi D, Robles E, Jimenez J, Juan L, Deleze M, et al. Cardiovascular manifestations in systemic erythematosus : Prospective study of 100 patients. Angiology. 1985;36:431–40. https://doi.org/10.1177/000331978503600705
6. Cheng SM, Chang DM, Lee WH, Ding YA. Acute myocarditis as an initial manifestation of Systemic Lupus Erythematosus: A case report. Chung Hua I Msuch Tsa Chih-Chinese Med J. 1996;58:205–8. https://doi.org/10.4103/jfmpc.jfmpc_716_20

7. 7.Tanwani J, Tselios K, Gladman DD, Su J, Urowitz MB. Lupus myocarditis: A single center experience and a comparative analysis of observational cohort studies. Lupus. 2018;27:1296–302. https://doi.org/10.1177/0961203318770018
8. Durrance, R. J., Movahedian, M., Haile, W., Teller, K., & Pinsker, R. (2019). Systemic Lupus Erythematosus Presenting as Myopericarditis with Acute Heart Failure: A Case Report and Literature Review. Case reports in rheumatology, 2019, 6173276. https://doi.org/10.1155/2019/6173276
9. Seferović PM, Tsutsui H, McNamara DM et al. Heart Failure Association of the ESC, Heart Failure Society of America and Japanese Heart Failure Society position statement on endomyocardial biopsy. Eur J Heart Fail 2021;23:854–71. PMID : 34010472. https://doi.org/10.1002/ejhf.2190
10. Friedrich MG, Sechtem U, Schulz-Menger J et al. Cardiovascular magnetic resonance in myocarditis: a JACC white paper. J Am Coll Cardiol 2009;53:1475–87. https://doi.org/10.1002/ejhf.2190
11. Ferreira, V, Schulz-Menger, J, Holmvang, G. et al. Cardiovascular Magnetic Resonance in Nonischemic Myocardial Inflammation: Expert Recommendations. JACC. 2018 Dec, 72 (24) 3158–3176. https://doi.org/10.1016/j.jacc.2018.09.072
12. Mavrogeni S, Schwitter J, van Rossum A et al. Cardiac magnetic resonance imaging in myocardial inflammation in autoimmune rheumatic diseases: an appraisal of the diagnostic strengths and limitations of the Lake Louise criteria. Int J Cardiol 2018;252:216–9. DOI : 10.1016/j.ijcard.2017.11.032.
13. Du Toit R, Herbst PG, van Rensburg A et al. Clinical features and outcome of lupus myocarditis in the Western Cape, South Africa. Lupus 2017;26:38–47. DOI : 10.1177/0961203316651741.
14. Barnado A, Kamen DL. Myocarditis successfully treated with intravenous immunoglobulin in a patient with systemic lupus erythematous and myositis. Am J Med Sci. 2014;347:256–7. DOI : 10.1097/MAJ.0000000000000232.