ECRONICON OPEN ACCESS

EC CARDIOLOGY
Case Report

Infective Endocarditis Revealed by Splenic Infarction: A Case Report

Abdelkarim Ajarcif*, Sara Aouame, Najlae Elyounoussi, Mehdi Baya and Mamoun Chtioui

Department of Cardiology, Military Hospital Moulay Ismail Meknes, Morocco

***Corresponding Author:** Abdelkarim Ajarcif, Department of Cardiology, Military Hospital Moulay Ismail Meknes, Morocco.

Received: June 04, 2025; **Published:** June 17, 2025

Abstract

Infective endocarditis (IE) is a rare life-threatening condition often complicated by splenic emboli with splenic infraction being an uncommon presentation. We report a 34-year-old man, presenting with acute left flank pain and fever. Imaging confirmed splenic infraction and echocardiography revealed vegetation on a bicuspid aortic valve with grade II aortic insufficiency. Blood cultures identified staphylococcus aureus. Initial treatment with ceftriaxone was adjusted to targeted antibiotics but the patient developed an ischemic stroke. After six weeks of therapy aortic valve replacement led to improvement. This case highlights the diagnostic challenge of IE presenting as splenic infraction and the critical role of early echocardiography and blood cultures in febrile patients to prevent severe complications.

Keywords: *Infective Endocarditis; Splenic Infraction; Bicuspid Aortic*

Introduction

Infective endocarditis (IE) is a rare but serious disease that affects the endocardium and heart valves. It is often caused by a bacterial infection, leading to various systemic complications. Of these, septic embolisms are the most common, affecting various organs such as the kidneys, brain and spleen [1]. Arteries can become blocked if the build-up of bacteria and blood clots on the valves (called condons) break off (become embolus), flow through the bloodstream to other parts of the body, and become lodged in an artery by blocking it [1].

However, splenic infarction remains a relatively unusual clinical presentation of AE. This type of complication can delay diagnosis, as symptoms are often nonspecific and can be confused with other abdominal conditions and etiologies without multiples: include hematologic malignancies, hypercoagulability states (sickle disease, C and S protein deficiencies, polycythemia vera, lupus anticoagulant, use of estrogen malignancies patent foravane, prosthetic heart valves). Autoimmune diseases and collagen vascular diseases have also been associated with [2].

In this article, we describe the case of infective endocarditis discovered following a splenic infarction, highlighting the complexity of diagnosis and the importance of early management to prevent life-threatening complications.

Presentation of the Case

A 34-year-old man, with no significant medical history, presented to the emergency room with acute abdominal pain in his left flank, associated with fever for several days. On physical examination, marked tenderness of the left hypochondrium is noted, with no evidence of hemodynamic instability.

Abdominal ultrasound revealed a hypodense lesion of the spleen, suspected to be a splenic infarction. Abdominal CT confirmed the diagnosis.

Given the febrile context and the suggestive symptoms, and as part of the etiological assessment, a transthoracic echocardiography performed (confirmed on the transesophageal echocardiography), reveals a vegetation (Figure A) on an aortic bicuspid (Figure B) and an IA grade II (Figure C and D). Blood cultures were performed during febrile peaks that had come back positive for Staphylococcus aureus; In addition, the gateway is not identified but the patient reveals that he had a tooth inflammation a few weeks before receiving dental care.

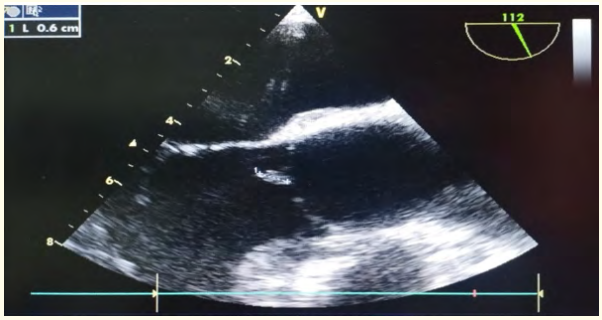

Figure A

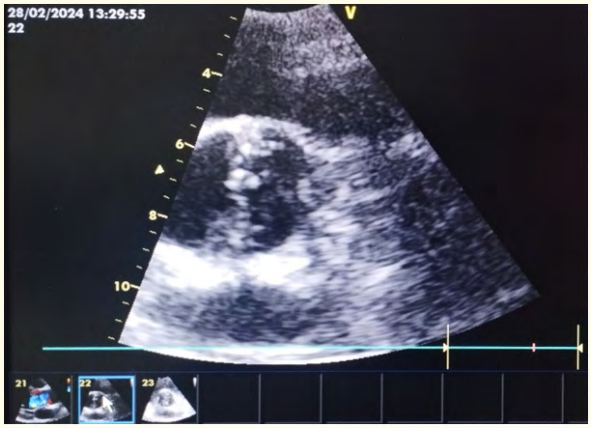

Figure B

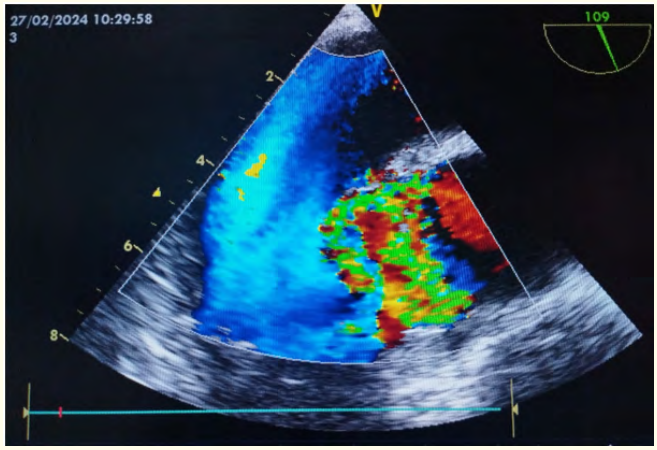

Figure C

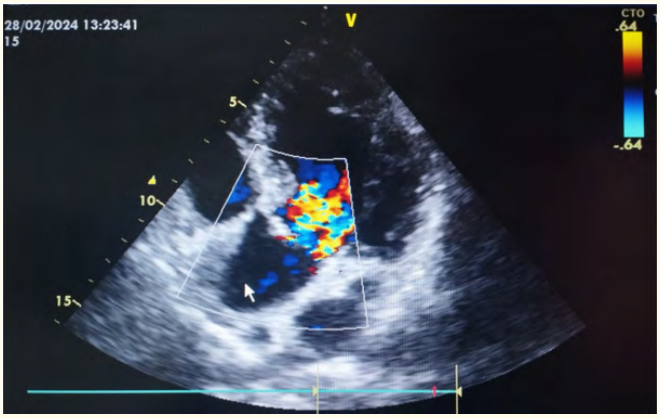

Figure D

The initial course of action was to rehydrate the patient with administration of antipyretic and probabilistic antibiotic therapy based on ceftriaxone, which was subsequently changed after the results of the blood culture: dual antibiotic therapy adapted to the antibiogram. The evolution was marked by the occurrence of an ischemic stroke, after 6 weeks of antibiotic treatment he benefited from an aortic valve replacement with good improvement.

Discussion

Infective endocarditis is a rare but potentially fatal condition, especially when it is complicated by septic embolus, as in this case with a splenic infarction and a DALY. Symptoms of splenic infarction, such as abdominal pain and fever, are nonspecific, often making initial diagnosis difficult. The onset of such a complication may precede other clinical signs typical of AE, such as a heart murmur or obvious cardiac symptoms.

Transthoracic echocardiography is usually the first diagnostic modality in suspected cases of infective endocarditis.

Transesophageal echocardiography is warranted in patients with suspected infective endocarditis who have no evidence of endocarditis by transthoracic echocardiography. In addition, transesophageal echocardiography is considered complementary to the positive results of endocarditis by transthoracic echocardiography as it allows better visualization of potential cardiac complications such as paravalvular abscesses and for preoperative evaluation [3,4].

Blood cultures are, along with imaging, the major criteria for the diagnosis of AE; in our patient, they reveal *Staphylococcus aureus* (*S. aureus*), which is the most frequently encountered strain of *Staphylococcus* in human and veterinary pathology. It is a common bacterium that can colonize the skin or nose without necessarily causing disease. However, if it enters the body via a cut, scrape, or other skin lesion [5].

Treatment consists of antibiotic therapy with cloxacillin 12 g/day in 4 to 6 doses or cefazolin 6 g/day in 3 doses for 4 to 6 weeks [6]; our patient was put on ASTAPH 12/J and then surgically treated with mechanical aortic prosthesis.

This case illustrates the importance of considering AE in the etiological diagnosis of unexplained splenic infarctions, especially in a febrile context. Septic emboli from cardiac vegetation are a common complication of IE, and splenic embolisms should be actively investigated. Early echocardiography and blood cultures are essential for rapid diagnosis.

Conclusion

This case illustrates the importance of considering AE in the etiological diagnosis of unexplained splenic infarctions, especially in a febrile context. Septic emboli from cardiac vegetation are a common complication of AE, and splenic embolisms should be actively investigated. Early echocardiography and blood cultures are essential for rapid diagnosis.

Funding Information

No funding was given.

Conflict of Interest

All authors declare no conflict of interest relevant to this article.

Bibliography

1. Hurrell H., *et al*. "Non-infective endocarditis". *Heart* 106.13 (2020): 1023-1029.
2. O Baguaille., *et al*. "Une approche pratique de l'infarctus de la rate en tant que manifestation rare de multiples maladies courantes". *Annals of Medicine* 50.6 (2018): 494-500.
3. Maen Mhd Baroudi., *et al*. "Subacute infective endocarditis presenting with an isolated splenic infarction". *IDCases* 32 (2023): e01752.
4. S de Castro., *et al*. "Précision diagnostique de l'échocardiographie transthoracique et transœsophagienne multiplane pour la perforation valvulaire dans l'endocardite infectieuse aigue: corrélation avec les résultats anatomiques".
5. Infections à *Staphylococcus aureus* (infections à Staph).
6. Larry M Bush., *et al*. "2023 ESC Guidelines for the management of endocarditis: Developed by the task force on the management of endocarditis of the European Society of Cardiology (ESC) Endorsed by the European Association for Cardio-Thoracic Surgery (EACTS) and the European Association of Nuclear Medicine (EANM)". *European Heart Journal* 44.39 (2023): 3948-4042.

Volume 10 Issue 5 May 2024