

Left Atrial Myxoma Involving Multisystemic Manifestations in an Elderly Female Patient

Mixoma Atrial Esquerdo Envolvendo Manifestações Multissistêmicas em Paciente Idosa

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Abstract

Atrial myxomas may progress asymptotically or present systemic manifestations. Echocardiography is an effective complementary exam to diagnose such pathology. Cardiac surgery represents the definitive treatment; particularly when performed early, it can avoid tumor growth-related complications. This article reports the case of an elderly high-risk cardiovascular patient admitted with acute ST elevation myocardial infarction in a cardiac unit progressing with cardiogenic shock, which contributed to the low suspicion of cardiac tumor as the initial diagnosis.

Introduction

Atrial myxomas correspond to 50% of benign cardiac tumors. Generally, they have nonspecific symptoms, which contributes to their late or incidental diagnosis, and can affect any age group, predominantly women aged 30–50 years.¹

In most cases, clinical manifestations depend on tumor size, location, and architecture.² Symptomatic patients may present with cardiac (atrioventricular, coronary, and conduction disorders), embolic, and constitutional (fever, shivering, weight loss, and hematological changes) symptoms.¹⁻³ The objective of this case report was to illustrate the diagnostic process and the multisystemic manifestations of left atrial myxoma in an elderly patient.

Case Report

The patient was a 73-year-old woman who was presented to the emergency room with typical chest pain associated with respiratory distress. Electrocardiography (ECG) performed upon emergency room admission showed elevation of the lower ST segment, Killip II (Figure 1A). The patient underwent thrombolysis within approximately 4 hours, and showed pain improvements as well as ST elevation on ECG. Six hours after the event, the patient was transferred to a cardiology referral hospital for invasive stratification, which revealed 25% stenosis in the proximal anterior descending artery, 25% in the middle third of the right coronary, 75–90% ostial obstruction lesion in the first diagonal,

and moderately important fine-caliber occlusion in the distal third of the posterior descending branch (Figures 1B and 1C). Left ventriculography showed inferomedial hypocontractility. Thus, the patient underwent conservative treatment for acute coronary disease due to distal obstructive lesion.

Transthoracic Doppler echocardiography (ECO) performed 3 days after the infarction showed preserved left ventricular (LV) systolic function (70% ejection fraction) without segmental dysfunction and a heterogeneous echogenic 6 × 3.5 cm mass adherent to the interatrial septum causing discrete obstruction of the anterograde transmitral flow (mean gradient, 4 mmHg) (Figure 2).

After underwent complementary exams, while walking, she presented symptomatic hypotension with spontaneous improvement. The following day, her symptoms recurred but were more pronounced, with low cardiac output and the need for volume and vasoactive drugs. A physical examination performed at that time showed a grade 4/6 diastolic murmur in the mitral focus, mild crepitus in one third of the lower lung regions, and warm extremities. The patient showed no tolerance to vasoactive drug withdrawal in the subsequent 3 days, maintaining hypotension even at rest.

Considering the hemodynamic repercussions, emergency cardiac surgery was indicated for excision of the left atrial mass. The surgery revealed a large tumor with a gelatinous aspect in the left atrium (4 × 5 cm) that was easily shattered (Figure 2D). Histopathological analysis confirmed its identity as a myxoma.

On the second postoperative day, the patient presented with right hemiplegia and bradypsychia. Cranial computed tomography revealed left cerebellar hemisphere hypodensity with a mass effect obliterating the mesencephalic cistern and fourth ventricle, with the acute chronology of the event confirmed on brain resonance. Doppler ultrasonography of the carotid and vertebral arteries showed only carotid intima-medial thickening. In the following days, she presented with improvements in the neurological deficits, was discharged in good clinical condition, and remained asymptomatic at 1-month outpatient after hospital discharge follow-up.

Discussion

Myxomas can have diverse clinical manifestations that can include obstructive, constitutional, and embolic symptoms. However, this diagnosis is suspected in only 5.7% of cases, as myxomas often progress asymptotically and, when the symptoms described above manifest, they are often confused with several other conditions.⁴⁻⁶ The initial misdiagnosis occurred in the present case: the conjunction of cardiovascular risk factors, the typical clinical presentation, and the anatomical

Keywords

Diagnosis; Echocardiography; Myxoma.

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Case Report

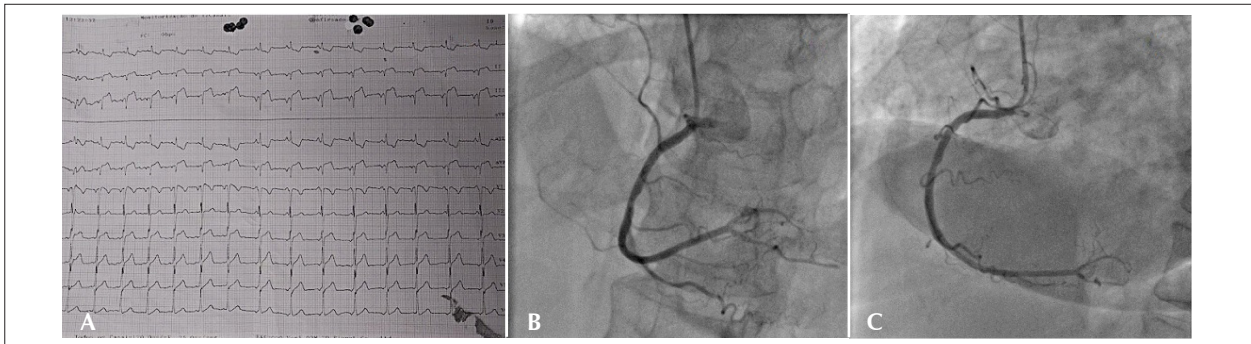


Figure 1 – (A) A 12-lead electrocardiogram showing ST elevation of inferior wall. (B) A projection showing a 25% lesion in the middle third of the right coronary and posterior descending artery. (C) A left oblique projection showing a 25% lesion in the middle third of the right coronary and distal occlusion of the posterior descending artery.

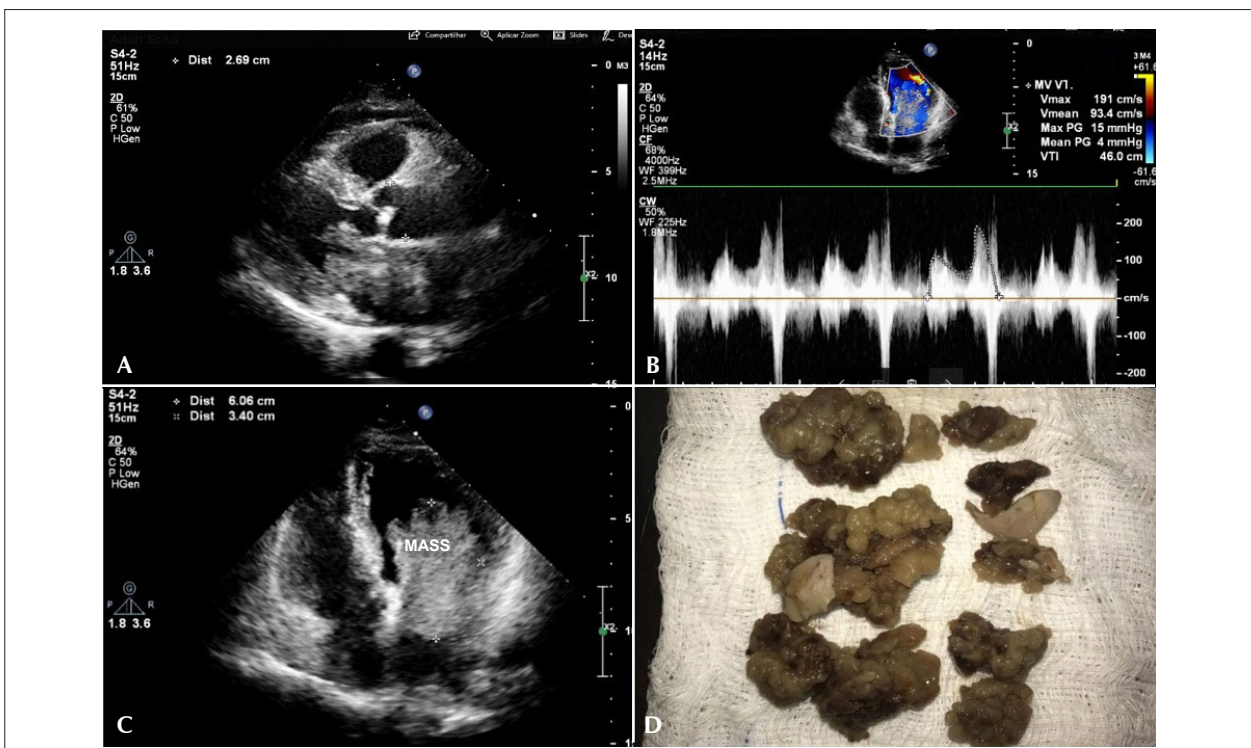


Figure 2 – (A) A transthoracic echocardiogram taken in the parasternal long-axis view showing a mass adherent to the oval fossa. (B) A transthoracic echocardiogram showing obstruction of the left ventricular entry path. (C) A four-chamber apical transthoracic echocardiogram showing a left atrial mass with diastolic extension to the left ventricle suggestive of a myxoma. (D) A view of the cardiac myxoma after excision.

diagnosis of acute coronary obstruction caused the myxoma to mimic coronary artery disease as the etiology of infarction.

The diagnosis was favored by the performance of the ECO 3 days after the infarction, showing the relevance of this low cost and easy-to-access method, which is often not performed immediately after acute coronary syndrome, even in a cardiology reference center. ECO is usually the initial examination used to assess a cardiac mass since it provides relevant information to define surgical strategy such as intracavitary flow mobility and repercussion in addition to the mass's origin and extension.⁷

In a retrospective analysis, the coronary lesions of the

analyzed patient would not satisfactorily justify the presentation of a Killip II infarction with a probable contribution of the LV filling obstruction as a cause of congestion at the time of infarction diagnosis of the infarction. The first diagonal lesions and the distal occlusion of the posterior descending branch were possibly due to a tumor-related coronary embolism. Coronary embolic manifestations are very rare, and the right coronary artery is described as the most commonly affected due to the orientation of its ostium in relation to the aortic flow.⁸

The acute neurological event in more than one territory was probably secondary to a myxoma embolism during surgical manipulation as since it was extremely friable. It is noteworthy

that clinical signs of cerebral ischemia are found in 30–50% of symptomatic cardiac myxomas⁹ and may present with acute deficits as in the present case. However, they can also have a later presentation due to cerebral aneurysm induced by myxoma and myxomatous metastasis.⁶ Also, globular myxomas present with symptoms of heart failure due to reduced ventricular filling, whereas papillary tumors present with thromboembolism syndrome, primarily cerebral.¹⁰

In the present report, prompt surgical indication reduced the risk of repeated obstructive and embolic complications. The surgical removal of myxomas is the treatment of choice and usually performed on an elective basis. In the presence of embolic complications or heart failure, emergency surgery is indicated.²

Conclusion

Atrial myxomas may present with obstructive and embolic manifestations, which worsen the prognosis. The ECO is an accessible and low-cost complementary exam that is essential in the investigation of this pathology. In the present case, multisystemic manifestations denoted its seriousness. The early identification and prompt excision of the tumor are related to decreased complications.

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Ethical responsibilities

Protection of people and animals

The authors declare that no experiments were performed on humans and/or animals during this investigation.

Data confidentiality

The authors declare that they followed the protocols of their work center regarding the publication of patient data and that all patients included in the study received sufficient information and provided written informed consent to participate.

Right to privacy and written consent

The authors declare that they received written consent from the patients and/or subjects mentioned in the article. The corresponding author holds this document.

Conflict of interest

The authors have declared that they have no conflict of interest.