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CASE REPORT

Atrial fibrillation during labor unmasking a large left atrial myxoma

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Abstract

Cardiac myxomas are the most common primary cardiac tumors and may remain clinically silent until hemodynamic stress precipitates symptoms. Presentation with new-onset atrial fibrillation during labor is exceptionally uncommon and may reveal previously undiagnosed structural heart disease. A 39-year-old primigravida with no previous cardiovascular history developed new-onset atrial fibrillation with rapid ventricular response during labor. Maternal hemodynamics remained stable, and assisted forceps delivery was successfully performed without maternal or neonatal complications. Transthoracic echocardiography demonstrated a large left atrial mass attached to the interatrial septum, measuring 17.3 cm². Computed tomography confirmed a 5.4×5.0 cm left atrial tumors adjacent to, but not involving, the left pulmonary vein ostia, consistent with atrial myxoma. The patient was commenced on apixaban and beta-blocker therapy before elective surgical resection three months postpartum. Histopathological examination confirmed atrial myxoma. Post-operative recovery was uncomplicated, with complete tumor excision and preserved left ventricular systolic function. Persistent atrial fibrillation was successfully treated with elective direct-current cardioversion nine months after surgery, restoring sinus rhythm. This case highlights labor as a potential trigger for the clinical manifestation of previously asymptomatic intracardiac tumors. New-onset atrial fibrillation during pregnancy or labor should prompt early echocardiographic assessment to exclude structural cardiac disease. Timely diagnosis and surgical excision of atrial myxoma are essential to prevent life-threatening complications, including systemic embolization, valvular obstruction, and recurrent arrhythmias, while ensuring excellent long-term outcomes.

Key words: atrial myxoma, atrial fibrillation, labor.

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Introduction

Atrial myxomas are the most common primary cardiac tumors and may present with obstructive, embolic, or arrhythmic symptoms. Some cases remain asymptomatic until hemodynamic stress reveals underlying pathology. Presentation during labor is rare.[1-3] We report a case of new-onset atrial fibrillation during labor unmasking a large left atrial myxoma.

Case Report

A 39-year-old primigravida woman with no past medical history presented for planned vaginal delivery. During labor, she developed tachycardia with a heart rate of 150 beats per minute. Blood pressure was 115/62 mmHg, respiratory rate 18 breaths per minute, and oxygen saturation 98% on room air. She was afebrile. ECG revealed new-onset atrial fibrillation with rapid ventricular response, with a heart rate up to 130 beats per minute. Given the concern for hemodynamic compromise, assisted forceps delivery was considered to minimize maternal exertion. Delivery was uncomplicated, with no significant maternal or neonatal complications.

Investigations

Transthoracic echocardiography demonstrated a dilated left atrium containing a large mass attached to the mid-portion of the interatrial septum, measuring 17.3 cm² in maximal area

(Figures 1 and 2). Biventricular size and systolic function were normal, with no significant valvular abnormalities. The patient denied dyspnea, palpitations, or chest pain and reported good exercise tolerance prior to delivery.

Computed tomography coronary angiography confirmed a large left atrial mass measuring 5.4×5.0 cm (lateral anteroposterior), irregular in outline and attached to the interatrial septum. The mass was in close proximity to the left-sided pulmonary vein ostia but did not involve them.

Management

The patient was commenced on apixaban and beta-blocker therapy. Given the size of the mass and the risk of embolic or obstructive complications, elective surgical excision was planned following recovery from delivery.

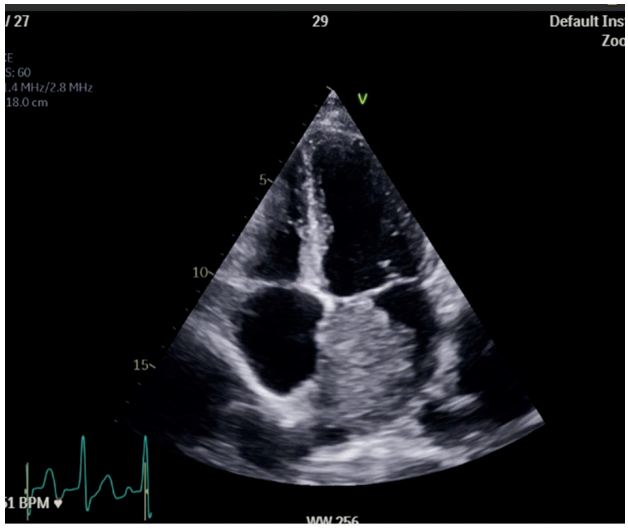

Figure 1. Transthoracic echocardiogram apical four chamber view demonstrating large left atrial mass.

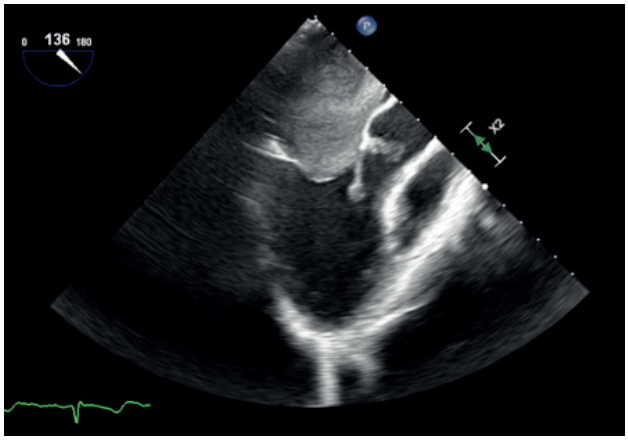

Figure 2. Intraoperative transoesophageal echocardiogram showing left atrial mass abutting into left ventricle.

Three months later, she underwent surgical excision of the left atrial mass. A large pedunculated tumor attached to the interatrial septum was excised with full-thickness resection. The septal defect was closed primarily using 4-0 Prolene sutures and incorporated into closure of the left atrium. Histopathological analysis confirmed atrial myxoma, demonstrating spindle cells within a myxoid stroma arranged in cords and rings around vascular channels, with focal hemosiderin deposition.

Results

Post-operative echocardiography demonstrated complete excision of the mass. Left ventricular systolic function was preserved (estimated ejection fraction >55%), with septal motion consistent with post-operative changes.

At 2-month cardiothoracic follow-up, she reported mild exertional dyspnea but no chest pain or dizziness. She remained in atrial fibrillation. At 4-month cardiology follow-up, she reported symptomatic improvement. Direct current cardioversion was discussed and subsequently performed nine months post-operatively, successfully restoring sinus rhythm. She remains asymptomatic and in sinus rhythm on follow-up.

Discussion and Conclusions

Although clinically asymptomatic prior to labor, this case illustrates how hemodynamic stress during labor may unmask previously silent structural cardiac pathology. The incidental detection of new-onset atrial fibrillation prompted further investigation, leading to the diagnosis of a large left atrial myxoma.

Large intra-cardiac masses carry significant risk, including systemic embolization, mitral inflow obstruction, and arrhythmia. Surgical excision remains the definitive treatment and is associated with excellent outcomes. This case highlights the importance of prompt echocardiographic evaluation in new-onset atrial fibrillation during pregnancy or labor to exclude structural heart disease.

Key takeaway

New-onset atrial fibrillation during pregnancy or labor warrants immediate echocardiographic evaluation to rule out structural abnormalities or hidden cardiac masses like atrial myxomas.

Authors' contributions

All the authors read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

Conflict of interest

The authors declare no potential conflicts of interest.

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Ethics approval and consent to participate

Not required.

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