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■ Case Report

Silent Left Large Atrial Myxoma: A Patient with Serial Electrocardiogram Variation

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Cardiac myxoma is often discovered as an incidental finding and presents with various subtle symptoms and signs. Electrocardiographic findings are mostly non-specific. Atrial flutter or conduction abnormalities are known to be rare. We report a case of large left atrial myxoma that was diagnosed by transthoracic echocardiography at a primary care clinic. An asymptomatic, 71-year-old woman presented with serial abnormal electrocardiogram changes during a routine consultation. A diagnosis of left atrial myxoma was obtained through transthoracic echocardiography. We report this case with a review of literature on cardiac myxoma associated with arrhythmia.

Keywords: Atrial Myxoma; Atrial Fibrillation; Atrial Flutter; Electrocardiography

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INTRODUCTION

Cardiac myxoma is a rare, benign primary cardiac neoplasm with an incidence of 0.09% among patients at a hospital-based cardiology unit.[1] It frequently occurs in the left atrium of the heart.[2] Atrial myxoma remains an elusive diagnosis since it is almost always an incidental finding.[2] Electrocardiogram (ECG) abnormalities are uncommon in the presence of atrial myxoma.[3] However, suspicious serial changes in ECG patterns could play a role in the detection of an atrial myxoma at a primary care setting.

CASE REPORT

A 71-year-old lady presented with an abnormal ECG finding during a scheduled primary care appointment. She was asymptomatic and had a history of type 2 diabetes mellitus, essential hypertension, and dyslipidemia. During the consultation, the ECG reading showed premature ventricular contraction at a 1:1 ratio (ventricular bigeminy) with a heart rate of 46/min (Figure 1). Her ECG from the previous year (Figure 2) showed non-specific changes, possibly related to early left ventricular hypertrophy. The recorded vital signs were as follows: blood pressure, 159/74 mm Hg; heart rate, 62/min; and respiratory rate, 18 breaths/min. On physical examination, heart murmurs were not audible and other findings were unremarkable. The laboratory findings were: glycated hemoglobin, 7.1%; urea, 10.0 mg/dL; creatinine 1.0 mg/dL; Na^+, 137 mEq/L; and K^+, 3.6 mEq/L. In order to rule out secondary causes that could have led to the changes in the ECG, various blood investigations were ordered. An urgent appointment was scheduled a week later to review these results. The patient was also advised to seek urgent medical attention if she felt palpitations or giddiness. During the second consultation, a week later, the repeat ECG showed atrial flutter with a 3:1 atrioventricular block (Figure 3). All the results of the blood investigations were normal (thyroid stimulating hormone, 4.26 μIU/mL; Na^+, 135 mEq/L; K^+, 4.4 mEq/L; corrected Ca^{2+}, 8.9 mg/dL; PO^{4-}, 0.32 mg/dL; hemoglobin, 12.9 g/dL; and white blood cell count, $7.4\times10^3/\mu L$), except for an elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels (88 mm/h and 9.8 mg/L).

Urgent transthoracic echocardiography revealed a dilated left atrium and ventricle without any myocardial hypokinetic changes. A large echogenic mass measuring 3.1×4.1 cm was identified at the left atrium (Figure 4). The mass was solid and appeared pedunculated, arising from a stalk at the endocardium. The patient had a left ventricular ejection fraction of 54%. The patient was immediately referred to a tertiary care cardiology clinic where a second transthoracic echocardiography was performed. An imaging diagnosis of left atrial myxoma was confirmed. The tumor measured approximately 2.9×3.1 cm. A parox-

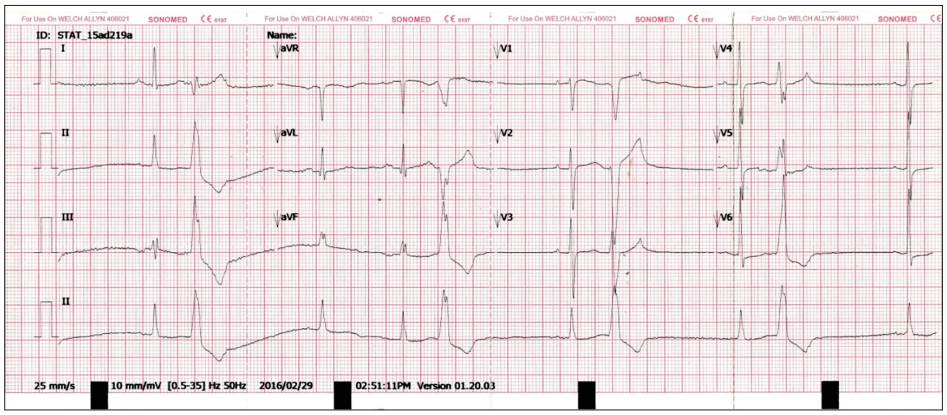

Figure 1. Ventricular bigeminy.

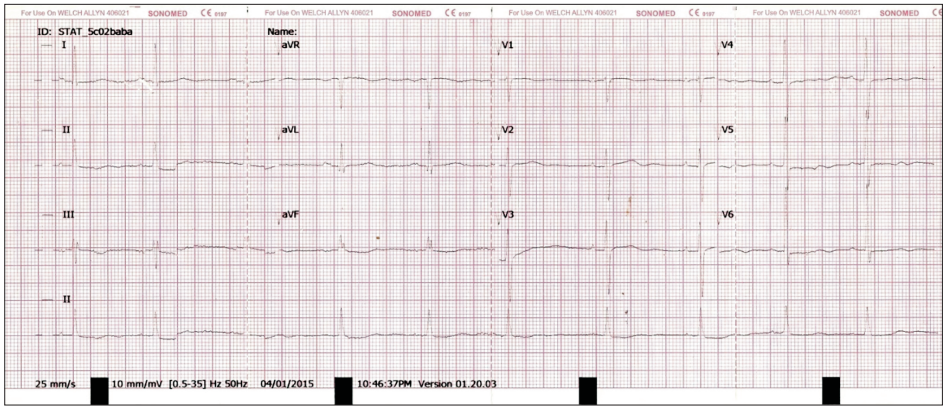

Figure 2. Non-specific changes in initial electrocardiogram.

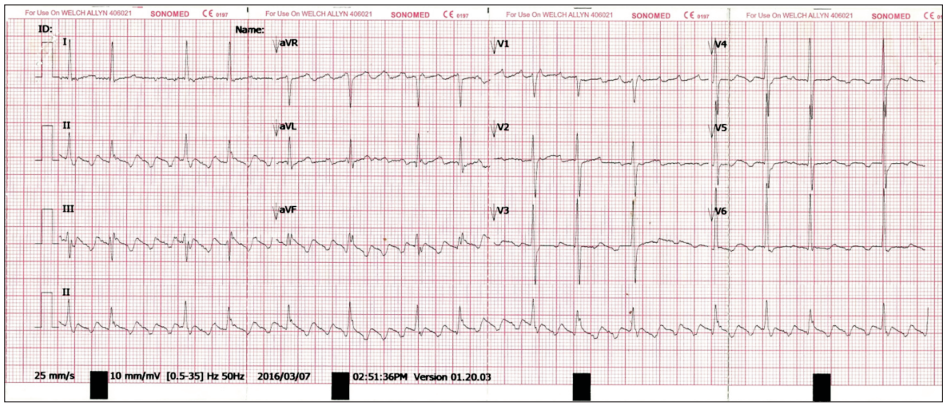

Figure 3. Atrial flutter.

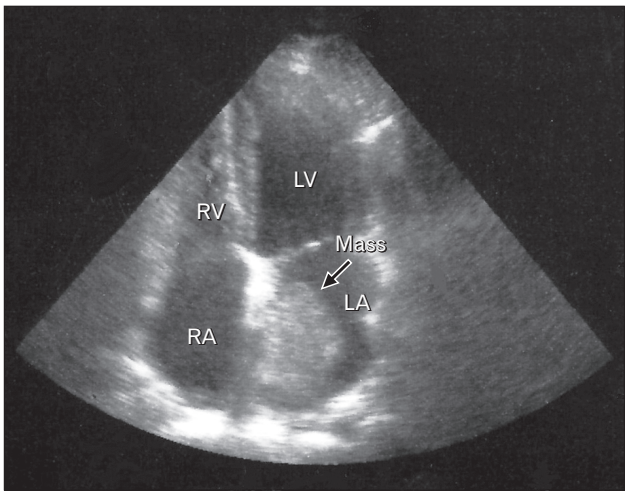

Figure 4. Left atrial myxoma on transthoracic echocardiography (arrow). RV, right ventricle; LV, left ventricle; RA, right atrium; LA, left atrium.

ysmal atrial fibrillation pattern was observed on the ECG. Warfarin treatment was initiated while aiming for a target international normalized ratio between 2 and 3. Currently, the patient is jointly cared for by the primary care physician and a multidisciplinary team that is helping to manage the anticoagulation therapy. The patient is unwilling to undergo surgery to remove the tumor.

DISCUSSION

Atrial myxoma is common in middle-aged women; women are affected twice as often as men.[2,4,5] Although the origin of cardiac myxomas is uncertain, 10% of cases are familial.[2] Familial type atrial myxomas can take the form of genetic myxoma syndromes such as the Carney complex.[4,6] Depending on the size, site, and lesion composition, clinical presentation in patients can range from no symptoms to heart failure.[2] Cardiac examination in patients with left atrial myxoma might reveal an early diastolic tumor plop, apical diastolic murmur, changes in pre-existing murmurs, gallop rhythm, or modification of the first (split) or second heart sound.[3]

ECG findings may be nonspecific in 20% to 40% of patients.[7] The most common ECG finding is left atrial hypertrophy (35%), followed by repolarization disorders (21%), conduction disorders (24%), and rhythm disorders (9%).[3] Atrial fibrillation and atrial flutter are rare in left atrial myxoma.[3] Chest radiograph findings are non-specific, and include pulmonary interstitial marking, congestive heart failure signs, non-specific cardiomegaly, and left atrial enlargement.[3] Calcification linked to the tumor and pleural effusions are unusual.[3]

Blood investigations might reveal an elevated ESR, CRP level, and white blood cell count.[4,8] Transthoracic echocardiography should be performed on all patients with suspected atrial myxoma.[5] Cardiac myxoma can be diagnosed without further imaging if echocardiography confirms the presence of a mobile mass attached to the endocardial surface by a stalk arising from the fossa ovalis.[7]

In conclusion, suddent changes in ECG (especially if a previous ECG shows sinus rhythm) coupled with an elevated CRP ir ESR levels should prompt the clinician to rule out cardiac myxoma through transthoracic echocardiography. An urgent referral to a cardiologist is warranted if there is clinical presentation of an infected myxoma, systemic embolization, or non-specific constitutional symptoms.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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