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Left Atrial Myxoma Mimicking Mitral Stenosis

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Abstract: Cardiac myxoma is a benign (non-malignant) neoplasm that represents the most common primary tumour of the heart. We present the case of a 36 year old woman with background hypertension who presented with features of left ventricular failure and seizures, and was found during transthoracic echocardiography to have left atrial myxoma protruding through the mitral valve orifice. She subsequently had excision of the atrial myxoma. The usefulness of early transthoracic echocardiography in any patient presenting with features of heart failure even when the aetiology seems obvious cannot be over-emphasised.

Keywords: atrial, myxoma, mitral

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Introduction

Cardiac myxoma is a benign (non-malignant) neoplasm that represents the most common primary tumour of the heart. Although the left atrium is the most commonly involved site of origin in 75% of cases, it can arise from any of the cardiac chambers.¹⁻³ Although most cases of cardiac myxomas occur sporadically, familial lesions and lesions associated with a clinical complex have also been reported.^{4,5} Most affected patients with cardiac myxoma present with at least one feature of a classically described triad that includes constitutional symptoms (such as fever, weight loss or symptoms resembling connective tissue disease), obstructive symptoms and embolic events.⁶

Case Report

A 36 year-old woman was hospitalized after presenting with mild exertional dyspnoea, orthopnoea, easy fatigability and pre-syncope one month before admission. She also had palpitations one week before admission and two episodes of seizures on the day of admission.

The only significant past medical history was hypertension which was diagnosed one year prior to admission and for which she was commenced on low dose thiazide diuretic.

Systemic examination revealed a pulse rate of 106 beats per minute which was of small volume and there were few ectopics. The blood pressure was 110/80 mmHg. The respiratory rate was 32 breaths/minute and there were fine bibasal crepitations.

Full blood count showed an haemoglobin concentration of 11.2 gm/dL and white blood cell count of 12,800/mm³ with a neutrophil count of 73% and lymphocyte count of 19/mm³.

Chest radiograph showed features of left atrial enlargement and upper lobe diversion while electrocardiography showed sinus tachycardia with a heart rate of 110 beats/min, occasional premature ventricular complexes and left atrial enlargement.

Transthoracic echocardiography showed a large mobile left atrial mass measuring 40.8 mm by 25.0 mm and attached to the inter-atrial septum (Figs. 1 and 2). The tumour was prolapsing across the mitral valve orifice in diastole causing a functional stenosis. There was a mild mitral regurgitation and moderate tricuspid regurgitation with a mild pulmonary hypertension. The systolic function was preserved with an estimated left ventricular ejection fraction of 58%.

Patient had the tumour excised and the histology showed myxomatous bluish pink background with stellate cells and compressed blood vessels, with no atypical malignant cells in keeping with myxoma.

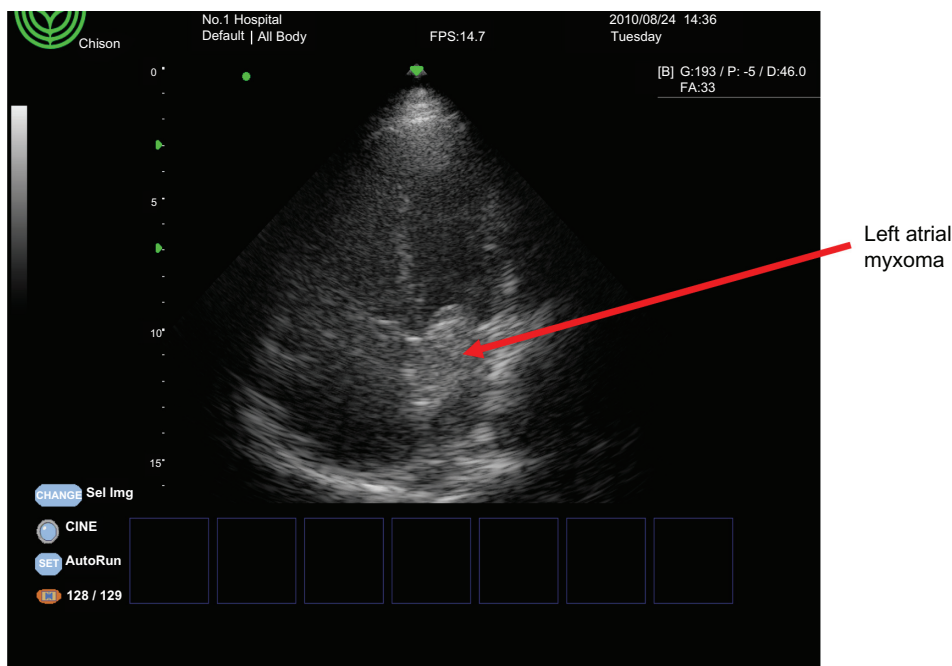


Figure 1. Apical four-chamber view showing the left atrial myxoma.

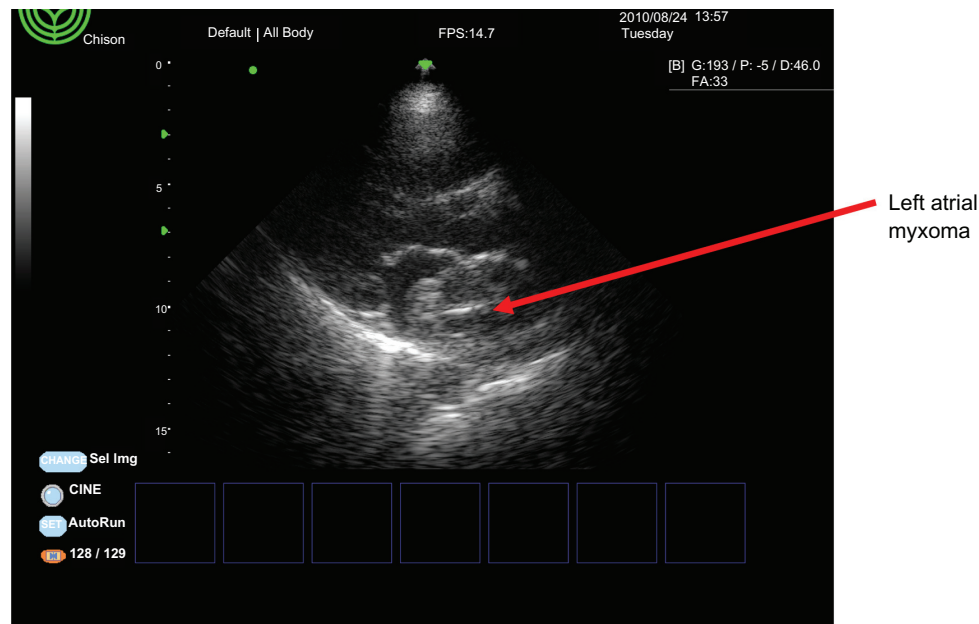


Figure 2. Parasternal long-axis view showing the left atrial myxoma.

Discussion

Primary cardiac tumours occur infrequently with an incidence of 0.0017%–0.19% in autopsy series performed in non-selected populations.^{1–2} Cardiac myxomas are more common among women with a female-to-male ratio of 2:1 and occur more frequently between ages 30–60 years.^{1–2} Incidentally our patient is female and falls within this age bracket at 36 years.

Left atrial myxomas become symptomatic when they obstruct the mitral valve, embolize or cause systemic effects.⁷ The symptoms of exertional dyspnoea, orthopnoea, easy fatigue and pre-syncope in our patient are most likely due to the obstruction of the mitral valve orifice by the tumour mass. On the other hand, seizures experienced by our patients can be partly attributable to obstruction of the mitral valve orifice with reduced blood and oxygen flow to the brain. It can also be explained by arrhythmias (patient had palpitations with premature ventricular complexes on 12-lead ECG). Remotely, it can be due to embolization to the brain.

Although more than half of left atrial myxoma shows obstructive symptoms, it is only in 10% of patients that it will cause severe stenosis just like in our patient. The severity of obstruction is determined by the size, location and mobility of the myxoma.⁸ Although the myxoma size in our case is average covering only about 50%–60% of the left atrium,

its mobility and proximity to the mitral valve orifice must have made the obstructive effect to be severe.

The early echocardiographic examination played a very important role in the diagnosis and management of this patient emphasizing the need for early echocardiographic examination of any patient presenting with features of heart failure even when you think the aetiology of heart failure is obvious.

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Author Contributions

DBO drafted the manuscript while MHM, OO, ZH and HO helped in the case summary and KS proof read the manuscript. All authors reviewed and approved of the final manuscript.

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Disclosures and Ethics

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