# Atrial Fibrillation, the First Manifestation of Atrial Myxoma

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**Introduction:** Atrial myxomas are the most common primary heart tumors. Although quite rare, left atrial myxomas account for 80% of all cardiac tumors. Diagnosis is often difficult due to the wide array of presenting symptoms. This case report discusses an unusual presentation of left atrial myxoma in an elderly patient.

**Case presentation:** A 73-year old woman with a history of hypertension, dyslipidemia and hyperthyroidism treatment presented to the emergency department with a new onset episode of palpitations. The electrocardiogram revealed atrial fibrillation. Rate control was achieved with beta-blockers and sinus rhythm transition was achieved shortly after admission. Transthoracic echocardiography revealed a heterogeneous mass in the left atria with a villous surface, occupying more than 50% of the left atrial cavity. Surgery was recommended because of the embolic potential of such a mass and tumor excision was performed. Microscopic pathology showed typical histological features of cardiac myxoma with no atypia or malignancy, and the patient was discharged in sinus rhythm 7 days after surgery.

**Discussion and conclusions:** Left atrial myxoma presenting in the seventh decade of life is rare. Elderly patients often present with non-specific symptoms that are often overlooked in the absence of a supporting cardiac history, which makes an early diagnosis challenging. We conclude that the majority of myxomas mimic many cardiovascular diseases and were detected in symptomatic patients, so a high index of clinical suspicion is important for its early and correct diagnosis. Two-dimensional echocardiography provides substantial advantages in detecting intracardiac tumors.

**Keywords:** atrial myxoma, atrial fibrillation, echocardiography

## Introduction

Atrial myxomas are the most common primary heart tumors. Although quite rare, left atrial myxomas account for 80% of all cardiac tumors [1]. Diagnosis is often difficult due to the wide array of presenting symptoms. It is most common in adults 30 to 50 years of age, although it can occur in nearly all age groups. Most cardiac myxomas are sporadic, but occasionally they occur multiply and as a familial disorder (Carney Syndrome).

Left atrial myxoma is most commonly seen in women with 90% being solitary and pedunculated and 10% being familial, with an autosomal dominant pattern of inheritance. The mean age of onset is between 30–60 years [1,2]. Although cardiac myxomas are histologically benign, they may be lethal because of their strategic position. The diagnosis of atrial myxoma can be elusive, especially when symptoms are suggestive of other diagnoses. Two-dimensional echocardiography is the diagnostic procedure of choice [2]. Most atrial myxomas are benign and can be removed by surgical resection.

## Case presentation

A 73 year-old woman with a history of hypertension, dyslipidemia and hyperthyroidism treatment presented to the emergency department with a two hours history of shortness of breath and acute onset palpitations. The electrocardiogram revealed atrial fibrillation. Rate control was achieved with beta-blockers and sinus rhythm transition was achieved shortly after admission. Clinical examination was normal. Laboratory values were within the normal range. No diagnostic abnormality was identified on either chest X-ray or electrocardiogram. Transthoracic echocardiography revealed a heterogeneous mass in the left atrium with a villous surface, occupying more that 50% of the atrial cavity, presumably fixed to the atrial septal wall and without signs of obstruction to the pulmonary veins or left atrial outflow, measuring 47/51 mm in the maximum transverse anteroposterior dimension (Figure 1).

We discussed management with the patient and explained that the probable diagnosis was left atrial myxoma; surgery was recommended because of the embolic potential of such a mass.

Coronary angiography was performed to allow better patient preparation for surgery and did not detect any associated coronary heart disease.

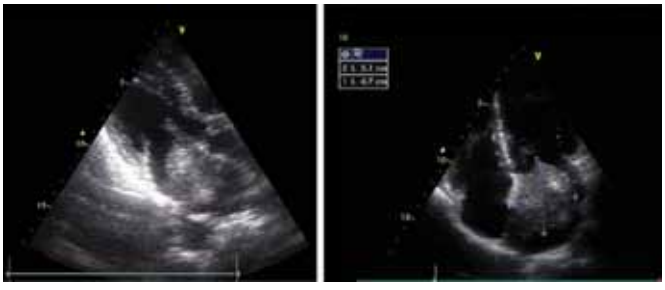

**Fig. 1. Transthoracic echocardiography (apical 4 and 2 chambres view) revealed a heterogeneous mass in the left atria with a villous surface, occupying more that 50% of left atria cavity, presumably fixed to the atrial septal wall, measuring 47/51 mm in the maximum transverse anteroposterior dimension.**

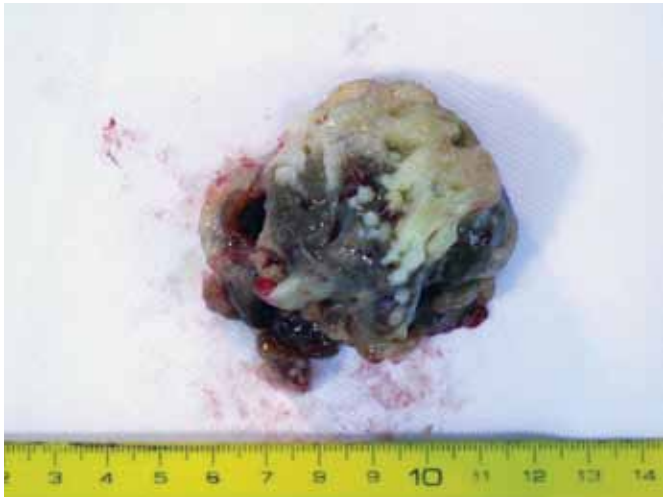

Fig. 2. Macroscopic aspect of the excised tumor

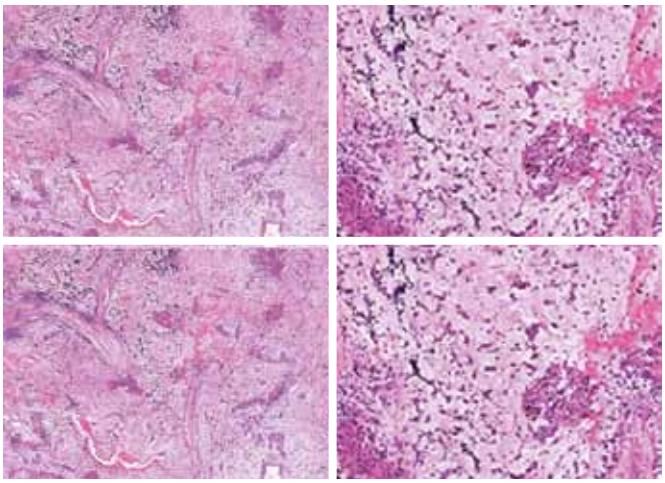

Fig. 3. Histological examination

Tumor excision was performed and was found to measure 6 × 5 cm, the consistency was jelly-like with foci of hemorrhage and the macroscopic diagnosis was left atrial myxoma.

Histological examination revealed spindle and stellate-shaped cells within an extensive myxoid stroma; a mixed inflammatory infiltrate was seen. Microscopic pathology showed typical histological features of cardiac myxoma with no atypia or malignancy.

The patient was discharged in sinus rhythm 7 days after surgery.

## Discussions

This case report discusses an unusual presentation of left atrial myxoma in an elderly patient.

Most myxomas produce symptoms when they weigh more than 70 grams. The presentation of atrial myxoma can be in three different ways [1,3]:

- Obstructive symptoms – dyspnea, cardiac failure, dizziness, collapse and syncope due to obstruction of the mitral valve;
- Constitutional symptoms – i.e. symptoms of autoimmune disease, vasculitis and various other non-specific symptoms;
- Embolic symptoms – most frequently cerebral emboli.

In the literature, the classic attitude in the emergency management of cardiac myxoma is rarely questioned [4,5,6]. This approach is perfectly logical in the case of acute symptomatic forms, such as heart failure with pulmonary edema, or embolism [1,7]. It is also justified in high-risk forms in stable patients presenting threatening echocardiographic images: a clapper-shaped tumor intermittently prolapsing into the mitral orifice, or a large, multilobed tumor suggesting a risk of embolism [2,7]. However, emergency management appears to be much less clearly indicated in stable patients, in whom the only real risk is that of embolism, as the risk of embolism is probably low for tumors less than 2 cm in diameter [3,6].

Moreover, cardiac myxoma, initially described as a disease of early adulthood or middle age, is now increasingly diagnosed in sometimes very elderly patients [4,6]. This trend also applies to cardiac surgery in general, which tends to concern an aging population with specific problems. In these older patients with a higher operative risk, more delayed surgery allows time for a more complete preoperative assessment, including more systematic coronary angiography [5,6].

## Conclusions

This patient did not present with the common symptoms associated with an atrial myxoma, which may include chest pain, dyspnea, orthopnea, peripheral embolism or syncope.

Left atrial myxoma presenting in the seventh decade of life is rare, with only few published case reports.

This seems to be an unusual case due to the age at presentation of the patient.

Elderly patients often present with non-specific symptoms that are often overlooked in the absence of a supporting cardiac history which makes an early diagnosis challenging. We conclude that the majority of myxomas mimic many cardiovascular diseases and were detected in symptomatic patients, so a high index of clinical suspicion is important for its early and correct diagnosis. Two-dimensional echocardiography provides substantial advantages in detecting intracardiac tumors.

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