

Very large left atrial myxoma: an unusual differential diagnosis of bronchial hyper-reactivity

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Abstract: Intra- and paracardiac tumors are rare. Clinical symptoms are typically secondary to mechanical effects of the mass. We describe a patient, who was in good general health, presenting with a 6-month history of unspecific symptoms considered consistent with recurrent lower airway infections by her primary care physician. A chest X-ray suggested left-atrial enlargement and a questionable mass, which eventually was identified as large left-atrial tumor partially obstructing the mitral orifice. The case demonstrates that even a very large left-atrial tumor, causing intermittent partial obstruction of the mitral valve may present with mild unspecific symptoms.

Keywords: Cardiac mass; cardiac myxoma; cardiac imaging; cardiac surgery



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Introduction

Intra- and paracardiac tumors are rare (incidence in autopsies ca. 0.06%), whereas secondary manifestations of extracardiac masses are more frequent (incidence in autopsies ca. 1.2%) (1). With the exception of paraganglioma, clinical symptoms are typically secondary to mechanical effects of the mass (2).

Case report

A 53-year-old female (body mass index 21.3, body surface area 1.63 m²) had been suffering from occasional dyspnea, atypical angina pectoris, and a decrease in performance. Her primary care physician had initiated treatment for suspected recurrent lower airway infections. This suspicion was supported by a positive methacholine challenge, which was ordered by the consulting pulmonologist and suggested bronchial hyper-reactivity. Subsequently a chest X-ray showed left-atrial enlargement and a questionable mass (*Figure 1A*). This was confirmed by an echocardiogram ordered by the consulting cardiologist demonstrating a large tumor filling almost the entire left atrium. The mass

intermittently prolapsed through the mitral valve orifice. The following transesophageal echocardiography confirmed a combined mitral valve defect (medium transvalvular gradient 11 mmHg and an excentric regurgitation °II. The latter also identified the tumors origin from the interatrial septum (*Figure 1B*). The added cardiovascular magnetic resonance (CMR) demonstrated a well vascularized mass measuring 67 mm × 46 mm suggesting a myxoma in its typical location (*Figure 1C*). Finally, pre-operatively performed invasive coronary angiography excluded coronary artery disease and confirmed the tumor by its vascular ‘blush’ supplied by the proximal and distal circumflex coronary artery (*Figure 1D*). Hemodynamic measurements demonstrated a significantly increased v-wave (48 mmHg) supporting the imaging findings of significant mitral stenosis (*Figure E*).

Because of the risk of intermittent mitral valve obstruction, and thrombembolism (3), the mass was resected within two days (*Figure 1F*) and histologically classified as myxoma (*Figure 1G*). Ten days after cardiac surgery the patient suffered from third-degree atrioventricular block requiring pacemaker implantation.

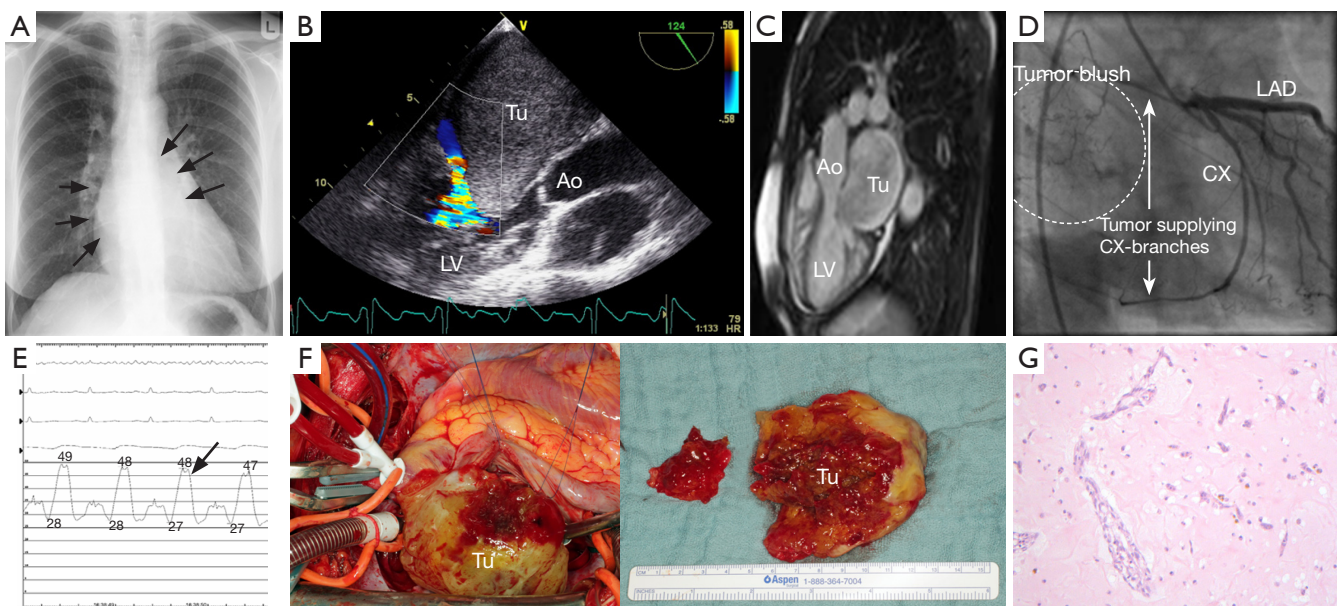


Figure 1 The figure reflects the main steps of the diagnostic work-up which lead to the diagnosis left atrial myxoma. (A) Chest X-ray (ap) showing an unclear contour (arrows) suggesting an atrial mass; (B) Transesophageal echocardiography ($^{\circ}124$) demonstrating a large TU prolapsing into the mitral valve causing combined mitral valve defect $^{\circ}II$; (C) CMR showing the vascularized TU nearly filling out the entire LA; (D) Invasive coronary angiography (RAO 26° cranial 23°) showing blush (circle) marking the TU vasculature supplied by vessels coming off the proximal and distal CX; (E) Hemodynamics (pulmonary capillary wedge pressure) revealed a high v-wave resulting from relevant functional mitral valve stenosis; (F) Intra-operative view into the left atrium showing the large tumor taken out; (G) Histology demonstrating typical findings of myxoma. (HE $20\times$). Ao, aorta; CX, Circumflex; LA, Left atrium; LAD, left anterior descending; LV, Left ventricle; RAO, right anterior oblique; TU tumor.

Conclusions

Even a very large left-atrial tumor causing intermittent, partial obstruction of the mitral valve, may initially present with mild unspecific symptoms. Delayed diagnosis may increase the risk of complications, including frequently associated thromboembolism.

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