

Case report: cardiac manifestation of infiltrative lung tumor

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FIGURE 1. Echocardiography in the parasternal long-axis view reveals two floating masses within the left atrium.

Introduction: Although primary cardiac tumors are rare, secondary metastatic tumors to the heart structures are much more common, with an incidence of up to 3.5% at autopsy in the general population and up to 9.1% in patients with known malignancies. The clinical manifestations of cardiac metastases are often nonspecific, depending on the heart structures involved. They usually mimic other cardiovascular conditions, which consequently makes them diagnostically challenging¹. We report a case of a patient with the first clinical manifestation of a malignant lung tumor, appearing as of cardiac etiology.

Case report: 65-year-old male patient was admitted to the Emergency Department because of chest pain, dyspnea, and palpitations. The patient's medical history included smoking and prior duodenal surgery due to peptic ulcer rupture. Upon arrival, the patient was hemodynamically stable, but tachycardic and tachypneic. The electrocardiography showed atrial fibrillation, with fast ventricular rate and right bundle branch block. Prehospital electrocardiogram showed transitory ST-elevation in inferior leads, with highly elevated troponin levels. The patient underwent urgent coronary angiography, which showed no acute lesions. The left lung was completely opacified on the chest X-ray, with ipsilateral tracheal retraction. Transthoracic echocardiography showed concentric thickening of the left ventricle, with a reduced ejection fraction of 40%. There was an interventricular septal shift in diastole and systole, with indirect signs of elevated pressure in the pulmonary circulation. Two floating masses within the left atrium were identified, measuring 17x11mm and 13x10mm (**Figure 1**), suspected of clots due to atrial fibrillation of unknown time of onset. An urgent pulmonary CT angiography was performed due to a presumed concomitant pulmonary embolism.

However, the imaging revealed a large left central pulmonary mass infiltrating the left atrium, pericardium, pulmonary truncus, and left main bronchus, leading to atelectasis (**Figure 2**). No signs of acute pulmonary embolism were observed. The patient was transported to the pulmonology ward for further diagnostic procedures and treatment.

Conclusion: This case presents an atypical initial presentation of advanced malignant lung disease, and the importance of fast and detailed diagnostics using invasive and non-invasive imaging methods to ensure prompt diagnosis and appropriate treatment.

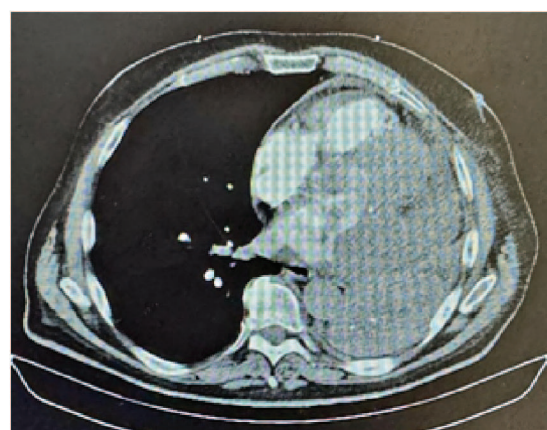


FIGURE 2. Computed tomography showing a pulmonary mass infiltrating the left main bronchus, left atrium, pulmonary truncus, and heart pericardium.

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LITERATURE

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