

A Rare Pedunculated Right Atrial Hemangioma Was Initially Misdiagnosed as Myxoma

A 72-year-old female patient presented at the hospital with recurrent dizziness for 6 months. Transthoracic echocardiography (TTE) revealed a moderately heterogeneous mass measuring 4.3×3.7 cm in the right atrium, accompanied by moderate tricuspid regurgitation and poor valve closure (Figure 1A and B). Transesophageal echocardiography (TEE) identified that the mobile mass originated from the lateral wall of the right atrium, near the anterior mitral valve annulus, with a well-defined pedicle approximately 1.6 cm in diameter (Figure 1C and D, Supplementary Video 1). Computed tomography (CT) showed a hypodense right atrial mass (Figure 1E). Given the uncertainty regarding the nature of the mass, left ventricular contrast echocardiography was performed, demonstrating sparse contrast enhancement within the mass, which was lower than that of myocardial tissue (Figure 1F). Imaging suggested a myxoma, but the possibility of hemangioma could not be ruled out. Subsequently, the patient underwent resection of the right atrial mass. Postoperative histopathological examination confirmed that the mass was a cavernous hemangioma rather than a myxoma (Figure 1G and H). The patient recovered well and was discharged after 10 days.

Cardiac hemangiomas are rare tumors characterized by abnormal proliferation or dilation of small blood vessels. Due to non-specific clinical symptoms and similar imaging findings, they are often mistaken for myxomas. Preoperative misdiagnosis can lead to insufficient blood preparation and biopsy-related bleeding risks, which underscores the importance of accurate identification. Conventional TTE has limitations in visualizing internal blood flow structures within hemangiomas, while contrast-enhanced ultrasonography technology can reveal the characteristic "honeycomb" enhancement pattern of hemangiomas,¹ aiding in differentiation from myxomas. Additionally, the early punctate enhancement during the arterial phase of CT angiography and the centripetal filling patterns with dynamic enhancement in cardiac magnetic resonance imaging provide additional discriminatory value.² Therefore, for atypical atrial pedunculated tumors, comprehensive analysis using multimodal imaging is crucial to improving diagnostic accuracy and providing a solid basis for surgical planning.

Supplementary Video 1: Transesophageal echocardiography demonstrated a mobile mass in the right atrium, originating from the lateral atrial wall adjacent to the anterior mitral annulus, with a well-defined pedicle.

Statement on the Use of AI-Assisted Technologies: The authors declare that no artificial intelligence (AI)-assisted technologies were utilized in the creation of this work.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author.

Informed Consent: Written informed consent was obtained from the patient for the publication of this case report and accompanying videos.

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E-PAGE ORIGINAL IMAGE



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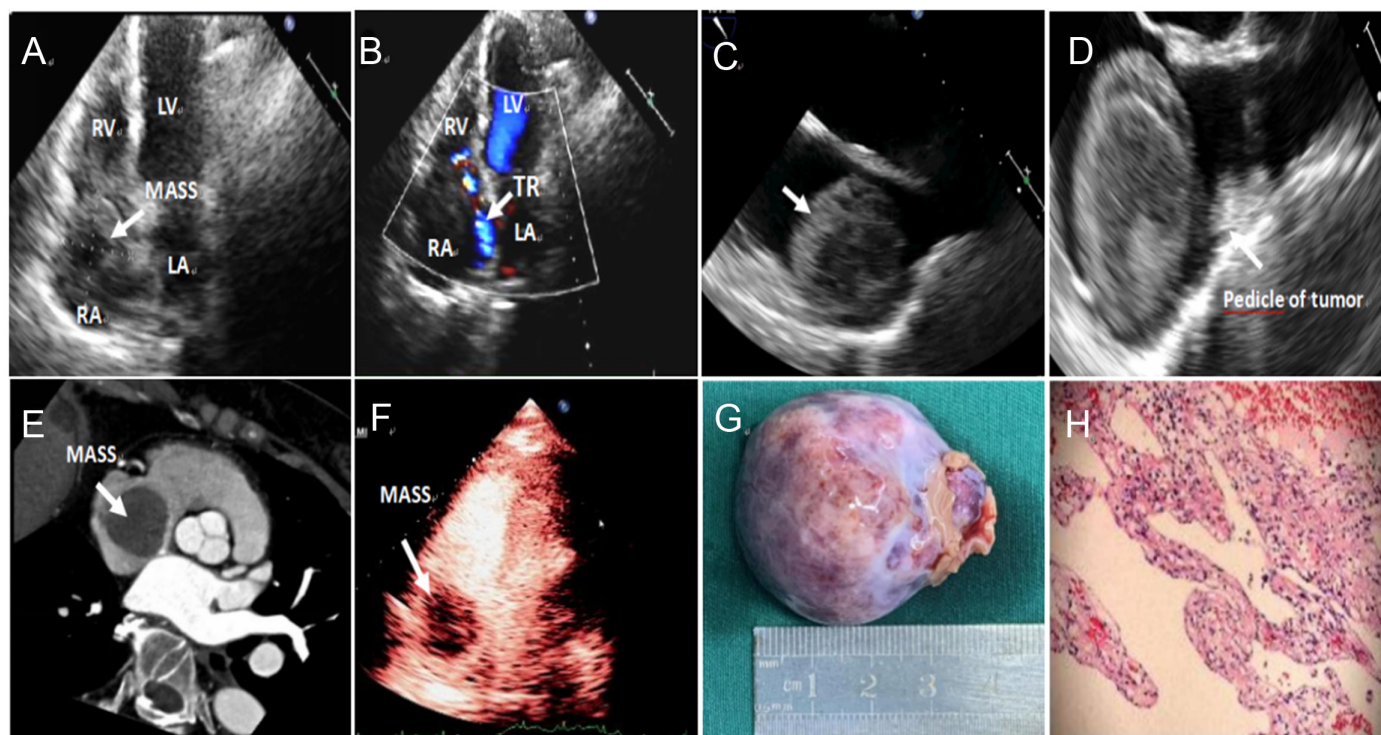


Figure 1. (A,B) TTE demonstrated a mass of unknown origin and tricuspid regurgitation; (C,D) TEE revealed the location and size of the tumor pedicle; (E) CTA showed a mass in the right atrium; (F) Left heart contrast echocardiography showed sparse contrast enhancement within the mass; (G) The mass excised during the operation; (H) Histopathological analysis of the mass revealed it was a cavernous hemangioma; LA, left atrium; LV, left ventricle; RA, right atrium; RV, right ventricle; TR, tricuspid regurgitation.

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