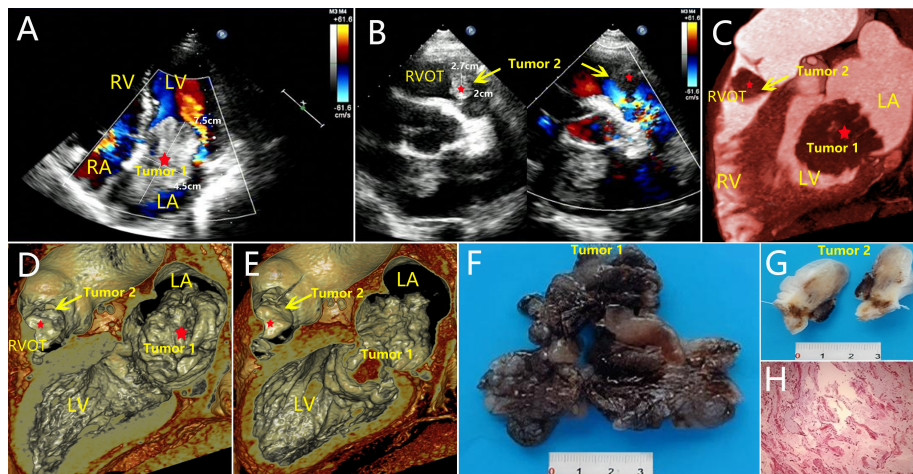


## When Myxoma Jumps Chambers: Direct Seeding from Left Atrium to Right Ventricular Outflow Tract via Patent Foramen Ovale

A 57-year-old man presented with progressive exertional dyspnea and paroxysmal nocturnal dyspnea over 2 weeks. On auscultation, a low-pitched diastolic rumbling murmur was audible at the apex. Transthoracic echocardiography revealed a large, mobile mass (7.5 × 4.5 cm) attached to the mid-atrial septum, prolapsing into the mitral orifice during diastole and generating a mean transvalvular gradient of 32 mm Hg (Figure 1A). Strikingly, a second, well-circumscribed mass (2.7 × 2.0 cm) was identified in the right ventricular outflow tract, with no internal vascularity on Doppler imaging (Figure 1B). Contrast-enhanced cardiac computed tomography confirmed dual intracardiac masses and visualized a patent foramen ovale (PFO) connecting the 2 chambers (Figure 1C–E). Both tumors were surgically resected (Figure 1F–G), and histopathology confirmed identical benign myxoma morphology in both specimens—stellate cells embedded in a myxoid stroma (Figure 1H). The patient recovered uneventfully and remained recurrence-free at 2-year follow-up.

Cardiac myxoma, the most common primary cardiac tumor, typically presents as a solitary lesion with approximately 75% occurring in the left atrium.<sup>1,2</sup> While

### E-PAGE ORIGINAL IMAGE



**Figure 1. (A–B) Transthoracic echocardiography showing a large, mobile mass (7.5 × 4.5 cm) attached to the mid-atrial septum, prolapsing into the mitral orifice during diastole with a mean transvalvular gradient of 32 mm Hg (A), and a second well-circumscribed mass (2.7 × 2.0 cm) in the right ventricular outflow tract with no internal vascularity on Doppler imaging (B). (C–E) Contrast-enhanced cardiac computed tomography confirming dual intracardiac masses and visualizing a patent foramen ovale (PFO). (F–G) Intraoperative photographs of the surgically resected left atrial mass (F) and right ventricular outflow tract mass (G). (H) Histopathological examination (hematoxylin and eosin staining, ×200) confirming identical benign myxoma morphology in both specimens, characterized by stellate cells embedded in a myxoid stroma with similar cellular density and distribution patterns.**

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multifocal myxomas occur in 7-10% of cases, they usually follow genetic syndromes and maintain chamber-specific localization.<sup>3</sup> Simultaneous involvement of the left atrium and right ventricle is exceedingly rare. We report a unique case where a left atrial myxoma directly seeded into the right ventricular outflow tract through a PFO, without right atrial involvement. Our multimodal imaging approach provided definitive evidence of this rare phenomenon, underscoring a critical clinical implication: comprehensive four-chamber echocardiographic evaluation is essential in all cardiac myxoma cases with interatrial communications, as standard assessment limited to anatomically adjacent chambers may miss distal seeding sites.<sup>4</sup> For patients with cardiac myxoma and PFO, systematic four-chamber echocardiographic evaluation holds significant clinical value in identifying atypical dissemination patterns and guiding appropriate therapeutic strategies.

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

**Informed Consent:** This report has obtained the patient's informed consent for the publication of their anonymized clinical data.

**Declaration of Interests:** All authors have read and approved submission of the manuscript and have no conflict of interest to disclose.

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