THE ANATOLIAN JOURNAL OF CARDIOLOGY

Official journal of the TURKISH SOCIETY OF CARDIOLOGY

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

E-PAGE ORIGINAL IMAGE

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.[1,2] While

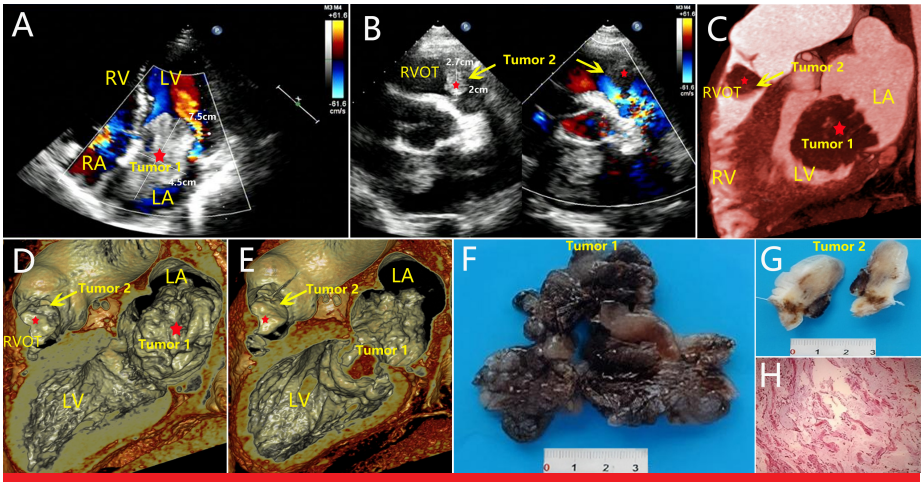

Figure 1. (A-B) Transthoracic echocardiography showing a large, mobile mass (7.5 × 4.5 cm) attached to the mid-atrial septum, prolapsing into the mitral orifice during diastole with a mean transvalvular gradient of 32 mm Hg (A), and a second well-circumscribed mass (2.7 × 2.0 cm) in the right ventricular 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.

Copyright@Author(s) - Available online at anatoljcardiol.com.
Content of this journal is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Wan Li[1]
Ping Hu[2]
Jie Wang[2]
Xiao-Jing Ma[2]
Yi Gao[3]

[1]*Wuhan Asia Heart Hospital Affiliated Wuhan University of Science and Technology, Wuhan, China*
[2]*Department of Imaging Centre, Wuhan Asia Heart Hospital Affiliated Wuhan University of Science and Technology, Wuhan, China*
[3]*Wuhan University of Science and Technology School of Medicine, Wuhan, China*

W.Li, P.Hu, and J.Wang are co-first authors.

Corresponding author:
Yi Gao
✉ gaoyimedical@163.com

Cite this article as: Li W, Hu P, Wang J, Ma X, Gao Y. When myxoma jumps chambers: direct seeding from left atrium to right ventricular outflow tract via patent foramen ovale. *Anatol J Cardiol.* 2026;XX(X):1-2.

DOI:10.14744/AnatolJCardiol.2025.6062

multifocal myxomas occur in 7-10% of cases, they usually follow genetic syndromes and maintain chamber-specific localization.[3] 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.[4] 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.

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.

Funding: This work was funded by the Wuhan Clinical Medical Research Center for Cardiovascular Imaging (Project No. CMRC202302).

REFERENCES

1. Okongwu CC, Olaofe OO. Cardiac myxoma: a comprehensive review. *J Cardiothorac Surg*. 2025;20(1):151. [CrossRef]
2. Alhasso AA, Ahmed OF, Mohammed-Saeed DH, et al. Operative management and outcomes in patients with myxomas: a single-center experience. *Front Surg*. 2023;10:1084447. [CrossRef]
3. Yalta K, Yetkin E, Yalta T. Recurrent cardiac myxoma: a puzzle to be solved. *Anatol J Cardiol*. 2023;27(8):497-498. [CrossRef]
4. De Martino A, Pattuzzi C, Garis S, et al. A comprehensive review of cardiac tumors: imaging, pathology, treatment, and challenges in the third millennium. *Diagnostics (Basel)*. 2025;15(11):1390. [CrossRef]