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Authors: Lei Li, Jun Yang, Yanlin Gong, Chunyuan You

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Myxoma of the left atrial appendage in mitral stenosis and atrial fibrillation

Lei Li^{1,2}, Jun Yang^{1,2}, Yanlin Gong^{1,2}, Chunyuan You^{1,2}

¹Department of Cardiology, Wuxi No. 2 People's Hospital, Wuxi, China

²Department of Cardiology, Jiangnan University Medical Center, Wuxi, China

Correspondence to:

Chunyuan You, MD, PhD,

Department of Cardiology,

Wuxi No.2 People's Hospital,

Zhongshan Road 68, Wuxi, Jiangsu Province, China,

phone: +86 510 68 561 134,

e-mail: lilei202109@126.com

A 72-year-old female, with an existing diagnosis of type 2 diabetes and atrial fibrillation (AF), presented with progressive dyspnea on exertion. The patient received oral hypoglycemic agent with dapagliflozin for type 2 diabetes and anticoagulation with warfarin for AF. The cardiac auscultation revealed irregular heart rhythm and a low-pitched diastolic rumble at the apex. An electrocardiogram showed AF. A transthoracic echocardiography (TTE) revealed a normal left ventricle function, ejection fraction of 55%, mild-moderate left atrial enlargement, severe mitral stenosis with a thickened mitral valve and commissural fusion, a mitral valve area of 0.7 cm², peak gradient of 14 mm Hg, mild mitral regurgitation, mild-moderate tricuspid regurgitation, and an approximate 21 × 9 mm mobile mass in the left atrial appendage (LAA) (**Figure 1A–B**; Supplementary material, *Video S1*). Due to the patient's history of AF and severe mitral stenosis, a LAA thrombus was considered. Based on the Massachusetts General Hospital (Wilkins) echo score, this patient scored 14, indicating a low percutaneous mitral commissurotomy success rate [1]. Hence, this patient was proposed for

concomitant mitral valve replacement and LAA thrombectomy. An intraoperative transesophageal echocardiography (TEE) probe was placed for valve and LAA assessment. A TEE clearly demonstrated that a 25 × 15 mm well-circumscribed mass with a stalk attached to the LAA free wall moving near the LAA orifice, which suggesting that the mass might be a myxoma rather than a thrombus (Figure 1C; Supplementary material, Video S2). A mitral valve replacement (27 cm, Abbott bioprosthetic valve) was performed. The LAA was opened, and a solitary, smooth, fleshy mass was resected (Figure 1D). Histologic examination confirmed the diagnosis of myxoma (Figure 1E). After the mass was removed, the LAA closure was performed.

Cardiac myxoma commonly occurs in the left atrium and is frequently attached to the atrial septum [2]. Secondly, it may occur in the left ventricle, right atrium, or right ventricle [2, 3]. However, it rarely occurs in the left atrial appendage. In patients with AF or mitral stenosis, masses in LAA are predominantly thrombi and rarely myxomas or other tumors [4, 5]. Since only a portion of the mass was visible on TTE in this case and the patient had a history of rheumatic mitral stenosis and AF, the mass was typically diagnosed as a thrombus. The intraoperative TEE revealed that the mass in the LAA had a pedicle affixed to the wall, thus it was a myxoma instead of a thrombus. The LAA myxoma was confirmed by postoperative pathology examination. This case suggests that, firstly, a rare tumor such as LAA myxoma cannot be excluded in patients with AF and mitral stenosis, even though the LAA mass is typically a thrombus. Secondly, because the entire LAA mass cannot be observed by TTE, TEE should be used to visualize a comprehensive image of the mass and to differentiate LAA thrombus and tumor. Furthermore, contrast echocardiography can be utilized for identification and diagnosis.

Supplementary material

Supplementary material is available at https://journals.viamedica.pl/polish_heart_journal.

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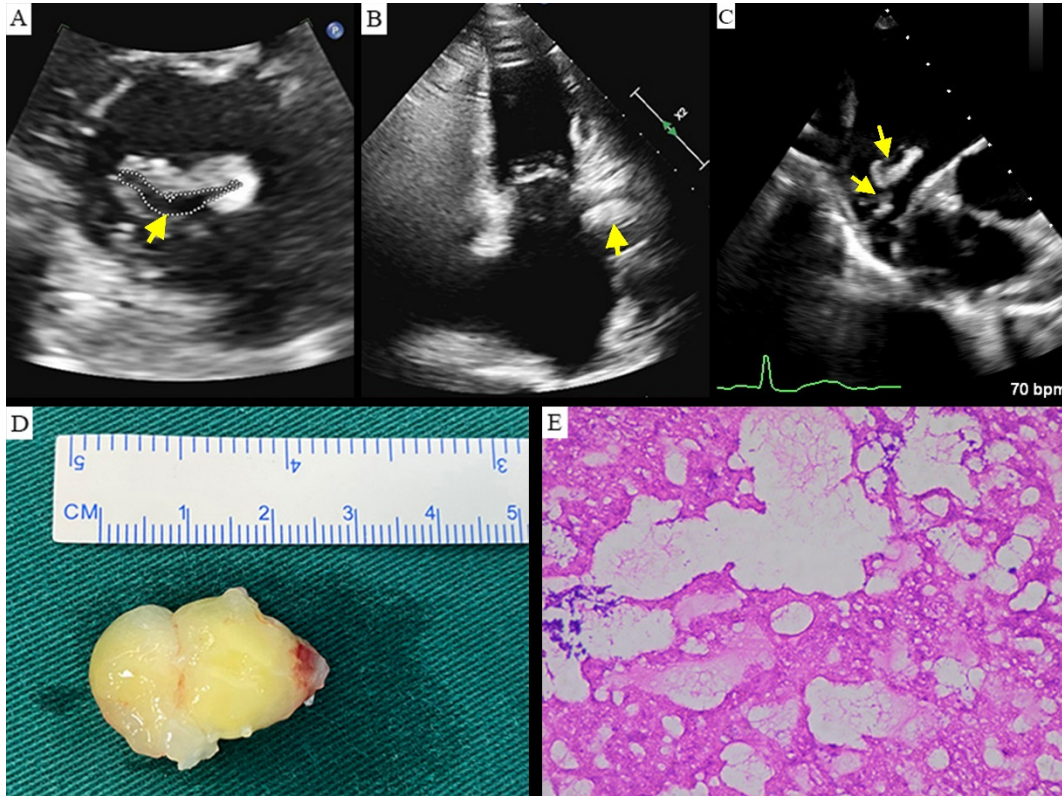


Figure 1. **A.**TTE showed severe mitral stenosis with an area of 0.7 cm² (arrow). **B.** TTE revealed the LAA mass in 2-chamber apical view (arrow). **C.** TEE showed a well-circumscribed mass with a stalk attached to the LAA free wall (arrows). **D.** Gross specimen (myxoma) obtained from left atrial appendage. **E.** Light microscopy showed a myxomatous stroma in which stellate mesenchymal tumor cells are embedded (Hematoxylin and eosin, original magnification × 200)

Abbreviations: LAA, left atrial appendage; TEE, transesophageal echocardiography; TTE, transthoracic echocardiography