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LETTER TO THE EDITOR

# Peripheral and coronary artery embolisms due to left ventricle fibroelastoma

**KEYWORDS**
Papillary fibroelastoma;
Coronary artery;
Poplipeal artery;
Embolism;
Cardiac tumor

A 39-year-old patient underwent embolectomy due to a right popliteal artery embolism and splenic infarcts and was referred in our institution for follow-up (Fig. 1).

At admission, transthoracic echocardiography revealed a mobile mass inside the left ventricle. The parasternal short (b) and long axis (c) views demonstrated a mass with echolucencies and a speckled appearance; the mass originated from the anterolateral papillary muscle (maximum length and width of 5.0 and 1.8 cm, respectively). Contrast echocardiography confirmed that the mass lacked blood perfusion. Transthoracic 3D echocardiography was performed to more thoroughly characterize the LV tumor, and it demonstrated the presence of a short stem attached to the papillary muscle and "finger-like" tumor projections (d). The left ventricular ejection fraction was reduced with segmental hypokinesia of the posterior-lateral wall, and invasive coronary angiography confirmed occlusion of the left circumflex coronary artery (e). As the patient was experiencing ongoing arterial embolic events, urgent cardiac surgery was performed, and the tumor was successfully removed. Histological examination of the tumor identified it as a papillary fibroelastoma (PFE).

Papillary fibroelastoma (PFE) is the third most common benign tumor of the heart following myxomas and lipomas. The mechanisms of fibroelastoma pathogenesis are largely unknown; however, endothelial injury and microthrombi formation have been implicated in fibroelastoma pathophysiology. PFEs are typically small (9–12 mm maximum diameter) and are avascular with "finger-like" projections resembling a sea anemone. A PFE usually arises as a short stem projecting from the atrial surface of the mitral valve or the ventricular surface of the aortic valve; more rarely, it arises as a short stem attached to the endocardium or papillary muscles.[1,2] PFEs usually remain asymptomatic, and they are typically incidentally diagnosed on screening imaging tests, such as transthoracic echocardiography or computed tomography.[3] Despite their benign nature, cardiac fibroelastomas can cause potentially life-threatening complications, such as peripheral embolization resulting in strokes, kidney infarcts, splenic infarcts, and acute limb ischemia. Cardiac fibroelastomas can also cause acute coronary syndromes and life-threating arrhythmias secondary to coronary embolization, as occurred in the case reported here.[4] Although microthrombi have been hypothesized to play a role in the pathogenesis of cardiac fibroelastomas, the value of anticoagulant treatment has not been established.[5] Expert opinion suggests that small cardiac fibroelastomas (<10 mm in diameter) should be treated conservatively by periodic imaging follow-up. Surgical treatment is mandated in cases of symptomatic cardiac fibroelastomas associated with peripheral embolization and in cases of large, mobile tumors, which carry a high risk of complications.[5] Valve-sparing tumor excision can be successfully performed in most cases with excellent long-term results and a very low rate of tumor recurrence.[5]

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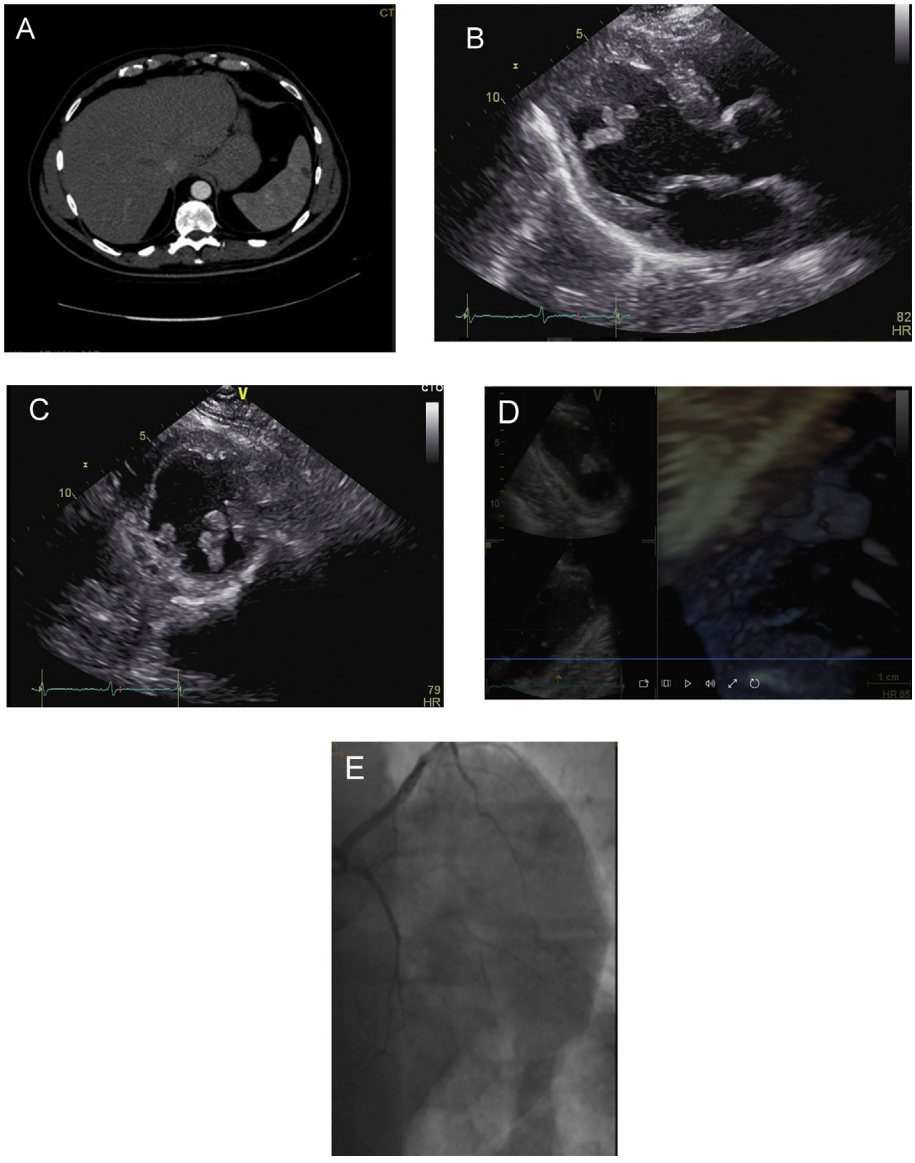


**Figure 1** Computed tomography imaging of the upper abdomen demonstrating splenic infarcts (A). 2D echocardiography views of the cardiac tumor from the parasternal short (B) and long axis (C) and 3D echocardiography view of the "finger-like" projections of the tumor (D). Coronary angiography demonstrating occlusion of the left circumflex coronary artery (E).

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