

Images in Geriatric Cardiology

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Papillary Fibroelastoma: An Uncommon Cause for a Transient Ischemic Attack

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Stroke is the leading cause of morbidity in the Selderly and the third leading cause of mortality in the United States. Cardioembolic causes may account for approximately 15%–20% of all strokes.¹ The potential sources of cardiogenic embolism include atrial fibrillation, left ventricular dysfunction, rheumatic heart disease, prosthetic heart valves, and less commonly, intracardiac tumors.

The frequency of primary cardiac tumors is approximately 0.02%, corresponding to 200 tumors in one million autopsies.² Cardiac papillary fibroelastoma (PFE) is the second most common primary cardiac tumor (myxoma being the most frequent). These benign endocardial tumors predominantly affect the cardiac valves, and account for 75% of all cardiac valvular tumors.

This case illustrates detection and surgical removal of the PFE in a patient who presented with a transient ischemic attack. A 64-year-old woman with a history of treated systemic hypertension presented to the emergency department complaining of a new right facial droop and difficulty speaking, which she noticed upon arising from sleep. She denied any prior neurologic events. Cardiac exam revealed a decrescendo grade II/IV diastolic murmur along the left sternal border with no radiation.

Computed tomography of the head and bilateral carotid ultrasound exams were unremarkable. A two-dimensional transthoracic echocardiogram and a subsequent transesophageal echocardiogram (Figure 1) showed trace aortic regurgitation and a 1.3 × 0.8 cm rounded mobile mass on the

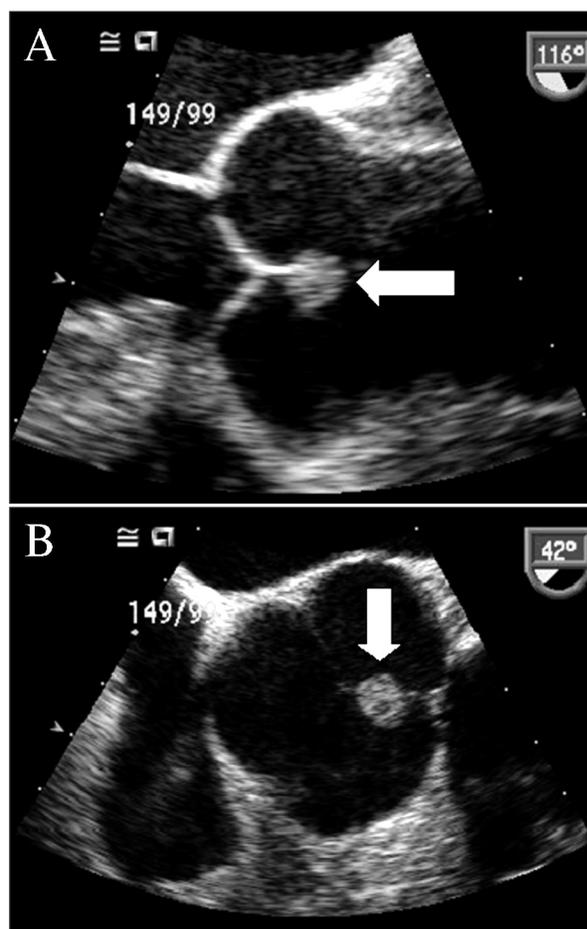


Figure 1. Transesophageal echocardiogram of the aortic valve. (A) short-axis view of aortic valve showing a well demarcated, rounded mass (arrow) attached to the free edge of the right coronary cusp consistent with papillary fibroelastoma; (B) long-axis view of aortic valve with the papillary fibroelastoma attached to the aortic side of the aortic valve (arrow)



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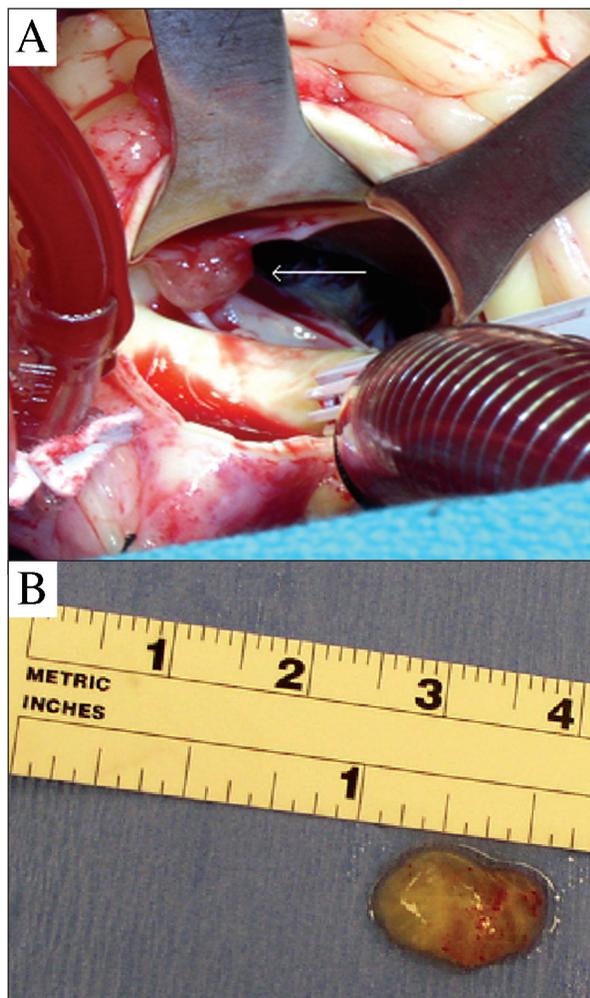


Figure 2. (A) intraoperative view of the aortic valve with papillary fibroelastoma (arrow); (B) gross specimen of the removed papillary fibroelastoma

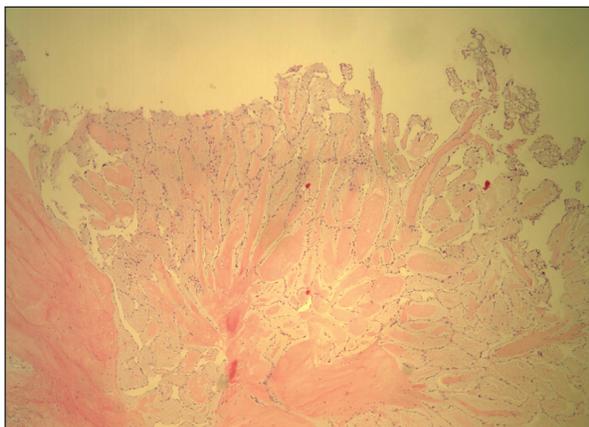


Figure 3. Hematoxylin-eosin stained cross-section of a surgical fragment showing the papillary structure of the fibroelastoma

aortic side of the aortic valve. The mass had a powder-puff appearance and was attached to the free edge of the right coronary cusp.

The patient's neurologic symptoms resolved spontaneously over the next 24 hours. She subsequently underwent open heart surgery with successful removal of the aortic mass (Figure 2), and a repair of the aortic valve. Histologic examination of the surgical specimen (Figure 3) confirmed the diagnosis of PFE. The patient had an uneventful postoperative hospital course and has remained asymptomatic 6 months after surgery.

This case illustrates the value of echocardiography in evaluating potential embolic causes of strokes and transient ischemic attacks. Although cardiac PFEs are rare and histologically benign, their clinical course may be complicated by systemic embolization, acute valvular regurgitation, and sudden death.

PFE can occur in all age groups, but is most often detected in adults, with the highest prevalence in the eighth decade of life.³ On echocardiography, PFEs are usually small in size, mobile, and often pedunculated, with a homogeneous speckled pattern and characteristic stippling along the edges.⁴ Patients with systemic embolization of PFE fragments should be treated surgically, because complete resection is curative and the long-term postoperative prognosis is excellent.

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