

Cardioembolic stroke secondary to Lambl's excrescence on the aortic valve: a case report

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Abstract

We report a patient who presented with aphasia and was found to have an embolic cerebral infarction secondary to LE. LE is a rare source of cardioembolic stroke.

Case report

A 59-year-old right-handed man presented to the emergency room with difficulty in understanding simple commands. There was no historical evidence of any such focal neurological symptoms or complaints. He received intravenous tissue plasminogen activator (IV-tPA) and showed significant improvement, so he was transferred to our institution for further management. The patient had a history of schizophrenia and Parkinsonian symptoms secondary to chronic use of antipsychotics. He was on haloperidol and cogentin daily. He denied any use of tobacco, alcohol, or recreational drugs. On physical examination, the patient was afebrile with a blood pressure of 148/92 and a regular heart rate of 76. On neurological examination, he was found to be awake and alert. He had profound difficulty with naming, repetition, reading, and following simple commands. Cranial nerve examination was unremarkable. Motor examination revealed no focal weakness. Sensory, coordination, and motor examination were unremarkable.

Laboratory workup revealed normal complete blood count, basic metabolic panel, and liver function tests. Magnetic resonance imaging (MRI) of the brain showed a moderate-sized region of acute infarction in the left middle cerebral artery (MCA) territory involving a portion of the insula and superior aspect of the temporal lobe. Magnetic resonance angiographic (MRA) studies revealed evidence of thrombosis in the left M2 division of the MCA. A transthoracic echocardiogram (TTE) revealed an ejection fraction of 70% and no evidence of thrombus or patent foramen ovale. Further workup included a transesophageal echocardiogram (TEE)

which showed a linear, 1.1 cm mobile echodensity on the ventricular surface of the aortic valve leaflets, a finding that is consistent with Lambl's excrescence (LE) [Figures 1(A) and (b)]. The patient refused anticoagulation with Coumadin and was therefore started on aspirin and Lipitor. Cardiothoracic surgery recommended outpatient followup and evaluation for surgical removal of the Lambl's excrescence. The patient was discharged to home in a stable condition. Followup hypercoagulable workup was unremarkable.

Discussion

Lambl's excrescence are filiform fronds that resemble the shape of sea anemone and occur on leaflets of cardiac valves, most commonly the aortic followed by the mitral valve. LE is a rare entity that is being increasingly recognized and diagnosed owing to the introduction of echocardiography. The terms LE and cardiac papillary fibroelastoma (CPF), a rare cardiac tumor that follows atrial myxoma and lipoma in prevalence, are often interchangeably used in clinical practice. On echocardiogram, these entities have been described as well-delineated, pedunculated masses with different sizes that occur mostly as single lesions [1,2]. The overall lifetime incidence of cardiac tumors ranges from 0.0017% to 0.02% [3].

Lambl's excrescence have the potential to cause obstruction of intracardiac flow, myocardial ischemia, or embolization of tumor fragments [4] causing pulmonary embolism [5] or retinal artery embolism [6]. Transient ischemic attack (TIA) and cerebral infarction have also been sporadically retrospectively and prospectively

Published September, 2014.

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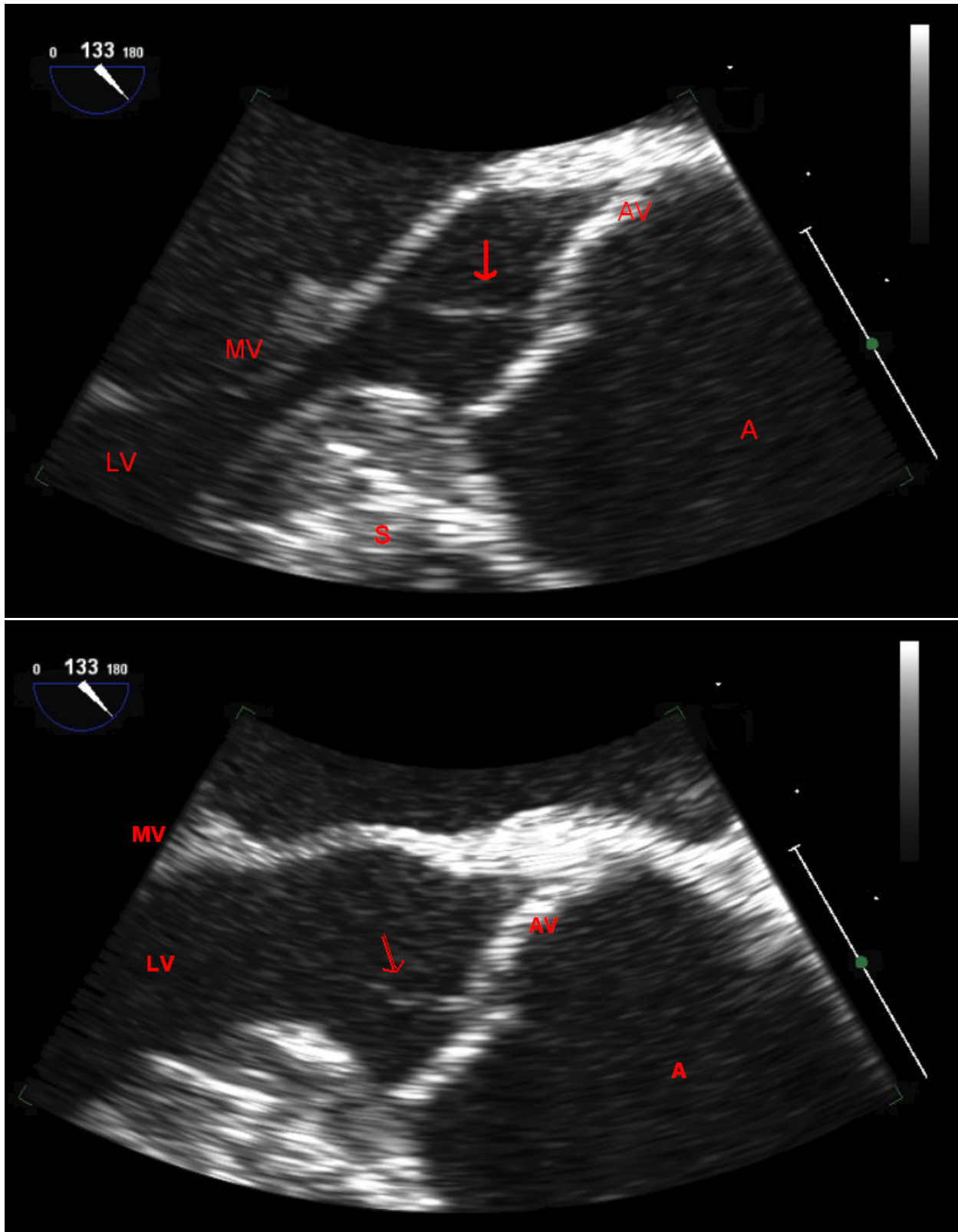


Figure 1. (A) Transesophageal echocardiogram demonstrates the presence of frond-like linear densities originating from the aortic valve (arrow), consistent with Lambl's excrescence. A: aorta, AV: aortic valve, LV: left ventricle, MV: mitral valve, S: atrioventricular septum. (B) Transesophageal echocardiogram demonstrates the presence of frond-like linear densities (arrow) originating from the aortic valve leaflets at higher magnification. A: aorta, AV: aortic valve, LV: left ventricle, MV: mitral valve, S: atrioventricular septum.

reported in patients with LE [7]. Tumor fragments can embolize and cause acute thrombosis of the cerebral vasculature. Microemboli can also form on the tumor and therefore have the potential to embolize to the cerebral vasculature. Previous reports have estimated the risk of cardiac tumor embolization to range from 12% to 45% [8].

Lambl's excrescence can be diagnosed on noninvasive TTE and are occasionally found incidentally in patients with no related complications of TIA or stroke. The tumor can be further characterized with a more invasive TEE, which may further define its extent and anatomic attachment. Furthermore, TEE has been reported to have a higher sensitivity than TTE in the diagnosis of CPF [7]. This, along with our case report, demonstrates the implication of obtaining a TEE in a patient with an embolic stroke of unknown etiology and normal transthoracic echocardiogram.

There are no randomized trials that investigated the use of anticoagulation versus antiplatelet therapy in patients with embolic cerebral infarction secondary to LE or CPF. Vitamin K antagonists may provide secondary stroke prevention from microemboli but not from embolization of tumor fragments. Surgical resection of CPF has been shown to be safe with excellent short and long-term outcome in all patients, including those with a recent embolic event [9].

Our case report emphasizes the value of thorough workup in patients with a cardioembolic cerebral infarct

of no known etiology and no known vascular risk factors. Our case also demonstrates the diagnostic value of TEE patients with LE/CPF.

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