

Lambl's excrescences – A forgotten cause of cryptogenic strokes?

Raymond H. Vlacancich, DO*; Brian C. Case, MD

*Raymond H. Vlacancich, DO

Medstar Heart and Vascular Institute; MedStar Washington Hospital Center/Georgetown University Hospital; 110 Irving Street NW; Washington, DC 20010, USA

Abstract

Lambl's excrescences are strands of elastic connective tissue, which are lined by endothelial cells and located at the contact margins of cardiac valves. The clinical significance of these structures is related to their possible role in embolic stroke. We present a case of a young female who presented with an embolic stroke in the setting of a Lambl's Excrescences, treated with dual antiplatelet therapy.

Keywords


Lambl's excrescences; stroke; cryptogenic; echocardiogram

Case Report

A 39 year-old woman with a history of uncontrolled hypertension presents to the emergency room with a sudden onset of left sided facial weakness while she was driving. She also endorsed difficulty speaking, specifically forming words, and perceived left sided facial droop. The only past medical history is uncontrolled hypertension with a history of medication noncompliance. She is an active smoker, drinks multiple alcoholic drinks on the weekends and denies illicit drug use. She denies any family history of heart disease or stroke.

On presentation to the emergency room her initial physical exam showed a left sided facial droop and dysarthria correlating with a National Institute Health Stroke Scale value of 2. Given the onset of symptoms was known to be within three hours, a stroke code was called and the patient was evaluated for tissue plasminogen activator (tPA). Her computed tomography of the head did not reveal an acute hemorrhagic process and the brain magnetic resonance imaging was positive for an acute right precentral gyrus infarct and an old cerebellar infarct. The patient was started on intravenous tPA since she did not have any absolute contraindications. Unfortunately, during the tPA infusion the patient experienced gingival bleeding, itching, and left neck swelling. Given this reaction, the tPA infusion was stopped, and intravenous Methylprednisolone and Benadryl were given, resolving the symptoms.

On hospital day two, the patient endorsed some improvement in speaking, however continued to have a left sided facial droop. Further investigation was done by the neurology team to find the source for the patient's embolic stroke. Her drug screen was negative and she was maintained on telemetry with no evidence of atrial fibrillation. Next, cardiology was consulted and a transesophageal echocardiogram



(TEE) was performed. Her TEE did not reveal a patent foramen ovale (PFO) or a left ventricle thrombus. However, it did reveal a linear mobile echodensity on the left ventricular side of the aortic valve measuring up to 0.8 centimeters (Figure 1). The patient was diagnosed with a Lambl's excrescences and started on dual antiplatelet therapy. She was discharged with resolving facial droop and follow up with the both neurology and cardiology as an outpatient.

Discussion

Lambl's excrescences are strands of elastic connective tissue which are lined by endothelial cells and are located at the contact margins of cardiac valves. The acellular matrix in the excrescences differs from papillary fibroelastomas in which smooth muscle cells are incorporated. Lambl's excrescences are formed from repeated endothelial damage and repair [1]. The clinical significance of these structures is related to their possible role in embolic stroke in which alternative diagnoses are excluded [2,3]. According to previous studies the prevalence of Lambl's excrescences approaches 22% in patients with suspected cardioembolic stroke and 70-80% of the general population [4]. It should be noted that prevalence data in cryptogenic embolic strokes is limited given small number of cross sectional studies as well as small sample sizes. Previous small case controlled studies have had mixed results in correlating Lambl's excrescences and embolic events [1,2].

Currently expert opinion does not advocate for treating asymptomatic Lambl's excrescences [1]. Patients with symptoms of embolic stroke in the presence of these strands have reported improvement after medical therapy, however therapy with full anticoagulation is not specific for excrescences being the cause. Previous studies anecdotally suggest using dual antiplatelet therapy for cryptogenic strokes in the setting of Lambl's excrescences seen on TEE [1,5]. A proposed mechanism of embolization includes clot formation on the edges of the excrescences; however there are no evidence based trials to confirm improvement of symptoms with treatment [6,7]. Given that these mostly acellular elastic strands would theoretically not resolve with medical therapy, the duration of treatment is also difficult to determine given the risks of bleeding. It is important to note that practitioner must first rule out other sources for an embolic stroke, such as atrial fibrillation, left ventricular thrombus, or PFO. Furthermore, expert opinion does not advocate for surgical removal of Lambl's excrescences in most clinical scenarios. Surgical removal of Lambl's excrescences is deemed suitable when a patient has recurrent, clinically significant embolic events, and all other possible cases of stroke have been ruled out [6].

The lack of large cross sectional studies to evaluate the correlation between Lambl's excrescences and embolic stroke, as well as the lack of randomized controlled trials to evaluate the role of medical therapy in the setting of embolic stroke and Lambl's excrescences, place clinical decision making on expert opinion and case by case evaluation. It is the opinion of this author that in the absence of atrial fibrillation and a PFO, and in the setting of a Lambl's excrescences with an acute embolic stroke, it is clinically reasonable to treat with dual antiplatelet therapy for duration to be decided by the practitioner and patient.

Figure

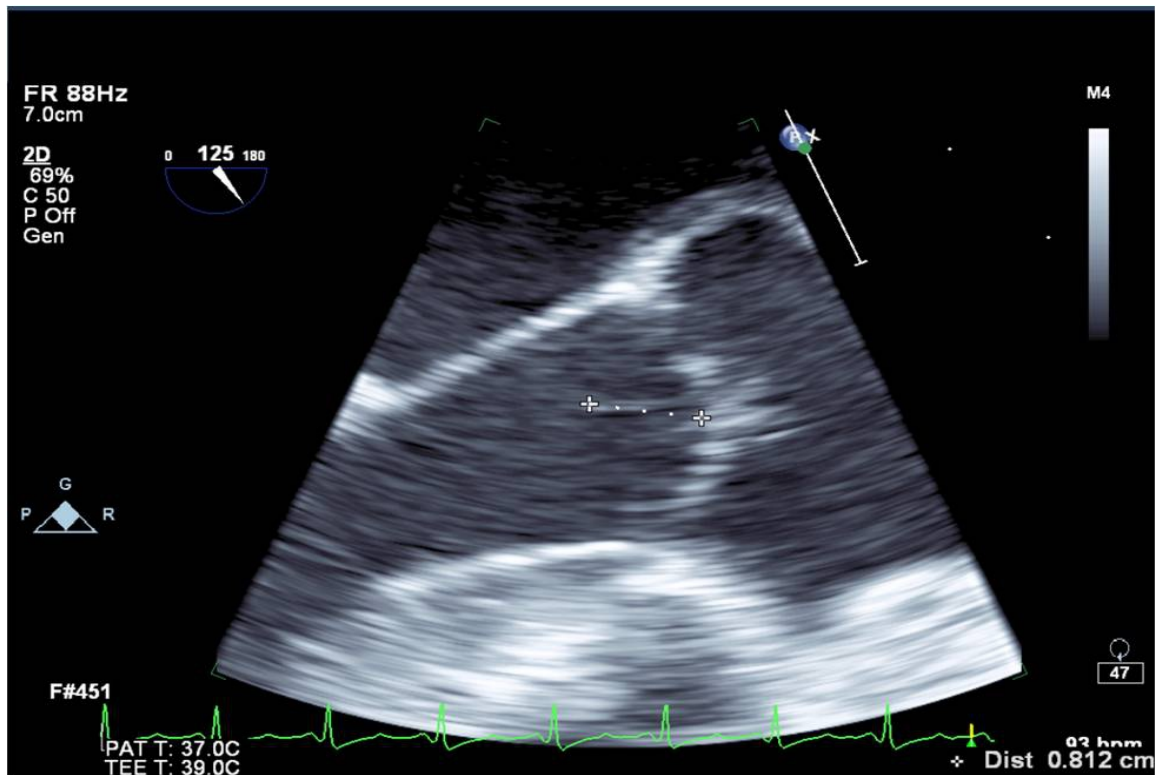


Figure 1: Transesophageal echocardiogram demonstrating the patients' Lambl's Excrescences (outlined by the measurement) on the ventricle side of the aortic valve.

References

1. Roldan CA, Shively BK, Crawford MH. Valve excrescences: prevalence, evolution and risk for cardioembolism. *J Am Coll Cardiol* 1997;30:1308-14.
2. Bhagwandien NS, Shah N, Costello JM, et al. Echocardiographic detection of pulmonary valve papillary fibroelastoma. *J Cardiovasc Surg (Torino)* 1998;39:351-4.
3. Aggarwal A, Bruce JL. Giant Lambl's excrescences. *N Engl J Med* 2003;349:e24.
4. Daveron E, Jain N, Kelley GP, Luer, W. H., Fermin, C., Helmcke, F. and Kerut, E. K. (2005), Papillary Fibroelastoma and Lambl's Excrescences: Echocardiographic Diagnosis and Differential Diagnosis. *Echocardiography*, 22: 461-463.
5. Dangas G, Dailey-Sterling FG, Sharma SK, et al. Non-Q-Wave infarction and ostial left coronary obstruction due to giant Lambl's excrescences of the aortic valve. *Circulation* 1999;99:1919-21.
6. Aziz F, Baciewicz FA Jr. Lambl's excrescences: review and recommendations. *Tex Heart Inst J* 2007;34:366-8.
7. Wu TY, Gerber IL, Roxburgh RH. Thrombo-embolic cerebral infarction secondary to giant Lambl's excrescences. *J Clin Neurosci* 2013;20:1632-4